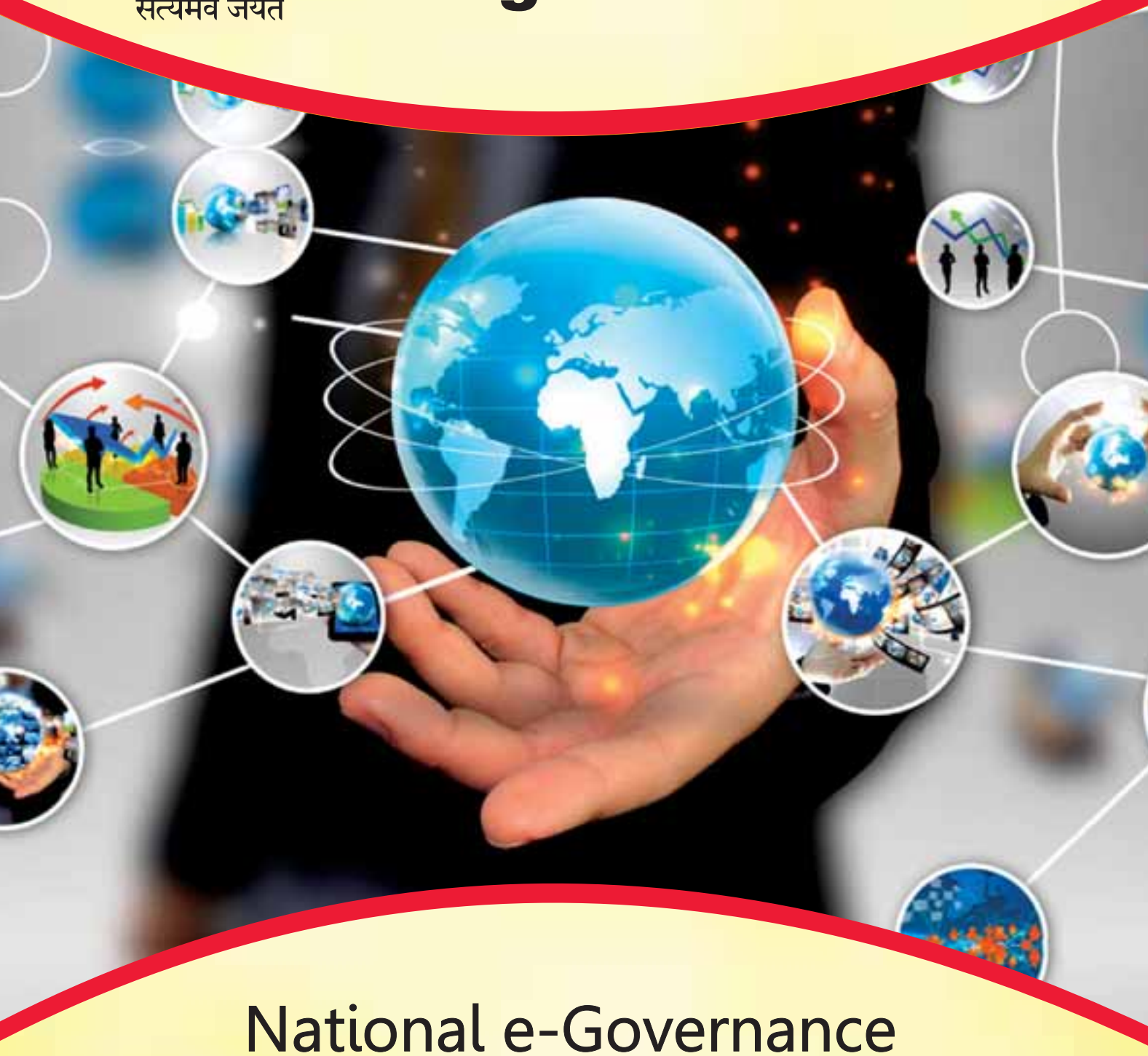
सत्यमेव जयते

Excellence in e-governance



National e-Governance Award Winners of the Year 2018

Excellence in e-Governance

Department of Administrative Reforms & Public Grievances
Ministry of Personnel, Public Grievances & Pensions
Government of India

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eAbgari: Transformation of State Excise Administration

Excise Directorate under Finance Department, Government of West Bengal

1	**Name of the State / Ministry**	Government of West Bengal
2	**Name of the host / owner organization**	Excise Directorate under Finance Department, Government of West Bengal
3	**Status of the host / owner organization**	Directorate
4	**Name of the Project**	eAbgari
5	**Name of the Nodal Contact Person**	Sri Kunal Biswas, Additional Excise Commissioner, Systems, Excise Directorate, GoWB
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8. Project Summary:

State Excise is the 2nd highest revenue earning resource component in West Bengal. Through successful implementation of eAbgari (https://excise.wb.gov.in) project since last 3 years, West Bengal has earned the distinction of becoming the lead state in the country to implement all activities of State Excise under an umbrella e-Governance project. With eAbgari, it has been possible to render 45 online e-Services in workflow based manner for reconciliation of every drop of spirit imported or manufactured, automated supply chain management for excisable goods and tracking duty evasion by generating a 360 degree profile of the excise licensees, issuing permits & passes for movement of excisable goods etc. It has proved to be a classic example of cost-effective end-to-end solution in comprehensive transformation of Government processes for empowerment of the Government and for ease of doing business as well. Seamlessly integrating a wide array of modern ICT technologies - the web, QR codes, PUSH/PULL SMS, Email, AI driven Supply Chain Management, BI, GIS, Mobile Apps, Hand-Held-Terminal (HHT) based Track & Trace - eAbgari has significantly reduced service-delivery times and has greatly enhanced the Government's regulatory capabilities. The collection of Excise revenue has gone up from Rs. 3581 Crores during 2014-15 to around Rs. 9,258 Crores during 2017-18 registering a CAGR of over 37 percent. eAbgari has bagged several awards like the National e-Governance Award 2018 (Silver), Technology Sabha (Indian Express Group) Award 2018, CSI-Nihilent e-Governance Award 2016 and Skoch e-Governance Award (Platinum) 2015. The project has been selected for e-Gov App Store. Requisite processes have already been initiated for replication of eAbgari in other states like Maharashtra, Uttar Pradesh, Punjab, Haryana, Tripura, Sikkim, and Assam.

9. Date of Launch of Project: 15.10.2015

10. Coverage (Geographical): The entire state of West Bengal, including its 23 Administrative Districts and 344 Development Blocks, are covered by the project. Apart from this, as the eAbgari application is hosted over the World Wide Web, the eServices can be accessed by practically anyone irrespective of geographical location.

11. Beneficiary of the Project:

- Government to West Bengal by way of- (a) tracking the production, distribution and sale of liquor in West Bengal and monitoring the inventory of foreign liquor and country spirit manufactories, trade warehouses and liquor retail outlets throughout the state & collection of revenue therefrom; (b) arresting revenue leakage through spirit & revenue reconciliation using eAbgari BI; and (c) monitoring excise crime through enhanced IT driven regulatory capabilities (G2G)
- Around 4,000 Medical Hospitals / Nursing homes located across the state connect eAbgari online while intending to procure/distribute lifesaving drugs for CCUs (G2C)
- More than 100 Educational Institutions / Research Organizations spread across West Bengal procuring spirits for research purposes (G2C)
- Around 7,000 licensed Liquor Retailers, Manufacturers, Wholesalers & Distillers doing business in West Bengal (G2B)
- Members of Citizen from around 9 crore population of State access eAbgari online/mobile phones while applying for new license or intending to lodge grievance/ informing illegal activities pertaining to illicit liquor through Portal/Mobile Apps (G2C)
- Liquor Consumers intending to check authenticity of packaged liquor through scanning of QR coded holograms or texting the serial number of hologram to fetch product details as PULL SMS (G2C)
- Over 5,000 Excise Officials of 329 excise offices at various levels across the state engaged in enforcement activities and safeguarding the revenue collection from excisable articles (G2E)

12. Problem statement or situation before the initiative:

The West Bengal Excise Directorate plays the twin role of mobilizing resources for the State, and managing a sector which has a significant social and public-health import. Till a couple of year back the Excise Directorate, under the West Bengal Finance Department, had been operating on legacy manual-based systems, using antiquated procedures that had not been changed for decades. The department displayed the typical symptoms of an inefficient, over-bureaucratic organization:

- Service requests to the department involved submitting physical application forms, and multiple visits to the offices.
- Records were kept in physical format, and retrieval was often a tedious process.
- Data collection and aggregation was done entirely manually; it was an error-prone and time-consuming process. There was little data-support for analytics-based decision-making by the State Excise authorities.
- There was a lack of transparency and standardized procedures at all levels.

Keeping the revenue-potential of the directorate and the sensitivity of the liquor-sector in mind, the Government embarked on a major process-reengineering initiative for the Excise Directorate during 2014-15.

The Business Process Reengineering Study conducted by NIC in close association with the Excise Directorate officials identified the following Bottleneck/ Constraints:

- The directorate did not have technology driven capability to handle large volumes of data collected from excise establishments across the state resulting in revenue leakage & poor enforcement activities.
- Limited manpower and resources were stuck in handling routine jobs like issuing intimation, with no time left for effective enforcement and G2B services to the Licensees.

- There was no robust mechanism to reconcile the bulk spirit imported with the quantity manufactured and hence arresting revenue leakage was quite an impossible task. The monthly spirit consumption & revenue collection reports received from around 6,000 excise establishments were not reliable and had to be overridden by the reports submitted the district excise authorities.
- There was no centralized accounting for either the liquor manufacturers or the distributors/retailers.
- There was no linking among liquor manufacturers, distributors and retailers for data exchange resulting in lack of data integrity.
- There was no integrated platform among excise Licensees and Excise Officials to interact.
- The time lag between putting requisition for life saving drugs by hospitals and issuance of requisite permits/passes was inordinately long. In some cases, the delay was more than 1 month.

13. Project Objectives:

In order to address the above challenges, eAbgari was conceptualized in 2013-14 for comprehensive transformation of West Bengal State Excise System and hence to undertake end to end operations through a Rule Based Technology enabled system with following objectives: -

- Robust Monitoring and Control system
  - Collection of information on criminal & breach cases for better enforcement measures
  - Detect inefficiency & corruption
  - Monitor performance
  - Inculcate a sense of accountability in functioning of dealing officials at each level of excise
  - Intelligent decision support & Audit to arrest revenue leakages
  - Reconciliation of every drop of spirit manufactured or imported
- Automation & Process Reforms
  - Standardized State Excise Processes
  - Technology enabled business process Reengineering
  - Single-point simpler excise tax collection system
  - Less discretion, reduced delay
  - Digital collection & Archiving of Documents
  - Empowering excise headquarters, field units & stakeholders to know exact status of process
  - Services at stakeholder's doorsteps
- Reuse of existing ICT infrastructure available through IT Department, GoWB and NIC
- Design for information sharing with other Administrative Departments e.g. Commercial Tax

14. Project Scope, Approach and Methodology:

The reengineering initiative involved the implementation of Information Technology solutions for departmental processes. This was done through the "eAbgari" project developed and implemented with the technical assistance of National Informatics Centre, and it has been the single-most transformational factor in the way the Excise Directorate functions.

eAbgari was developed as an I.T.-enabled platform that would make it easier for liquor retailers, wholesalers and manufacturers to transact business with the Directorate, while, at the same time, provide the departmental authorities an effective and efficient mechanism to regulate the manufacture and sale of liquor in the state. It has been designed as a system which, while ensuring timely and transparent delivery of the Directorate's services to its stakeholders, would

also check the evasion of state excise taxes and ensure that all liquor available in the state is sourced and sold through legal channels.

The Directorate's services are now delivered online. This has eliminated entire administrative layers involved in the processing of service requests. Earlier, service requests had to be made through paper applications, which had to travel from table to table, and involved an enormous amount of paperwork. After the implementation of eAbgari, liquor manufacturers, wholesalers and retailers make most service requests and applications for Import Permits, License Renewals, and Registration of Brands etc online. The eAbgari software validates the requests for compliance with existing rules and procedures. Fewer officials are involved in the processing of the requests. This has drastically reduced application processing times as well as chances of error.

The key components of the eAbgari project includes web-based mechanisms for the grant and renewal of state excise licenses, issue of permits and passes for the import, export and transport of liquor, registration of brands of liquor manufactured or sold in the state, automated inventory management of liquor at manufactories, wholesalers and retailers, e-payment of excise duties and fees, GPS-based mapping of liquor businesses in the state and grievance-handling systems. Seamlessly integrating a wide array of modern ICT technologies - the web, bar-codes and QR codes, SMS, BI Tools, GIS - eAbgari has significantly reduced service-delivery time for the West Bengal Excise Directorate and has greatly enhanced the department's regulatory capabilities.
Specifically, State Excise Process Standardization & Simplification have been done through technology enabled business process re-engineering in eAbgari to render the following e-Services:-

G2C Services
- Robust Grievance Lodging Mechanism
- Delivery of life saving drugs to CCUs within 90 % reduced time and ease of availability
- Web Based Universal Access to the services offered by the Directorate
- Enhancement of enforcement activities through use of GI tools, use of anti-evasion tools like GPS based tracking of spirit movement and real time monitoring of preventive operations of the Directorate
- Hassle free and easy availability of laboratory spirits for Educational Institutions
- Availability of information related to Administrative Process flows for services rendered
- Pendency checker and service request status information through the Web and SMS services

G2B Services
- Grant and renewal of State Excise Licenses
- Issuance of Permits/Passes for Import/Transport/Export of Bulk Spirit & Packaged Liquor
- Registration of labels for Packaged Liquor
- Enabling hassle free collection mechanism for Excise duties and fees thru' ePayment Gateway
- Automated inventory management at business premises

G2G Services
- 360-degree profile of Licensees of the Directorate, brands registered in the State, and various permits and passes requisitioned and executed
- Use of Business Intelligence tools in data aggregation for administrative intervention and policy formulation

- Plugging of revenue loopholes
- Streamlining and systematizing Inter-departmental and Intra-Departmental information resulting in increased efficiency in Administration, cutting down response time and delivering better services
- Dynamic dashboards for officers for monitoring of pendency and traceability of decisions across the hierarchical set up for fixing up responsibility and accountability
- Reconciliation of every drop of spirit imported or manufactured.

G2E Services

- Digital Archiving of Documents & Information
- Easy & error free record maintenance and data retrieval
- Easy access to rules regarding their domain of work through State Excise Portal & Knowledge Intranet
- Anti-evasion tools built into the system for checking frauds and malpractices and authenticating payment information of Excise taxes by assesses

In general, the introduction of ICT tools re-engineered the Directorate's processes in two ways:

(a) The Directorate's services are now delivered online. This has eliminated entire administrative layers involved in the processing of service requests. Earlier, service requests had to be made through paper applications, which had to travel from table to table, and involved an enormous amount of paperwork.

After the implementation of eAbgari, liquor manufacturers, wholesalers and retailers make most service requests, like applications for Import Permits, License Renewals, Registration of Brands etc., online. The eAbgari software validates the requests for compliance with existing rules and procedures.

As most of the scrutiny work/ validation are done by eAbgari system itself, fewer officials are now involved in the processing of the requests. This has drastically reduced application processing times as well as chances of error in comparison the manual system.

Issuance of online acknowledgement with id.no. for each request of service has been incorporated to facilitate the stakeholder to track the process status any time from the online system or PULL SMS.

With centralized database in place, some distinct features are embedded in eAbgari towards better online service delivery e.g. (a) Unique Id. No. across the state for each licensee, (b) Unique codification of licensee premises (thru incorporation of data from state land records department), (c) Issuance of statutory signed documents to stakeholders in decentralized manner needed for producing outside West Bengal e.g. Authorization Slip for importing excisable consignments from other states etc.

Deposition of excise duties/fees through online Government payment gateway (GRIPS) integrated with eAbgari is made mandatory by the Government. This facilitates excise licensees & applicants for new license to deposit requisite amount of duties/fees (as calculated by eAbgari) online 24x7. It has significant impact from the perspectives of both Service Requester and Excise Official. The stakeholder need not take regular pain for deposition of duties/fees in Banks. On the other hand, dealing excise officials need not check the authenticity of challan from treasuries.

This, in turn, helped the stakeholders to do more business, and hence more revenues are getting generated in Government account.

(b) Collection of Data – regarding revenue, sale, imports, crime etc. is now done electronically. Relevant, actionable data is now available in real-time to Excise officials across the entire hierarchy.

15. Result achieved / value delivered to beneficiary of the Project and other distinctive features / Accomplishments of the Project:

The eAbgari project is a strategic administrative reform initiative of West Bengal State Excise leveraging state-of-the-art modern technology. As a part of the Government's decision to improve the present system of supply chain management of packaged foreign liquor and country spirit and to establish a mark of authenticity on the state produced and state imported bottled liquor, Barcode and QR Code based supply chain management methods have been incorporated in the eAbgari package. While all passes and permits for movement of intoxicants that are processed through the software carry barcodes, the authenticity of even an SKU of liquor can be checked either by scanning the QR Code affixed to the bottle using any standard mobile app or over the web. Such mechanisms not only help in plugging revenue loopholes but also contribute towards minimizing potential public health hazards from spurious intoxicants.

Following decision of the Government during early 2017 to take over the entire wholesale business of packaged liquor in the state from the private sector through the West Bengal State Beverages Corporation Ltd., a Company formed under the Finance Department, Government of West Bengal, the entire process flow of this corporation dealing with the liquor market with an annual turnover of around Rs. 15,000 Crores has been automated under the eAbgari package. Registered suppliers raise sale offers to the Corporation electronically and supply stocks to the Corporation's depots against Orders of Supply which too are electronic placed and retailers source their supplies from the Corporation by booking stocks over the eAbgari portal which offers them a seamless experience by providing an online shopping cart with integrated payment gateways.

Apart from potable spirits, the Excise Directorate also deals with medicinal alcohol, alcohol for research, analytical and clinical purposes as well as manufactured narcotic drugs and lifesaving medicine. As the procurement processes for such commodities have been automated under the dedicated eAbgari modules, the stakeholders like Hospitals, CCUs and educational institutes have been reaping the benefits of seamless and fast service delivery which is ultimately benefitting the patients as well as research labs.

As the Excise Directorate primarily deals with liquor, which is a sin commodity, a de-merit good, the regulatory aspects are extremely important. eAbgari provides access to all field level officers to report and record data related to enforcement activities which include among others, -

- Daily Preventive Raid Reporting System where officers report raids, seizures and arrests made during the day;
- Offender Database Management System whereby antecedents and records of arrestees are uploaded to create a state wide history sheet of offenders accessible to all officers;
- Criminal Case Information System whereby prosecution cases pending in trial courts are followed up and monitored by Excise officials.

At any given point of time the data can be retrieved, compared and collated for administrative and policy level intervention. The intelligent monitoring tools that eAbgari provides to the senior

management has been instrumental in conducting planned and effective enforcement activities by the field level units. The Directorate today is much better equipped in dealing with and addressing excise crime.

A significant feature of the project is that it did not involve significant additional infrastructure creation exclusive to the project. The existing ICT infrastructures available at the State & National levels are used for the implementation of the project. Internet Data Centre (IDC) of NIC(Headquarters), New Delhi and the State owned MPLS are backbone infrastructure of eAbgari project.

Desktop PCs and peripherals, procured through budgetary allocations made by the Government, have been made available at all district, range- and circle-level excise offices. The total cost of procurement, installation and maintenance of computers and peripherals at the Excise Directorate offices throughout the state, from FY 2012-13 to FY 2016-17, has been approximately Rs.5 crores.

The Directorate did not engage the services of an external agency to develop or implement the project. Engagement of additional manpower specific to the project has been limited to hiring a set of software developers and software support personnel to develop, test, operationalise and troubleshoot the software, under the close supervision of IT Cell of excise directorate, and to train Directorate personal and the Directorate's external stakeholders to implement the system. The total cost incurred over the last three years towards engagement of such personnel, has been less than Rs.1 crore.

This methodology of in-house software development under the supervision of NIC has minimized the gap between the user department and the software development team, commonly seen in most e-Governance initiatives involving external agencies, and thus helped to avoid the recurring expenses towards frequent changes in software design needed in line with the Government decisions.

The web-based model of service-delivery has ensured that the Directorate's external stakeholders incur minimal costs in accessing the services offered through the project. Accessing the services require only basic IT hardware (computers / smartphones) and internet connectivity. While the measures described above have ensured that the cost of development, implementation and operating the system is kept at the minimal, the benefits accruing to both the Government and the Directorate's external stakeholders have been significantly higher.

Using the web-based delivery systems built into the project, citizens and business can access the Directorate's services faster and at a lower cost, resulting in reduced process cycle times and increased business outputs.

Cost-benefits accrue to the Government by way of reduced service-delivery and transaction costs and optimum utilization of resources. With many of the routine administrative tasks now handled through the software, administrative manpower which was earlier engaged in those routine tasks, can now be redeployed for manual-intensive tasks like carrying out enforcement operations. Remote monitoring capabilities and electronic validation processes built into the system has greatly reduced the need for the officers to physically visit manufactories, vends, banks etc. for inspections and verification, and has helped the directorate to plug revenue leakages

As indicative example of how the reengineered processes have reduced costs is the way applications for the registration of brands of liquor was being handled earlier, and is being handled now.

In the earlier scenario, making an application for registering a brand of liquor for manufacture or sale in West Bengal would require the applicant to submit a paper application with multiple documents and 36 copies of the labels; payments for the application required the applicant to go to his bank. The applications would then be cycled through a minimum of 9 administrative "desks" – from the application-receipt centre through the office assistants to the decision-making officials to the typists and the document-dispatch section - to the letter dispatch over a period of 7 to 30 days, and the outputs would need to be sent through couriers to 20 Administrative Districts.

In the present scenario, the similar application is made online, and fees for the same is made through online banking channels. The processing of the application involves just two officials, and the output is electronically transmitted to the applicant and to all the administrative units. The entire process, from the preparation of the application to the dissemination of the output to all concerned stakeholders, is completed within 1-3 days.

The comprehensive IT-led process re-engineering exercise has led to the increase in the collection of Excise revenue by the directorate from from Rs. 3581 Crores during 2014-15 to Rs. 5201 Crores during 2016-17 registering a CAGR of over 20 percent. The expected revenue collection for the current fiscal is around Rs. 9,500 Crores of which Rs. 6600 Crores have already been collected till December, 2017. This exponential growth in revenue has mainly been possible on account of enhanced monitoring and regulatory practices made possible by eAbgari.

The extent to which the Objectives of the Project have been fulfilled- (benefit to the target audience i.e., G2G, G2C, G2B, G2E or any other, size and category of population / stakeholder benefitted etc.) is summarised below:

Process / Scenario	**Then (2012-13)**	**Now**
Issuance of Permits / Passes	15 – 30 days	Same Day
Label Registration of Packaged Liquor	20 – 45 days	Same Day
Permission for importing life-saving drugs	20 – 30 days	Same Day
Payment of duties and fees	Time consuming, cumbersome and during office hours on working days	Instant and 24 x 7
Status of Service Requests by stakeholders	Lack of transparency	Instant – both online and through SMS
Enforcement activities (Illegal Cases detected)	49,602	60,000 (2016-17) : indicating better enforcement activities
ePayment of duties and fees	0 %	100 %
Online transactions	0 %	1,04,38,644 (during $3^{1}/_{2}$ years)

Excise Revenue	1,759 Crores	9258 Crores (2017-18)
Government Employees		

eAbgari project is built in the statutory guidelines of West Bengal State Government. In case of positive externalities in the area of digital inclusion, no such hindrances have been faced yet. Cultural, language and demographic differences do not apply here as Sate Excise related operations (which include all Stats of India involving Import, Export, and Transport of excisable commodities) are conducted in English.

A significant feature of eAbgari project is that it did not involve significant additional infrastructure creation exclusive to the project.

The existing ICT infrastructures (H/w, System S/w, N/w) available at the State & National levels are used for the implementation of the project. Internet Data Centre (IDC), Shastri Park of NIC(Headquarters) - New Delhi, West Bengal State Data Centre (WB-SDC), NICNET and the State owned MPLS are backbone infrastructure of eAbgari project.

The existing IT hardware and network connectivity created through budgetary allocations at the Excise offices of West Bengal were re-purposed for the implementation of the project.

The directorate did not engage the services of an external agency to develop or implement the project. Engagement of additional manpower specific to the project has been limited to hiring a set of software developers & software support personnel to develop, operationalize and troubleshoot the software under the supervision of NIC.

This methodology of in-house software development under the supervision of NIC has minimized the gap between the user department and the application software development team, commonly seen in most e-Governance initiatives involving external agencies, and thus helped to avoid the recurring expenses towards frequent changes in software design needed in line with the Government decisions.

16. Future Proofing / Longevity of the Project:

The project is specific to the regulatory environment and licensing regime in West Bengal in respect of a highly-controlled commodity viz. alcohol. But the system is flexible enough to handle most changes in the regulatory system.

eAbgari is designed in modular fashion with tight integration among all modules. Because of its design, the project is highly scalable and it has been proved in course of time since last 2 years. Extensive use of backend master databases and a variety of configuration options - centrally administered by a team of senior officers at the Excise Directorate headquarters – together with a modular approach to software development and deployment, has ensured that the system is flexible enough to adapt to changes in regulatory framework and business processes. If any

programming intervention is required, it is handled by an always-available team of in-house software developers under the guidance of NIC.

The use of a web-based delivery model and minimal system requirements has ensured that the system is scalable across the entire universe of its user base comprising of the licensees of the Excise Directorate, citizens requesting services from the Directorate, and Government officials. While conceptualizing eAbgari, NIC in consultation with Excise Directorate took a modular approach because it went with the policy of 'starting small and scaling fast' instead of a 'big bang' approach. It is designed in 'plug & implement' fashion. As each module is designed, developed and tested, they are just plugged into the service framework.

This flexible, modular method to software development and project implementation and the adoption of a web-based delivery model makes the project easily replicable across a range of geographies, user-classes and commodities.

While designing, it is ensured that s/w development team use standard coding practices. The object oriented methodology followed in development of eAbgari has allowed reusing the existing code at object and functioning level. Each of the functions & related attributes are divided into granular levels for ease in maintenance and reusability. Besides, special care is taken to include features such as multi-tenancy, configurability and integration with various gateways.

Recently, 3 states have approached with the purpose to implement eAbgari in those states. These are Tripura, Assam and Uttar Pradesh. As the next course of action, eAbgari has been demonstrated to the excise authorities of Tripura & Assam.

Besides, the Grievance Redressal System of eAbgari is already rolled out across other administrative departments in the state as per decision of West Bengal Government. The Court Case Monitoring System developed under eAbgari is being reused by the Education Department of West Bengal.

The eAbgari project is unique in the sense that it is a first of a kind project in India which sought to bring all activities of the State Excise under an umbrella of e-Governance project.

Through successful implementation of eAbgari since last 2 years, West Bengal has earned the distinction of becoming the lead state in the country to implement world class excise ecosystem.

Madhya Pradesh Education Portal

School Education Department, Bhopal, Madhya Pradesh

1	**Name of the State / Ministry**	School Education Department, Bhopal, Madhya Pradesh
2	**Name of the host / owner organization**	School Education Department, Bhopal, Madhya Pradesh
3	**Status of the host / owner organization**	Rajya Shiksha Kendra, School Education Department, Under the Ministry of MHRD
4	**Name of the Project**	Madhya Pradesh Education Portal
5	**Name of the Nodal Contact Person**	Director, Rajya Shiksha Kendra
6	**Contact Address**	Rajya Shiksha Kendra, Arera Hill, Pustak Bhawan, Bhopal(M.P.)
7	**Telephone / Fax / e-mail**	0755-2768392 director-rsk@mp.gov.in

8. Project Summary:

The Portal has suite of applications has been designed initially with the following objectives:

- To facilitate a common platform for school education related issues, subjects & application software and single source of authentic and live information for all stakeholders like departments, schools, teachers, staff, students, parents, citizen, school administration and management, planners etc.
- Optimal utilization of the Human Resource Management and streamlining of related processes.
- Facilitating a comprehensive MIS to the Government for monitoring and analysis.
- Increase the overall productivity and efficiency of the system
- Facilitate social Audit by the dissemination of the all possible details of various activities of the department.
- Tracking of the performance of students and their drop-out status.
- Minimization of the manual work at various office levels.
- Facilities/Services for Teachers and Staff.
- Education Portal - Services to DDO's and Payment Authorities
- Education Portal - Services to District Education Officers (DEO) and District Project Coordinators (DPC) and other field staff/Authorities
- Education Portal - Services to Students and Parents
- Education Portal - Services for State Level Offices

9. Date of Launch of Project: Launched in 2008

10. Coverage (Geographical): All Madhya Pradesh

11. Beneficiary of the Project:

- Appointing Authorities- more than 800, including rural and urban local Bodies
- Principals HSS / Drawing and Disbursing Officers (DDOs)
- 51 District Education Officers, Assistant Commissioners (Tribal Welfare)

- 51 District Project Coordinators under Sarva Shiksha Abhiyan (SSA)
- 50 Principals of District Institutes of Education & Training/District Resource Centres
- 318 Block Education Officers
- 322 Block Resource Centre Coordinators
- Supervisory Functionaries at District (51), Block(322), Cluster (about 3000) and Cluster Academic Centers (about 6300) level
- All Parents belonging weaker section and SC, ST category

12. Problem statement for situation before the initiative:

School Education is the largest sector in the State in terms of number of beneficiaries, geographical reach, number of institutions, engagement of human resources etc. It is also the most complex sector with multiple departments and local bodies exercising control over the manpower engaged in it. Over the last two decades, the workload of the departments, institutions and offices dealing with school education has increased manifold without corresponding increase in the quantity and capability of the supervisory manpower.

For proper functioning of Department with such a large scale of Manpower and Offices it is a huge task. The teachers have been appointed and are administered by more than 800 local bodies & Government offices of different departments at district/block level had made the task of governance, administration, management, monitoring and coordination of such large number of agencies, staff, schools & students very difficult.

Non-availability of consistent, reliable and up-to date information on institutions, teachers and their profiles was a major challenge in governance. Synchronizing multiple activities of various administrative units under multiple departments was not possible in isolated system of operations. There was a huge need for a system to facilitate proactive governance in such complex and diversified scenario. Non-availability of consistent, reliable and up-to date information on numbers and profile of target children and their education needs habitation-wise was a major challenge in implementation of various interventions to meet their educational needs. Whatever information was available, particularly at micro level was mostly inconsistent and unreliable as it varied from scheme to scheme and from time to time even for the same set of beneficiaries e.g. number of children requiring free textbooks did not match with the number of children requiring free uniforms. Children shown as enrolled in a particular school/cluster/block did not match with information collected through habitation-wise household survey etc. Further, such an information was not easily storable, retrievable and not amenable to an easy analysis. This adversely affected effective governance, proper assessment and planning for incentives, schools and other required infrastructure and effective monitoring and implementation of schemes and programmes and also made it difficult to check leakages. An integrated online system could address these critical needs.

The department has to release funds to more than 1,30,000 agencies that include over 1,25000 School Management Committees and over 20000 Gram Panchayats/local bodies that manage the civil works. Problems were faced in timely and appropriate transfer of funds related to various schemes/activities as there was no system for rational transfer of funds using the real-time data of the enrollment, number of teachers, classrooms and funds previously transferred.

Effective Implementation of Right of Children to Free and Compulsory Education Act, 2009 (commonly called the RTE Act), requires State Government/ local bodies to:

- Ensure free and compulsory admission, attendance and completion of elementary education by all children of 6-14 years (nearly 1.60 crore children)
- Ensure that all the schools providing elementary education (including over 1.25 lac Government elementary schools) located even in very remote habitations fulfill norms & standards of infrastructure (Class rooms, Toilets, Drinking Water), facilities and the Pupil Teacher Ratio at all times, as prescribed in the Schedule to the Act.
- Ensure deployment of teachers' subject group wise in schools with Classes 6 to 8.
- Prohibit deployment of a teacher in institutions other than the school where she/he has been posted.
- Provide for recognition of private schools in a transparent manner.
- Provide mechanism for redressal of teacher grievances.
- Provide schools in the neighbourhood.

For its effective implementation, a system is needed to monitor the compliance of the provisions of the Act.
The Right to Information Act, 2005 requires the state to disseminate information to facilitate transparency, public participation and social oversight. This was missing in the earlier system. This also motivated the design of the system.

Before the system there were different paper-based application forms for 30 scholarship schemes and services like transfers, leave applications etc.

Application forms for transfers of teachers were offline and paper-based.

The parents used to submit paper-based forms to different schools for seeking admissions of their ward against the 25% seats of private schools reserved for admission under the RTE quota.
For private schools: Different paper based application forms for getting recognition and revised recognition under the provisions of the RTE Act, 2009.

13. Project Objectives:

Madhya Pradesh State Education Portal has been designed and developed as an integrated e-Governance, m-Governance and GIS platform for enhancing the performance of school education sector by providing proactive, transparent & accountable governance and bringing perceptible systemic improvements to fulfil the objects and requirements of RTE Act, 2009 & fulfil the spirit of the RTI Act, 2005.
Leverage the use of ICT to facilitate Process Re-engineering that was necessary for managing and administering the department in a manner so as to ensure better services and response to the large number of beneficiaries, stakeholders & partners and enhancing the quality of education by responsive and transparent governance.

- Facilitation of predictive and facilitative approach of governance and management in place of reactive approach
- Facilitation of control, supervision and ensuring the compliance of Government Instructions and facilitate transparency and adequate community ownership, participation and social audit/oversight
- Ensuring economy, equity, efficiency and effectiveness of use of Human and Financial Resources in managing, controlling and synchronizing the large operations using ICT interventions

- Facilitate the Implementation of the Right of Children to Free and Compulsory Education Act, 2009. The act requires State to ensure compulsory admission, attendance and completion of elementary education by all children of 6-14 years
- To facilitate 100% Enrollment of children (6 to 14 Years) by helping the department in:
  - Managing the available resources to ensure teachers, infrastructure, facilities as per specified standards in schools
  - Running Schemes and Programs to promote School Education up to class 12
- To ensure significant enhancement in the learning achievement levels of enrolled children by:
  - Capacity building of teachers
  - Micro-level monitoring and timely interventions
  - Implementation of an integrated and online system for regular evaluation of academic performance of students and grading of teachers and schools
  - Online & transparent evaluation and grading of teachers and Schools
- To facilitate retention of all enrolled children by
  - Effective monitoring of potential drop out children and timely interventions
  - Providing assistance like Scholarships, Free Textbooks, Cycles, Uniforms etc.
- Facilitate bridging of Gender and Social Category Gaps in Enrollment by
  - Facilitating assistance to Marginalized Children that include Girls, SC/STs, Children With Special Needs)
  - Mainstreaming of Out Of School Children (OOSC) by various interventions
- To introduce accountability on all functionaries and transparency and efficiency in all operations & functions and check on leakages
- To use ICT as an advocacy tool to bring about reforms in the system

14. Project Scope, Approach and Methodology:

Integrated, Unified & Online School Enrollment Register of all Schools (Government + Private + Aided) is logged into the Online Enrollment Register. Each and every child enrolled in any School of the State is enrolled in online system and his/her detailed socio-economic and academic profile is captured and is updated on a regular basis. The real-time, authentic and child-wise enrollment figures are used to decide:

- Number of additional teachers / Guest Teachers required in the School as per the PTR (Pupil Teacher Ratio) norms of the RTE Act.
- Surplus teachers in the schools that have to be shifted to schools that have less number of teachers and need teachers.
- Number of additional Classrooms required in schools as per the RTE norms (1 class room / 40 students)
- Allotment for food grains for implementing Mid-day-Meal scheme in the school. The Allotment is decided as per the number of children enrolled in school and average attendance.
- Amount / Grants to be transferred to school for internal examination and other activities. The amount is transferred from State HQs, directly into the registered account of the school
- Identification of Children with Special Needs and sanction of benefits of schemes / assistance.
- Identification of Out Of School Children and sanction of amount for their mainstreaming, enrolment
- Sanction of benefit of 30 Scholarship Schemes.
- Number of Free textbooks to be transported to schools for distribution to students

• Amount transferred for implementation of free uniforms for students scheme.
• Amount transferred to school / agency for purchase of Cycles for distribution to eligible students of class 6 and class 9th
• GIS@ MP schools is an innovative Mobile App based GIS solution. All the engineers and field functionaries use the GIS@Schools Mobile App to capture geo-tagged photographs of the basic facilities and infrastructure of schools and under civil works that involve construction of additional classrooms, toilets and other infrastructure.
• GIS@ Schools help the administrators to decide the schools which can be upgraded from primary to middle, middle to high school or high school to higher secondary school to serve a wider region and target population.
• It also allows identification of schools that can be merged without adversely affecting the enrolled children and to facilitate convergence of resources.
• An Online System for Recognition of Private Schools for compliance with the provisions of the RTE Act
• Private Schools apply for recognition on the Online System and submit the requisite information and documents
• Concerned Block Education Officer (BEO) evaluates the request for recognition of the private schools and recommends whether the Certificate of Recognition is to be awarded to the School. This evaluation is conducted on the first cum first serve basis.
• Based on the recommendation of BEO the District Education Officer (DEO) awards the Certificate of Recognition to the Private Schools
• An Online Lottery is being conducted for admission to seats reserved in Private Schools under the RTE Act for the children of underprivileged and weaker sections of the society
    - A Block Resource Co-ordinator (BRC) identifies which villages/ wards are in the vicinity of a Recognized Private schools
    - Online Applications with choices for admission in 10 private schools are accepted from the parents of EWS for admission to the 25% reserved under the RTE quota.
    - A software based rule engine evaluates the choices of the applicants in a random order against the available seats in schools in the neighborhood of the applicant and allots a seat in a school the applicant.
    - Applicant reports at the allotted school for Verification of Identity, elegibility and Residence by the designated Nodal Officer and is enrolled via the Online School Enrollment Register of Madhya Pradesh into the Private School.
• Online School Enrollment Register of Madhya Pradesh is Meshed up with the Payroll system
• Identify schools where the Pupil to Teacher Ratio (PTR) is not within the acceptable standards as set in the RTE Act.
• Identify schools where the no of teachers is in excess (surplus) of the no of teachers required to maintain the PTR

The above exercise is referred to as Rationalization of Posting of Teachers in schools, where in the surplus teachers are transferred and shifted to schools with less teachers.

15. Result achieved/ value delivered to beneficiary of the Project and other distinctive features/ Accomplishments of the Project:

- The Portal is the lifeline of Teachers and Staff .As it is the strong means which provide networking of 3.9 Lac Teachers and Staff. They can share views, Messages, they can print and print payslips, eService Book. Birthday, Blood Requirements.

- Portal is the only tools through which department is connected with all Employee and Students. The portal is playing vital role in administration and monitoring of all activities and proper implementation of Schemes which is prime concern of Government.
- Initially People use to deny that they have not received information regarding particular thing. Now they have to visit portal regularly. As it is the only means of information dissemination.
- Due to mandatory use of Portal, Teacher is aware about computer technologies.
- Financial Grants and Transaction is available online causing transparency in System.
- GIS Platform ensures RTE compliance helping department in its monitoring and taking appropriate remedial actions for its compliance.
- Social Networking Integration with Portal increasing the reachability with Citizen making them aware of new Scheme, new rules and benefits without bothering them.
- The Children with Specials needs are getting benefited through constant monitoring and tracking through portal.
- The Employee are getting benefitted, now they can get their retirement benefits, compassionate appointment.
- Civil Works with their Photograph are available in public domain.

System is integration solution providing benefits of all the scheme from single window like HRMIS, Enrolments, School Recognitions of Private Schools, RTE, Online admission under RTE act. OOSC, VER, CivilWorks, CWSN, Child Tracking, Social Networking of Teachers, Orders, Circulars, Tenders, Grievance Redressal, Cycle Distribution, Transfers, Posting, Online Counselling, Pratibha Parv, KGBV and Girls Hostel etc.

16. Future Proofing/ Longevity of the Project:

- In house development.
- Govt. has issued orders making it mandatory to use the Portal for the purposes whose process and functions were automated. Department of Finance has directed all its offices to accept pay bills generated from the Portal for release of funds.
- The initiative has been designed in such a manner that it benefits all the stakeholders of the system and serves their personal and professional interests as most of the HR processes have been linked with the online systems & hence they should want to sustain the initiative. e.g. The online system helps timely payment of salaries, timely resolution of establishment related matters, like regularization, and redressal of grievances and hence all employees are ready to use the system. It greatly helps administrators to effectively plan and administer the department and ensure timely compliance of its orders, policies and directions. Media and public at large besides all the employees have easy access to all circulars, orders, information & happenings of departments. Similarly, online analytical reports help the Government, management at different levels and community to know gaps and shortcomings and guide focused corrective interventions.
- The Portal facilitates a role based systems and all individuals perform their functions online and hence the workload is distributed amongst various functionaries. The portal replaces the repetitive and time consuming manual system and thus reduces the work load of all the stakeholders and improves their work efficiency and effectiveness.

Paperless H.P. Legislative Assembly (e-Vidhan)

Himachal Pradesh Vidhan Sabha Secretariat

1	**Name of the State / Ministry**	Himachal Pradesh
2	**Name of the host / owner organization**	Himachal Pradesh Vidhan Sabha
3	**Status of the host / owner organization**	Himachal Pradesh Vidhan Sabha Secretariat
4	**Name of the Project**	Paperless H.P. Legislative Assembly (e-Vidhan)
5	**Name of the Nodal Contact Person**	Sh. Yash Paul Sharma
6	**Contact Address**	Secretary, Himachal Pradesh Vidhan Sabha, Shimla – 4
7	**Telephone / Fax / e-mail**	0177-2652801 / it-vs-hp@nic.in

8. Project Summary: The H.P. Legislative Assembly is India's first ever high-tech Paperless Assembly since August 2014 after implementing e-Vidhan and automating the process involved in working of House including various House Committees, Its Secretariat and managing Constituencies by Hon'ble Members. e-Vidhan project was sanctioned by the Ministry of Electronics & Information. Technology (MeitY), Government of India, in September 2013 and NICSI as the Implementing Agency and NIC for Technical Support. e-Vidhan, a sophisticated e-governance solution, significantly minimizes paper usage with online communication and a configurable software suite of public & authorized website, House application and mobile apps.

9. Date of Launch of Project: 4 August 2014

10. Coverage (Geographical):

- Himachal Pradesh Vidhan Sabha: Digital Paperless Assembly House, Automation of day to day functioning of all branches of Secretariat.
- MLAs including Ministers, Himachal Pradesh: All documents related to the House are made available online to Hon'ble Members through touch screens installed on their tables and Mobile Apps.
- All Departments of Himachal Pradesh Government: All papers for laying in the House during Assembly Sessions are sent/received online from Government departments using secure e-Vidhan website. No manual paper is received. All departments send online requests to H.P. Vidhan Sabha for entry passes along with photographs. Entry passes are generated with QR Code, which is mandatory for police verification.
- House Committees of Legislative Assembly: House Committees are connected online with all Government departments for correspondences such as notices, questionnaires and replies by departments.

- Legislatures, Scholars, Media and Public: They have the access to the Digital Library under e-Vidhan public website for reading the current and previous assembly records such as Debates, bills, Questions & Replies, Notices, Speeches.

11. Beneficiary of the Project:

- G2G (Government to Government): H.P. Vidhan Sabha Secretariat: 2 No. (Shimla & Dharamshala), All Departments of Himachal Pradesh: 54 Departments and 84 HODs and 36 Undertakings/Corporations, House Committees of H.P. Legislative Assembly: 15 Nos.
- G2E (Government to Employee): H.P. Vidhan Sabha Secretariat: 240 Employees.
- G2C (Government to Citizen): MLAs and Ministers: (68 Nos.), Scholars, Media and Public

12. Problem statement or situation before the initiative:

- Traditional Manual process in Assembly House
- Manual notice office for receiving questions/notices from MLAs as well as replies from various Government departments
- Manual processing of assembly questions and notices
- 150 No. of hard copies for each reply of questions and notices were demanded from the Government departments
- Huge expenditure by Government Departments on plying of vehicles and manpower during the Assembly sessions between offices and Legislative Assembly Secretariat
- Papers were laid manually in the Assembly House
- Huge expenditure on Papers for laying manually in the House
- Traditional Library System
- No facility for time management during discussions in the Assembly House
- Issuance of Manual entry passes without photographs
- No facility available for police to verify the authenticity of entry passes
- Working of 15 House Committees was manual
- No e-interaction and efficient communication between citizen and their elected Representatives (MLAs)
- The MLAs were not efficient enough to use the latest Information Technology and manage their respective constituencies with the help of IT tools
- Redundant processes which otherwise delayed the flow of information among various stakeholders
- Lack of proper monitoring at all levels
- Manual record keeping

13. Project Objectives

Himachal Pradesh Legislative Assembly has become India's first ever high-tech Paperless Legislative Assembly by launching e-Vidhan system.

Since launching of e-Vidhan System by Hon'ble Chief Minister Himachal Pradesh, all documents related to the House are made available online to Hon'ble Members through touch screens installed on their tables and Mobile Apps. All papers for laying in the House during

Assembly Sessions are sent/received online from Government departments using secure e-Vidhan website. No manual paper is received.
Three major components of e-Vidhan are as under:

- Paperless Assembly Sessions
- Paperless Working of the House Committees
- e-Constituency Management

Innovative Aspects of the Project:

a. Paperless Assembly Sessions:

- Dashboard for Members of Legislative Assembly (MLAs) and dashboard for Government departments to submit replies of questions/notices, bills or other papers online for laying in the assembly
- Secure e-Assembly and e-Constituency mobile apps for MLAs, Ministers and Department heads, and My MLA mobile app for media and constituents
- Touch screen based digital e-Book for paper laying, and displaying the daily List of Business and associated papers such as committee reports, bills and annual reports
- Online questions processing with the facility for online typing, proof reading, bracketing, clubbing and postponement
- Online request and generation of entry passes for individuals, vehicles and media persons as well as their police verification
- Using a State-of-the-art software, the reporters of Vidhan Sabha record proceeding of the House as per the timings recorded digitally. The reporters may also re-play audio/video archives while recording verbatim.
- After laying, papers are automatically made available on the official website

b. Paperless Working of the House Committees:

- House Committees are connected online with all Government departments so that all correspondence such as notices, questionnaires, and replies by departments may be online. Previous records of the Library such as Debates, Bills, Questions & Replies, Speeches etc., are also digitized.
- e-files for subjects such as Government assurances and audit paras with the facility for sending e-notices and e-Reminders to departments

c. e-Constituency Management:

- e-interaction and efficient communication between the citizen and their elected representatives (MLAs).
- Constituency management with updated constituency related information of work progress and public grievance status

d. Others:

- MIS for accounts and establishment branches of the legislative assembly.
- MS/email facility for sending alerts and notifying users with the necessary information
- User authentication and authorization with digital signatures, Aadhaar number and PMIS code
- Library Management Information System (MIS) to manage records related to receipt and issuance of books with e-Reminders and e-Library

e. Infrastructure Developed:-

- Digital Assembly House
- e-Facilitation Centre for Hon'ble Members of Legislative Assembly
- Hi-tech training room has been setup in the H.P. Legislative Assembly Shimla to provide continuous trainings to Hon'ble Members, Employees of Vidhan Sabha Secretariat and all Government Departments.
- Video Conferencing and Data Centre

By making H.P. Assembly paperless, there is an expected saving of Rs. 15 crores per annum for H.P. State and 6096 number of trees will be saved from falling.

14. Project Scope, Approach and Methodology

- A complete study of the working of the Himachal Pradesh Vidhan Sabha, its House Committees and its Secretariat was done to understand about the system required to automate the Himachal Pradesh Vidhan Sabha.
- A Detailed Project Report (DPR) was prepared by the NIC Himachal Pradesh on the request of H.P. Legislative Assembly to automate the process involved in working of House including various House Committees, its Secretariat and managing constituencies by respective Hon'ble Members.
- After approval of the DPR by the committee of H.P. Legislative Assembly, the Hon'ble Speaker, H.P. Vidhan Sabha submitted the Detailed Project Report (DPR) to the Hon'ble Minister for Communications & Information Technology, Government of India for consideration and sanctioning necessary funds.
- After taking presentation on 1st February, 2013, the Hon'ble Minister for Communications & Information Technology, Government of India appreciated the initiative to be taken by the Hon'ble Speaker, H.P. Vidhan Sabha and directed the Department of Electronics and Information Technology Government of India (DeitY) to consider the DPR and sanction necessary funds.
- The DeitY approved e-Vidhan Project Proposal of H.P. Legislative Assembly on 16th August, 2013, and decided to be implemented jointly by H.P. Legislative Assembly, DeitY, NIC and NICSI to automate the process involved in working of House including various House Committees, its Secretariat and managing constituencies by respective Hon'ble Members.

15. Result achieved/value delivered to beneficiary of the Project and other distinctive features/Accomplishments of the Project

- By making H.P. Assembly paperless, there is an expected saving of Rs. 15 crores per annum for H.P. State and 6096 number of trees will be saved from felling.
- Himachal Pradesh Government awarded State Civil Service Award, 2015 on 15th April 2015 for successfully implementing e-Vidhan System in the Himachal Pradesh.
- Honored by the Department of Administrative Reforms & Public Grievances (DARPG), Govt. Of India for the BEST PRACTICE initiative (e-Vidhan) and presentation at Nanital (Uttrakhand) on 7th July, 2017 about successful implementation of e-Vidhan in H.P. Vidhan Sabha.

- SKOCH Silver Award 2017 and SKOCH Order-of-Merit Award 2017 conferred during the 49th SKOCH Summit on 8th-9th September 2017 at Constitution Club of India, Rafi Marg, New Delhi.
- Replica of e-Vidhan was setup on during Exhibition on Good Governance Day organized by Govt. of India in Dec 2014 at New Delhi and appreciated by the visitors.
- Replica of e-Vidhan was setup on 36th India International Trade Fair from 14th to 27th Nov., 2016 at Pragati Maidan, New Delhi.
- Roll out of H.P. model of e-Vidhan in other legislatures of India (42 Units).
- The Presiding officers, House Committees and teams of officers from 22 states visited H.P. Legislative Assembly to study e-Vidhan and have shown interest in rolling out of e-Vidhan H.P. model in their states.
- Several meetings were held with Hon'ble Union ministers at New Delhi regarding the roll out of H.P. model of eVidhan in other legislatures of India and establishing National e-Vidhan Academy (NeVA) at Tapovan (Dharamshala) for providing trainings to Hon'ble MPs/MLAs and officers from all over India
- Roll out of Palampur model of e-Constituency Management in other constituencies of Himachal Pradesh (67 Units)
    - Decision taken by the Government of Himachal Pradesh
    - All MLAs have shown interest in roll out it in their respective constituency

16. Future Proofing/Longevity of the Project:

- One Application One e-Vidhan
- Towards Product Globalization
- This application is progressing towards Product Globalization and customized as National e-Vidhan Application, which enabled its replication in 40 Legislatures (Lok Sabha, Rajya Sabha, 31 Legislative Assemblies and 7 Councils). Its roll out in Municipal Corporations and Legislatures of other Countries is underway.

GeoPortal on North Eastern District Resources Plan (NEDRP) to support effective Governance applications

Department of Space, Government of India

1	**Name of the State / Ministry**	Department of Space, Government of India
2	**Name of the host / owner organization**	North Eastern Space Applications Centre (NESAC)
3	**Status of the host / owner organization**	Department of Space, Government of India
4	**Name of the Project**	North Eastern District Resources Plan (NEDRP): a Geo-portal showcasing the strength of Space Technology inputs towards Governance Applications
5	**Name of the Nodal Contact Person**	Shri PLN Raju, Director, NESAC
6	**Contact Address**	Shri PLN Raju, Director, NESAC, Department of Space, Govt. of India, Umiam-793103 (Meghalaya)
7	**Telephone / Fax / e-mail**	+91 364 2570141, +91 364 2570139 (Fax), director@nesac.gov.in

8. Project Summary:

North Eastern District Resources Plan (NEDRP) is one of the unique activities of North Eastern Space Applications Centre (NESAC) towards strengthening the Governance policy through effective mechanism of Geospatial framework. The project was sponsored by the North Eastern Council (NEC), MoDONER, Government of India, Shillong and executed in collaboration with the State Remote Sensing Applications Centre (SRSACs) of NE Region. NEDRP was initiated with 36 selected districts of NE Region and later on extended to remaining districts (65 districts) of the Region. Each of the districts comprised of around 30-35 geospatial layers categorized into six major modules-

- Administrative or base data
- Infrastructure
- Land and Water resources
- Planning inputs
- Terrain Module and Disaster management

In addition, NEDRP dashboard is populated with the Governance Applications on Election, Census, Project Monitoring, Geo-Tourism, Village Resources Information etc. NEDRP is now becoming decision making platform for the Governance applications in many Government Departments and agencies for their planning and monitoring activity.

Shri Ravi Shankar Prasad, Hon'ble Union Minister for Electronics & Information Technology and Law & Justice, Government of India launched the updated version of the NEDRP GeoPortal on 11 August, 2018 in the august presence of the Hon'ble Chief Ministers and IT Ministers of

North Eastern States. The launching of the NEDRP portal was taken place during the Release Programme of the Vision document for Digital North East 2022 in Guwahati at the initiative of the Ministry of DoNER, Government of India. NEDRP was awarded with the most prestigious National Awards for e-Governance for the year 2017-18 for outstanding contribution using Spatial Technology and GIS in e-Governance by the Department of Administrative Reforms & Public Grievances (DARPG), Government of India.

9. **Date of Launch of Project:** Initially, NEDRP was released on 5th September, 2016 followed by release of an updated version on 11th August, 2018.

10. **Coverage (Geographical):** NEDRP was initiated with 36 selected districts of NE States and later on extended to remaining districts (65 districts) of the Region.

11. **Beneficiary of the Project:**

District Administrations and Line Departments of NER are major beneficiary of the NEDRP portal. NEDRP data services have been effectively utilized by various Line Departments for preparing Disaster management support plan, Forest Resources Management plan, Detailed Project Reports (DPRs) for Integrated Watershed management Programme (IWMP) and Roads/Pradhan Mantri Gram Sadak Yojana (PMGSY), inputs for Electoral planning, inputs for development of MoSQuIT an integrated Surveillance System for Malaria, etc. Various investigation agencies including Special Investigation Branch (SIB), Police etc., Line Departments like Agriculture & Horticulture, Water Resources, Meghalaya Basin Development Authority (MBDA), Public Works Department (PWD) etc., research institutes like Indian Council of Agriculture Research (ICAR), Indian Institute of Technology (IIT), Guwahti, University have been utilizing NEDRP portal for their planning activities.

12. **Problem statement or situation before the initiative:**

NE Region is the easternmost Region of India represents both a geographic and political administrative division of the country. It comprises the eight states Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura. It comprises an area, of 262,230 Sq. km with a total population of 4,54,86,784 as per census 2011. The area holds enormous potential in natural resources and development of the tourism industry. NER has a unique amalgamation of geographical position, cultural and socio-economic conditions, but this Region of our country has not made much progress as compared to the rest of the country due to various reasons viz., infrastructure bottlenecks, institutional weakness, technological gaps, etc. Many a times the programs undertaken by Government institutions to address specific problems of rural masses get poorly implemented due to insufficient technical inputs, lack of zeal and transparency in implementation and improper monitoring methods. Over the last two decades, tremendous information has been generated for natural resources management, infrastructure planning, disaster management support etc. by different stakeholder, agencies and institutions. But most of the times, dissemination of information to the decision makers, planners and grass root level users is not rapid enough due to poor awareness among the people in NE Region. Demand for availability of geospatial inputs in the planning process are rarely felt due to the lack of knowledge and awareness. Frequently used hardcopy maps and traditional machinery system are

now becoming obsolete in the rapid growing todays' developmental pace. In addition, the information dissemination was 'static' in nature as maps are to be printed physically and provide just singular type of information and thus can't be processed to extract more valuable information. Because of lack of awareness on the availability of information, most of the times, the information is lying idle and not utilized in the planning process. Lack of transparency in planning process, improper monitoring, data sharing as well as lack of awareness on geospatial data are few major issues.

Governments Departments are exploring the usage of Information and Communication Technology (ICT) in order to empower the planning activities with ICT-enabled tools and services. Utilization of geospatial inputs in the planning process is essential and mandatory element in the current scenario of developmental activity. It demands authentic, relevant and updated information while preparing the important project plan or DPR for any developmental programme. A number of applications, MobileApps etc. have been customized and deployed to enhance the Governance activity. Nevertheless, none of the applications were synergized together with ICT and Geospatial technology in order to enhance planning activity more effectively. Hence, there this is a need to conceptualize an integrated data repository mechanism characterised by the Decision Support System (DSS) in order to address these issues through effective utilization, sharing, management and planning of natural resources in the Region.

13. Project Objectives:

The main objectives of this programme are as follows:

- Integration of available natural resources database with a proper linkage to socio-economic data.
- To develop a web-based single window information system with a set of Geo-processing tools such as spatial query based on area of interest, distance & measurement, pie chart generation etc. which will enable user to view and query the database.
- To develop dashboard based web applications on top of the NEDRP framework for the Government Departments to support visualization of relevant data for planning and monitoring activities.
- Online decision making tools based on User's criteria for identification of forest fire vulnerable areas, expansion of horticulture and afforestation activity have been added to the top of the NEDRP.
- To organize capacity building programme for maximum utilization of space technology inputs for Governance.

14. Project Scope, Approach and Methodology:

NEDRP is one of the unique initiatives to provide geospatial data, services and tools for preparation of DPRs, Master plan document and any other inputs essential for various district level developmental planning and to support various Governance activities. User need assessment at grass root level towards utilization of space technology inputs and services was the core of the entire project flow. Large number of workshops at District Head Quarters of NE Region organized where prototype of NEDRP district portals were demonstrated to assess the existing gaps and requirements in developmental planning activities. Once the requirements from all sectors of the User Departments are finalized in terms of data, services and user specific

applications; the design and development phase of the GeoPortal was initiated in an incremental mode. The entire architecture is based on the client-server principle following service oriented framework where each of the user specific requirements are realized in an incremental mode. The application was built to address the following aspects of the user requirements:

- GeoVisualization of relevant layers of information with basic functionality likes navigation, map query, analysis, print and exporting of maps etc.
- Dashboard Web application integrated with Mobile App for GeoTagging and monitoring as well as other Governance activity.
- Spatial Decision Support System (SDSS) with spatial analysis tools to provide actionable inputs.

NEDRP is populated with 3500+ Geospatial layers generated from various sources of satellite data with different spatial/spectral resolution. Each district contains around 30-35 geospatial layers pertaining to different themes. In addition, data collected from the different User Departments have been organized seamlessly as per NNRMS standards with the other geospatial layers. The PostgreSQL/ PostGIS server acts as the central repository to provide access to the entire data via various web services. The various functionality of the GeoPortal was effectively developed using a number of open source software, tools and standards following OGC specifications and data and service interoperability. The entire architecture is depicted in the Figure-1.

Figure: Architecture of NEDRP (www.nedrp.gov.in) with different components

It provides an interactive and responsive user interface (UI) for visualization of geospatial layers, on the fly-statistics with proximity and multi-dimensional querying capability. Ensemble of 101 district GeoPortals are showcased in a single window platform using open source MS4W with Map Server, map Cache-Apache-PHP software bundles for efficient and effective dissemination of web various services. Powerful Deserver based architecture integrated with GeoJSON/ Leaflet Technology is used for development of various Governance Applications with enhanced/optimized rendering of maps/satellite images as well as to capture the live feeds of real-time data from Mobile Apps. The entire architecture is responsive and incremental in nature to catalogue various Governance Applications without disturbing the current configuration. Android based Mobile App was developed to geotagg the developmental project locations as well as the period monitoring activity. Initially, the portals were disseminated as standalone/portable systems for the wider penetration of this space based information system in

the remotest local authority. Further, maximum of the places in the Regions lacked internet connectivity and therefore online portals did served little purpose. Now, internet bandwidth connectivity with the likes of 2G/3G/4G has improved and expanded in the Regions and therefore, all the portals have been hosted live and updated regularly. The data services under NEDRP are made in compliance with established OGC standards and are interoperable and accessible by multiple devices irrespective of their platforms. In addition, around 1620 layers maps via public domain and 1200 geospatial layers through Bhuvan node have been already released to the various users for their developmental planning activities. Secure data sharing gateway has been established for sharing of geospatial maps to the various users through online registration. The GeoPortal is hosted at www.nedrp.gov.in using 1Gbps NKN[1] network. The homepage of the GeoPortal is depicted in the Figure 2. A number of Spatial Decision Support Systems (SDSSs) like land resources planning (Figure 3) based land and climatic condition, suitable sites for check dam construction, identification of forest fire vulnerable areas etc. are part of the NEDRP system.

15. Result achieved/ value delivered to beneficiary of the Project and other distinctive features/ Accomplishments of the Project:

NEDRP has been found one of the lead platforms of Department of Space in NE Region to showcase the maximum utilization of geospatial data and services derived from the Indian Remote Sensing Satellite. Around 3030 layers maps via public domain and 1200 geospatial layers through Bhuvan node have been already released to the various users for their developmental planning activities and around 40+ NEDRP standalone versions were installed in the offices of District Administrations and Line Departments where there was problem with high quality internet bandwidth. Around 25 number of one day workshops cum training programme have been organized. NEDRP data services have been effectively utilized for preparation of developmental plans by large number of Line Departments of NER. It is now becoming decision making platform for the Governance applications in many Government Departments and agencies for their planning and monitoring activity. The Election e-Atlas was successfully utilized for the first time in India during the last Assembly Election 2018 of Meghalaya to capture the live feeds of polling updates for live visualization (heat map etc.) and turn out. NEDRP is also enriched with GeoTourism module (tourism.nedrp.gov.in) which was a directive from the Ministry of DoNER for better planning of NER tourism. Recently, the portal is portraying around 230 tourist spots categorized in monument, cave, peak, waterfalls, hot spring and hotels over Bhuvan base satellite imagery including the geospatial itinerary for planning the tour has been developed.

Figure 2: The homepage of NEDRP GeoPortal depicting the various components

Figure 3: The homepage of NEDRP GeoPortal depicting the various components

Flood hazard zones of Majuli, Assam with the bankline migration information showcased via Majuli district NEDRP GeoPortal is depicted in the Figure 4. On the other hand, dashboard based web application (Figure 5) for monitoring of the status of the projects funded by NEC in NER is one of the major achievements of NEDRP towards good Governance. The monitoring dashboard integrated interactive Mobile Apps, GPS and satellite imagery to assess the status of the projects progress (nec.nedrp.gov.in) has been handed over to NEC and currently made operational with 95 projects of NEC running in 165 locations of NER. Election GIS module of NEDRP is another important application accepted and is currently operated by the Office of Chief Electoral Officer, Meghalaya Election Department for online updation of electoral roll data in spatial domain and also to prepare the plan of action more effectively using NEDRP data and tools. Chronology of NEDRP towards development of Governance activity is depicted in the Figure 6.

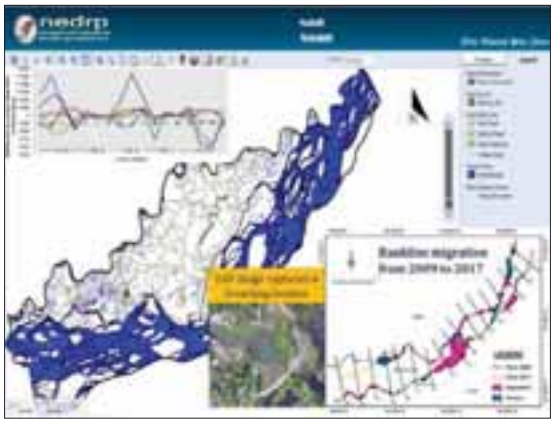


Figure 4: Flood hazard zones of Majuli with the bankline migration information

Figure 5: Project Monitoring Dashboard of NEC

Figure 6: Overall achievements and success of NEDRP towards Governance activity

16. Future Proofing/ Longevity of the Project:

Realizing importance and acceptance by the large number of User Departments, Ministry of DoNER, GOI and NEC, GOI have directed NESAC to expand the activity of NEDRP by developing a North East Spatial Data Repository (NeSDR) to empower more effective way of data sharing and developing innovative tools and applications to cater the needs of the Users of the Region. The basic aim of NeSDR is to establish Geospatial Network among SRSACs of NE Region through augmentation of existing IT infrastructures as well as creating the catalogue of existing geospatial data generated at different scales, different time frame available with SRSACs or user and line departments. NESAC as Central Node will host Regional database including State data whereas respective SRSACs as State Nodes will be responsible for State data generated by SRSACs or other Line Departments. NEDRP portal with its Governance Applications will be part of NeSDR platform along with other data and user specific services to support the developmental planning in the Region.

Aizawl District Disaster Management Authority (ADDMA) Mobile Application

Government of Mizoram

1	**Name of the State / Ministry**	Mizoram
2	**Name of the host / owner organization**	Deputy Commissioner, Aizawl, Mizoram
3	**Status of the host / owner organization**	Government of Mizoram
4	**Name of the Project**	Aizawl District Disaster Management Authority (ADDMA) Mobile Application
5	**Name of the Nodal Contact Person**	Dr. A. Muthamma, IAS, Deputy Commissioner
6	**Contact Address**	DC Office, Treasury Square, Aizawl – 796001
7	**Telephone / Fax / e-mail**	0389–2326257/2329202 (O), 0389-234400, dcofficeaizawl@gmail.com

8. **Project Summary:**

Aizawl District Disaster Management Authority (ADDMA) Application is an application software for effective disaster related communication between the citizens and the district authorities. It is a pilot project initiated by District Disaster Management Authority Chairman & Deputy Commissioner of Aizawl District Mr. Kannan Gopinathan, IAS.

Mizoram is a hilly area with poor infrastructure for roads and inadequate town planning. Every monsoon brings a disaster ranging from minor to catastrophic level claiming lives of citizens. With the development in communication infrastructure such as wireless network, smartphones and citizen becoming aware of its usage, the District Disaster Management Authority came up with the idea of using internet, mobile and web application to the most effective level possible.

With the initiative of Aizawl District Disaster Management, Department of Information and Communication Technology (DICT) and Mizoram State e-Governance Society (MSeGS), an online disaster management system is spawned. Aizawl District Disaster Management Application covers disaster management process starting from information dissemination with awareness and alarm, incident report with response system and disaster aftermath management with relief material request. Under this project, a native Android Apps is developed for the citizen as well as District Disaster Management officers. The district executive office is equipped with a web application software Information Management Systems (IMS). All notifications are provided in a dual mode, i.e. App Notification and SMS which provide a real-time response to any actions from the citizen to officers and vice versa.

All incident report and relief request submitted from the android apps are observed and managed through the IMS integrated with Google Maps API. Also, all District Disaster Management officers can respond through the apps in real-time. Each district is divided into Zones and this modularity help advances the management in active response as one officer is designated for each zone.

This application is multilingual which helps the native citizen unfamiliar with English to use the

application to the level of their content.

9. Date of Launch of Project: The Chief Minister of Mizoram, Shri. Lal Thanhawla launched the application on 29th August, 2017.

10. Coverage (Geographical):
Aizawl District is the largest district among eight districts of Mizoram with an area of 3,577 sq. km. The population and total number of villages of Aizawl District is 4,04,054 and 193 respectively. There are 5 blocks and _ Sub-Division in Aizawl District.
Aizawl District is divided into 17 Zones which are governed by a Zonal Officer.

11. Beneficiary of the Project:
Citizen residing in Aizawl District capable of using smartphones, District Disaster Management Offices with State Government Officials.

12. Problem statement or situation before the initiative:

- **Manual Forms:** Before implementation of Aizawl DDMA application, all concern report submitted were done using manual forms. To submit this form, citizen must visit the DC Office, obtain the forms, fill up the form and then submit to respective personnel.
- **Time Taken:** The total time elapsed for manual form submission is calculated to be approximately 4 days. The incident spot verification, identification and notification of concerned officials take another 2 days.
- **Travelling Cost:** The average travelling cost by the citizen to avail the services is approximately ₹300 - ₹500/-.
- **Untraceable Status:** There is no system to check the status of the concern report submitted; the citizen must wait for visible response to identify if the report submitted is under consideration by the administrative authority.
- **Toll Free:** Contacting 24/7 District Emergency Operation Centre toll free number 1077 is cumbersome for citizens in case of emergency. Moreover, citizens are not aware of this service and because of which in-case of any emergency, citizen do not know who to contact immediately.
- **Safety Instructions:** In case of emergency, most citizen do not know safety instructions/procedures to follow.

13. Project Objectives:
AIM: To make use of ICT as transformational tools for disasters management and rehabilitation.
OBJECTIVE: To radically improve disaster management system and automate the workflow of disaster prevention and response mechanism.
GOALS:

- Create awareness on disasters through intensive public education.
- Improve citizens and institutional capacity to handle different aspects of disasters.
- Disseminate timely information and warning, and hazard/disaster awareness creation.
- Sensitize citizens and local NGO to participate in disaster reporting for quick response.
- Link with IMD to disseminate information on weather forecast and severe weather warning.
- Assist in post-emergency rehabilitation and reconstruction effort.

14. Project Scope, Approach and Methodology:

Implementation overview: The application has two components the web and mobile component. The web application provides monitoring and management interfaces for district authorities as well as public interface to avail disaster related services. The citizens use the mobile application to avail the services whereas district authorities use it to monitor disaster related activities. Below are some of the important features:

Fig. 1: Aizawl DDMA App in Google Play Store.

- **Real time notifications**: The app has the functionality to sends a timely disaster related notification to help plan & prepare for any emergencies. Users can reply these notifications informing more updates to the authority.
- **Emergency alarms**: A functionality to raises alarm in cases of urgent disaster related emergencies. Through a special notification this alarm will be remotely triggered by the ADDMA.
- **Locates zonal officer**: Aizawl is divided into 19 zones. User can locate their zonal officer based on their GPS location or their locality name.

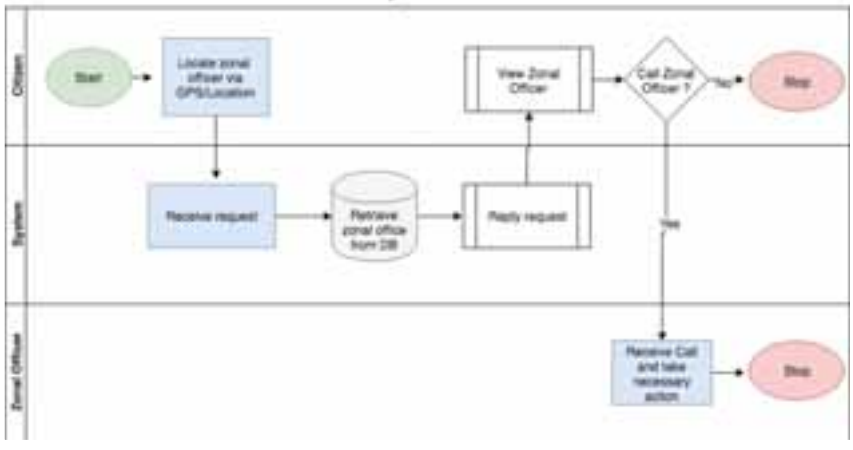


Fig. 2: Process Map to locate Zonal Officer.

- **Rescue me request:** The app has the ability enabling user to raise alarm by a single touch and notify authorities as well as your emergency contacts in case user are in difficulty and requires rescue.
- **Submit any disaster concerns:** The App has an inbuilt feature that gives the user the ease of communicate/report any disaster strike/accident with the click of a button to the ADDMA. User can take a picture and upload too. With Internet connectivity the location of the emergency site can be automatically located through the user's GPS and the App communicate the detail information to the ADDMA without the user's intervention.

Upon reporting any concern, the respective zonal officer will be notified & ADDMA will monitor action taken through IMS. User can track & update their concerns reported through the app by using 'My Concerns' option.

- **Important contact**: Important contact information including officers manning various positions and their contact numbers is listed for quick user reference. The information provided here are dynamically linked and will always be up-to-date. User can also get contact details of their Village Level & Local level disaster management committees.
- **Do's & Don'ts:** User can learn about various Do's and Don'ts so that it can help in prevention and mitigation of disasters. Do's and Don'ts notifications will also be regularly sent to remind of simple but important steps that can be done at home and offices.
- **Be a volunteer with us:** Interested users are required to enlist themselves as volunteers the first time they download the app and register. Hence, the authorities have access to a larger pool of volunteers who can be trained and called upon in case any emergency is happening near their location.
- Call the 24x7 District Emergency Operations Centre number directly using 'Call DEOC' option.

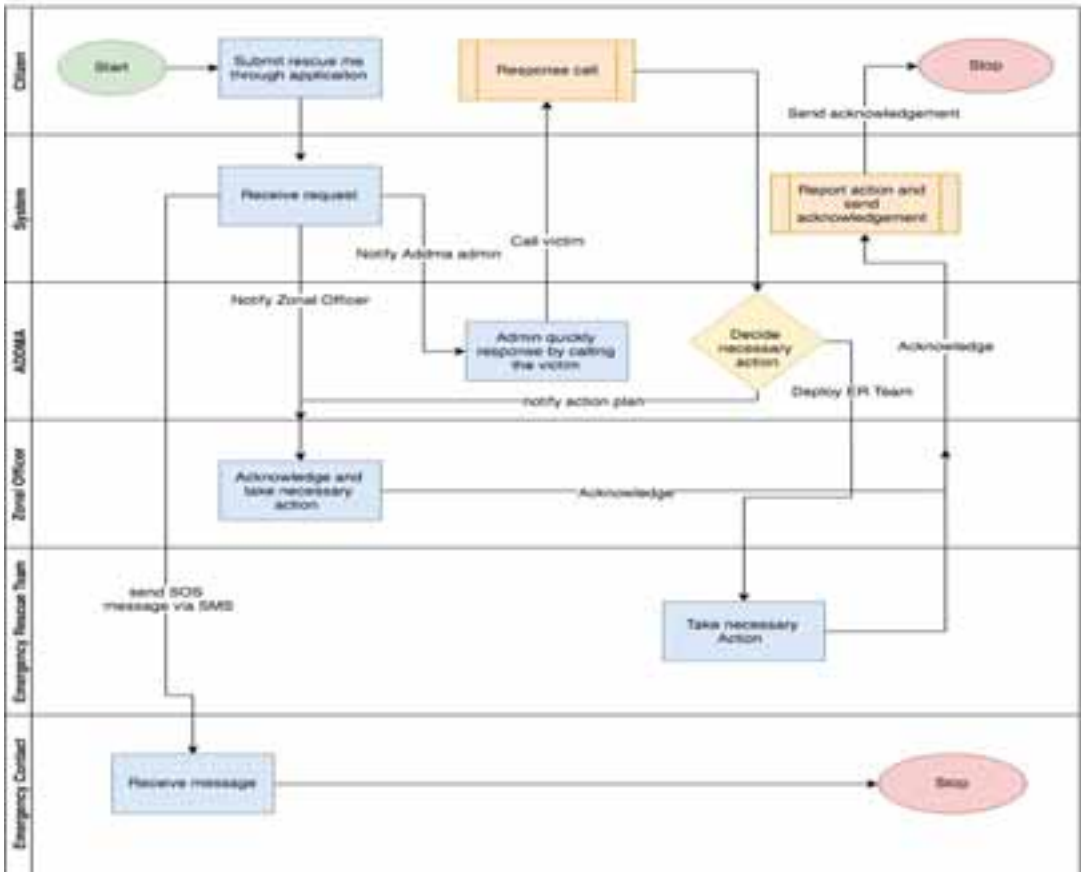


Fig. 3: Process Map to submit concern report.

15. Result achieved/value delivered to beneficiary of the Project and other distinctive features/ Accomplishments of the Project:

Advantages achieved with the application:

- User can reach out to the District Emergency Operations Center at any time through this app.

- The features of the App are such that notifications can be communicated in real-time thereby leading to proactive measures for decision making and avoiding emergencies.
- The App brings in a lot of flexibility and mobility thereby empowering the users to communicate with their Zonal Officer even if the Officer is on-leave or out of station.
- Furthermore, the App is self-reliant and does not necessarily required connectivity for making calls. Emergency calls to the Zonal Officer can be made without data connectivity.
- Once the user has downloaded the App in his device, he/she has easy access to contact details of ADDMA even without connectivity.
- In case of an emergency, users can send text message(s) with the click of a special button 'Rescue Me' to send SOS to their pre-registered emergency contact number.

Summary:

(i) To organization:

a) Report is fully processed online

b) Consolidated report of respective zonal officers and their response detail.

c) Availability of Resources layered over Google Maps

d) Realtime response system

(ii) To citizen:

a) Online incident report submission

b) Online relief material request

c) Online Rescue Me in case if emergency which gives SMs notification to immediate family members about the same.

d) Identification of contact person of respective zonal officers based on GPS location or Areas.

(iii) Other distinctive features:

a) API integration with Third Party Applications

b) SMS based auto report submission in case of unavailable internet

c) Real-time report monitoring

d) Comprehensive report analytics

Solution implemented:

- **Android Apps:** An android app is developed for the citizen and officers. This app is compatible with most android devices and is enabled with Cloud Database and offline storage and uptime synchronization. The security and standard protocols handled through this app enable efficient usage of this app on the devices. Since this app uses GPS for location accuracy, user's permission is promptly obtained during the registration process. No information collected by this app is distributed publicly without the users concern.
- **ADDMA Web Portal (Information Management System - IMS):** The ADDMA web portal – IMS is developed using an open-source framework backend with reactive JavaScript frontend framework.

Fig. 4: Screenshot of ADDMA Web Portal – IMS.

The application is connection to the Cloud database that is in sync with the mobile database. Google Maps is integrated into this portal such that report submitted from the android mobile apps containing the GPS co-ordinated is accurately displayed and layered over the default map layer.

- **Application Interface:** The IMS application is provided with an interface for Third Party. This interface provides features for sending an SMS to user. Other external organization such as India Meteorological Department (IMD) utilized this feature to send weather updates. Any communication to the ADDMA application will be an HTTP Application Program Interface (API) request to the web server which in-turn will communication with the native/web apps as portrayed in the simple diagram as shown:

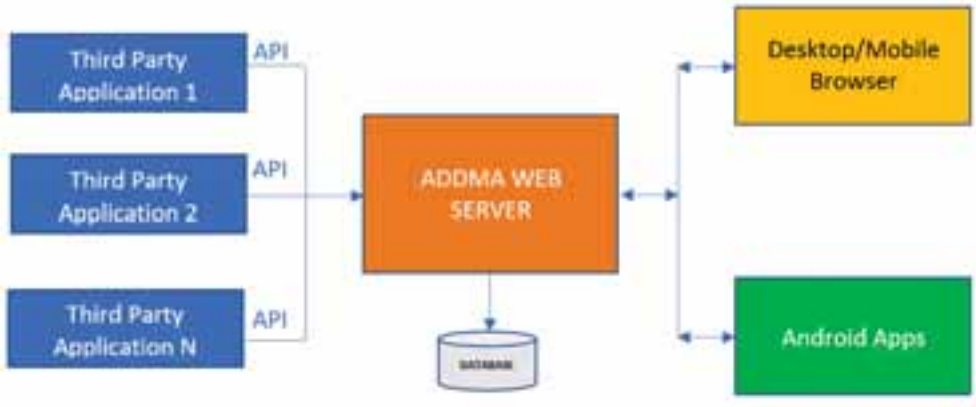


Fig. 5: Architecture of ADDMA App.

The API for ADDMA web service is of type GET/POST request which will be verified with an appropriate ACCESS

TOKEN. This access token will be generated and provided by ADDMA prior to making any connections. Only ACCESS TOKEN that are granted by ADDMA web server will be accepted to provide data.

A respective API will be provided for services that can be process by the web server. No external third-party application will be able to communicate directly with our native apps or web apps.

If any third-party application is sending data using an SMS, ADDMA may accept such data through an SMS gateway. However, the details of this implementation is through an intermediate API

- **Workflow Reform:** With the implementation of ADDMA, concern report that are submitted through this app digitally are officially accepted and should be followed up for respective response.
- **Emergency Response Vehicle:** An emergency response vehicle is setup for immediate response. This vehicle is equipped with emergency response tools and other facilities.
- **DEOC 24/7 Call Centre:** Any rescue me request submitted from the app is called back by the executive from the call centre to identify the emergency scenario. Also, any citizen can call this 24/7 services easily from the app through the touch of a button.

16. Future Proofing/Longevity of the Project:

- State wide roll out of the project for the other 7 districts.
- Effective management of available resources for quick mobilization in times of disaster events.
- App (Mobile and Web) needs constant monitoring and improvement even though a stable version was released.
- Users Privacy is observed to a maximum standards and Information sourced from users are only available to the Disaster Management Officials.
- Regarding Manpower, since Government officials are transferred now and then, the need to train officers in using the apps is important for sustainability.
- The system is for public service without any revenue generation model.

e-Aarogya

Medical and Public Health Department, Dadra and Nagar Haveli

1	**Name of the State / Ministry**	**UT Administration of Dadra & Nagar Haveli**
2	**Name of the host / owner organization**	Medical and Public Health Department, Dadra and Nagar Haveli
3	**Status of the host / owner organization**	Medical and Public Health Department, Dadra and Nagar Haveli
4	**Name of the Project**	e-Aarogya
5	**Name of the Nodal Contact Person**	Dr.V.K. Das, Director Medical & Health Services
6	**Contact Address**	Shri Vinobha Bhave Civil Hospital, Silvassa, Dadra and Nagar Haveli
7	**Telephone / Fax / e-mail**	0260 -2632126, 0260 -2642940, 260102, 2640615

8. Project Summary:

"Platform for improvement of patient services and simplifying the task of the doctors and other service providers, Directorate of Medical & Health Services, Dadra & Nagar Haveli."
e-Aarogya is implemented for improvement of patient's services and simplifying the task of the doctors and other service providers. It replaces the manual data entry followed in many of the subsystems and then promote a seamless flow of data between all levels in the organization.
e-Aarogya is web based Hospital and Health Management software designed in-house with aim to provide health care at finger tips. e-Arogya is an open source, cloud based solution which follows national and international standards like MDDS, LOINC, DICOM, HL-7 Snomed-CT. It has pan UT coverage connecting all health facilities and covers both clinical and public health. Annual population survey data is also fed into the system and thus it contains record of entire population of Dadra and Nagar Haveli. It also has a strong interface with laboratory and PACS for Imaging Services.
It centralizes control over the materials system to keep track of inventory, consumption, purchase and distribution of materials at the various hospitals and primary health organizations and improves efficiency through reduction of turnaround time and effort in laboratory and other diagnostic services along with reduction of efforts in collection, collation and analysis of data in the Public Health Management information system.
e-Aarogya provides immediate feedback to the primary healthcare providers including CHCs, PHCs, SCs, dispensaries and ASHAs for maintenance of up-to-date staff details and service records, timely generation of statistical reports on national programs, alerts mechanisms for initiating time critical activities for disciplinary actions, budget allocation & monitoring, payroll computation, financial accounting, auditing and monitoring of audit reports too.
Beneficiary of the Project: The major beneficiaries are the tribal patients of the union territory along with other patients, health workers (Doctors, Nurses, ANM, MPW) and Administrative staff.

9. Date of Launch of Project: e-Aarogya was launched on 25th April 2015

10. Coverage (Geographical):

e-Aarogya covers entire Government health facilities in territory of Dadra and Nagar Haveli. District Hospital- 1, Sub-District Hospital 1, Community Health Center – 2, Primary Health Center- 9 and all Sub Centres are covered by e-Aarogya.

11. Project Objectives:

The Project "e-Aarogya" is aimed to develop and maintain user friendly web based application for Hospital which reduces the burden and helps to manage all sections of hospital like reception, lab, inpatient/outpatient Management and Billing etc., which improve the processing efficiency. It is designed to achieve following objectives:

- Hassle free delivery of healthcare services
- Comprehensive Medical Record from 'Womb to Tomb'
- Electronic Patient Folder, accessible from anywhere, anytime
- Integration of Diagnostic Services - Imaging and Lab
- Effective Disease Surveillance
- Continuous Socio-Demographic Surveillance
- Doorstep delivery through health workers
- Effective Monitoring of Service Delivery
- Better management of health facilities

Fig. Hassle free Registration and Appointment

Fig: Dashboard

12. Methodology of Evolution of e-Aarogya

Following methodology had been adopted by management to introduce electronic record system.

- Base line study of traditional paper based system
  Turnaround time of patient in OPD, various health indicators were studied deeply to identify gaps of existing system .Factual and practical figures turned out to adopt the technology based system to reduce the manual load and increase the productivity of the delivery. This has triggered to adopt Integrated Hospital Management System a comprehensive approach from patient registration to pharmacy (issue of medicine) for reducing patients waiting time and digitizing the electronic medical database for easy access across the hospital.
- Change management
  Since organisation was in pipeline of introducing of Hospital Management System , resistance from non-technology friendly employees were creating hindrance in implementing system .Medicos and Para medics showed disapproval for computer based data entry which were tackled by management through continuous training .
- Phase wise advancement of system
  Since it was not easy to miraculously change paper based system overnight, The department chose to introduce e-System in a phase wise manner, starting with installation of computers for all staff for hands on training, getting the staff trained and implementing the software module by module.
  Central Medical Store, patient registration, admission and pharmacy were the pioneer sectors in implementing e-Aarogya. OPD module was developed followed by hands on training of all ANMs, supervisors and data entry operators.
- Tablet distribution for Data entry
  To ease life of health field workers like ANMs, MPWs tablets was issued by health department so that 100% data entry can be achieved.

13. Result achieved/value delivered to beneficiary of the Project and other distinctive features/ Accomplishments of the Projects.

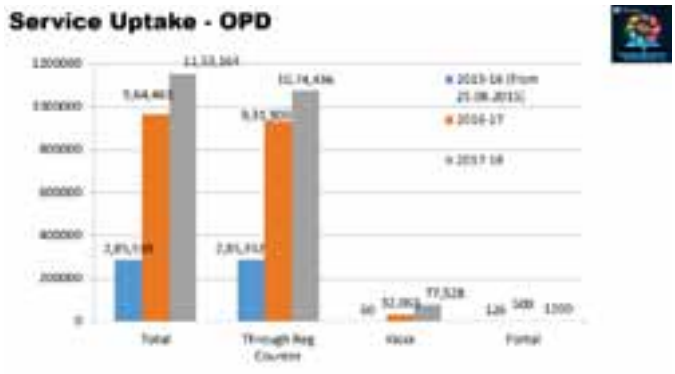
Programme Outcome:
Paper based system was in place to record patient health data before e-Aarogya came into use. These paper based system was consuming ample amount of man-days for retrieval. Chances of medical record lost was high in manual system, which was overcome by this

system. Cost of stationary for running hospital came down significantly.

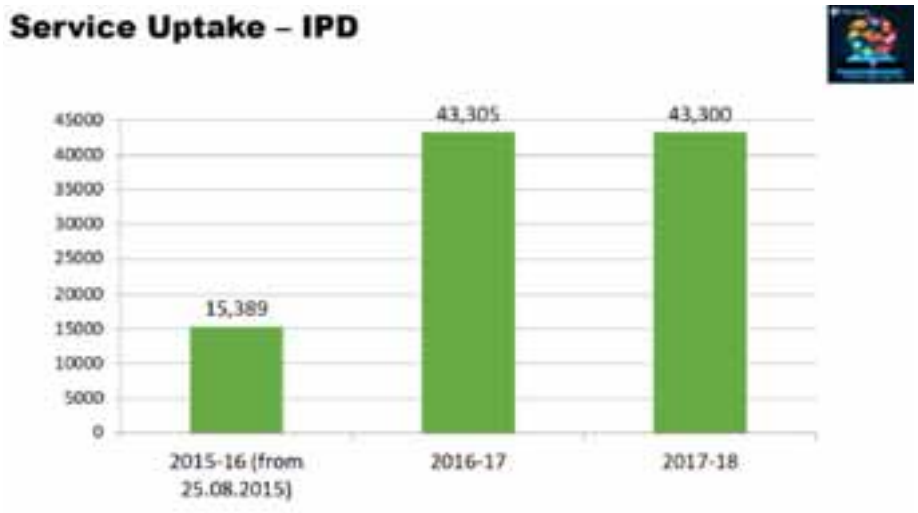
Inter Connecting all health institution i.e. DH, SDH, CHSs, PHCs, Sub-Centres and various health programs, which virtually makes it as a one single hospital. Doing so, patient health details such as OPD, IPD, Lab Investigations, Radiology etc. of various health institute or program is easily accessible from any location. The system has direct impact on the service delivery to the patient.

To elaborate a bit, following are some of the examples:

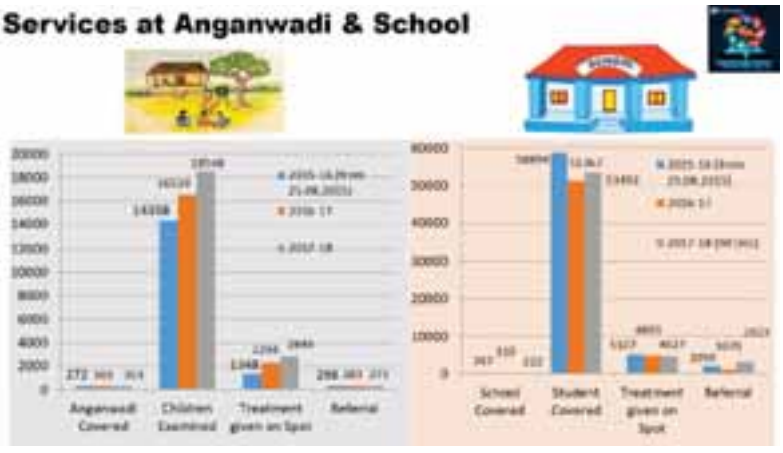
- Avoidance of trauma of patients suffering adverse reaction because of non-availability of earlier patient history
- Reduction in time taken to access the individual's health data
- The possibility of acquiring information on the likelihood of adverse reactions between drugs thereby avoiding health complications and associated costs
- Identifying and accessing relevant professional skills for further diagnosis and treatment; as through telemedicine.
- Instant access of essential data like x-ray, sonography, and laboratory reports in very less time reducing the length of diagnosing time.
- Wastage of material used (such as X-ray films)



OPD service delivered.



IPD services



14. Future Proofing/Longevity of the Project:

- With an objective to introduce a uniform standard based system for creation and maintenance of electronic health records we are incorporating EHR standards recommended by Ministry of Health and Family Welfare. Thus it helps us to integrated e-Aarogya with outer Central Government portal like, Mera Aaspatal, PMJAY's BIS (Beneficiary registration system) and DVDMS.
- We have developed Mobile application in Android and IOS platform, thus availing healthcare service by maximum population without being physically present at health facilities.
- The model has also been replicated in the U.Ts of Daman & Diu.

Fig: Mobile application screen.

SABOOJ SATHI ONLINE

Statutory Body under Administrative Control of Backward Classes Welfare Department, Government of West Bengal

1	**Name of the State / Ministry**	**Backward Classes Welfare Department, Government of West Bengal**
2	**Name of the host / owner organization**	West Bengal Scheduled Castes, Scheduled Tribes and Other Backward Classes Development & Finance Corporation
3	**Status of the host / owner organization**	Statutory Body under Administrative Control of Backward Classes Welfare Department, Government of West Bengal
4	**Name of the Project**	Sabooj Sathi Online (www.wbsaboojsathi.gov.in)
5	**Name of the Nodal Contact Person**	Parthapratim Manna, Special Secretary & Managing Director
6	**Contact Address**	CF-217/A/1, Sector-I, Salt Lake, Kolkata - 700064
7	**Telephone / Fax / e-mail**	033-40261506, Mobile: 9748184848, e-mail: md.scstdfc@gmail.com

8. Project Summary

Government of West Bengal announced the flagship scheme for providing bi-cycles to estimated 4.00 million students of Class IX to XII standard of 12,000 plus Government run and aided Schools in 2015-16. Hon'ble Chief Minister of West Bengal christened the scheme as ***"Sabooj Sathi"***

Implementation of the scheme had multi-dimensional challenges like bulk procurement, transportation of large consignments in tranches, management of huge supply chain and finally handing over a quality product to the target group students. Time bound implementation, minimizing operational expenses and maintaining transparency were key issues of concern.

Sabooj Sathi Online (www.wbsaboojsathi.gov.in) is the e-Governance mechanism of the scheme which ensures end-to-end ICT enablement in management of entire processes like capturing of students' record, finalization of bi-cycle requirements (delivery point wise), supply chain from factory to distribution point, updating distribution records online and proactive disclosure in public domain.

Hon'ble Chief Minister flagged off bi-cycle distribution on 29th September 2015. Since then, around 7 million students are being covered, in the current financial year.

9. Date of Launch of Project: September 2015

10. Coverage (Geographical):

"Sabooj Sathi" scheme was targeted to cover student population of class IX to XII in 12,000 schools located at rural and urban areas across entire geographical spread of the State except Darjeeling Hill and Kolkata.

11. Beneficiary of the Project:

"Sabooj Sathi" scheme was initially targeted to cover student population of 4.00 million of class IX to XII in 12,000 Government run and Govt. aided Schools and Madrashas located at rural and urban areas across entire geographical spread of the State except Darjeeling Hill and Kolkata. During 2015-16 to 2017-18, around 7.00 million students were covered. State Government is continuing the scheme and another 0.5 million students are being covered.

12. Problem statement or situation before the initiative:

Sarva Siksha Aviyan (SSA) ensured universal coverage under primary education by establishing easy access to schools. While Primary schools are available almost in every village or within comfortable walking distance, high schools are far from the habitations, particularly in rural areas. Average distance to be covered to attend high school is 3 to 5 kms and even beyond that in some occasions. Varying road conditions, particularly in rainy season, in the rural areas, accessibility becomes more difficult. Students from economically backward families and socially disadvantageous sections, especially the girls were found dropping out from schools at the threshold of high school education due to this critical factor. There might be several other social causes, but accessibility was found to be the most important issue to be addressed to achieve the goal of universal coverage under high school education.

An experiment in miniscule was conducted in 23 LWE (Left Wing Extremist) Blocks of the State where dropout rates were found to be fairly high. A scheme for providing bi-cycle to the girl students of socially disadvantageous sections was launched which continued for two years before "Sabooj Sathi" was announced. The experiment yielded positive results in terms of enrollment and retention in high schools. The State Government, after observing the encouraging result, triggered the unprecedented scheme titled "Sabooj Sathi" which targeted to cover 4.0 million students of class IX to XII in the Govt. schools and Madrashas of the State. The policy of universal coverage is based on the principles of equity and creating equal opportunities for all, irrespective of class, caste, creed, religion and socio - economic status.

13. Project Objectives:

State Government's commitment has resulted in establishing primary and upper primary schools within walking distance from all habitations across the state. To take this progress further it was impending to ensure that all students graduating from upper primary level (8^{th} Standard) could continue in the high schools, which in many cases are not accessible on foot. The students, particularly from economically and socially disadvantaged background many a times had to drop out from high Schools owing to the distance. The problem had critical bearing on the girls. The high dropout rate of girls, predominantly in rural areas, leads to 47% of the girls getting married before the legal age of 18 years, and 20% before the age of 15 year.

To overcome these impediments, Government of West Bengal announced the flagship scheme for providing bi-cycles to estimated 4.00 million students of Class IX to XII standard of Government run and aided School, irrespective of caste, creed, religion, gender and social status. Hon'ble Chief Minister of West Bengal christened the scheme as "Sabooj Sathi" with the ambition that this simple, low cost, green intervention would bring about catalytic changes; help the students in scaling new heights with higher level of aspirations.

The scheme was conceived with the primary objective of enhancing access to educational services particularly, in rural Bengal. Other important objectives of the scheme are:

- To increase retention in schools,
- To encourage students to take up higher studies,
- To inculcate sense of confidence among the girl students by promoting mobility,
- To promote environment-friendly and healthy means of transportation.

The objectives are aligned with four Sustainable Goals of agenda 2030. These are SDG3: Good Health & Well-being, SDG4: Quality Education, SDG5: Gender Equality and SDG13: Climate actions.

14. Project Scope, Approach & Methodology

a. Problems identified

The magnitude and the scale of this bi-cycle distribution programme were unprecedented in the country. Stiff timeline mandated by the State Government and ensuring efficiency, efficacy and transparency at all stages of delivery of this public utility service made the endeavor more challenging. There was no falling back as this kind of replicable model was totally non-existent in the country. Major challenges identified were:

- **Procurement:** Basic challenge was to procure 4.00 million bi-cycles of suitable category having appropriate BIS specifications. Category of bi-cycles was to be chosen keeping in mind variable road conditions in rural areas, availability of maintenance facility, cost and durability. Maintaining transparency in procurement process is mandatory. Situation also demanded time bound procurement of bi-cycles.
- **Database of eligible students:** After exploring potential resources, it was found that convenient and ready-to-use database of students was not available. Hence, creation of primary data and its validation were major challenges.
- **Management of supply chain:** Bi-cycle industry is predominantly based at Ludhiana. Carrying fitted bi-cycles from distant places was considered to be less cost effective for bulk supply. Here, usual practice is to carry components and assembling those at destination points. One truck usually carries components of 550 bi-cycles which makes the transportation more cost effective. Outreaching remotest parts of the State with physical barriers like jungle, rivers etc. posed huge logistic challenge. Mechanism needed to be in place for seamless delivery in tranches from factory to destination point. A monitoring platform for the manufacturers to regulate supply to the destination points, as per exact requirement, was an imperative. Micro-level monitoring of shipment, deficiencies, and diversion of consignment had to be addressed through his platform.
- **Planning for assembling and distribution:** Final destination points were 12,000 schools across the length and breadth of the State where bicycles would be distributed. Transportation of components to each of these schools as per exact requirement and assembling at the designated spots was not feasible on most of the occasions. Hence, identification of suitable covered spaces convenient for storing large consignments, assembling of bi-cycles and safekeeping of fitted bi-cycles were imperative. Further challenge was to transport fitted bi-cycles to the final destination points (12,000 schools) in the most convenient and cost-effective manner.
- **Reducing Programme Management Cost:** Such operations usually require huge administrative cost in management of various processes at different levels apart from cost of procurement. Challenge was to complete distribution in the most cost-effective manner.

- **Manpower planning:** Deployment of manpower, defining roles and responsibilities, sensitization of stakeholders were key issues for successful implementation of the scheme.
- **Transparency & social audit:** Keeping up with the mandate of the State Government for transparency at every stage of implementation was necessary.

b. Strategy/ Methodology adopted

Implementation of this scheme demanded participation of officials and functionaries from various Government Departments. Synergy was established through sensitization, capacity building, defining roles and responsibilities and clear communication. To minimize operational cost, only existing Government infrastructure and Human resources were utilized. Dedicated administrative framework was designed, processes standardized and e-Governance mechanism was developed.

- Backward Classes Welfare Department was designated as Nodal Department & WB SC ST Development & Finance Corporation as the Implementing Agency.
- State Government Constituted a Steering Committee headed by Principal Secretary to oversee the operations.
- State Project Management Unit was set up.
- Category and specifications of bi-cycles (34) as per Bureau of Indian Standard (BIS) in consultation with "R & D Centre for testing of bi-cycles", a joint initiative of Govt. of Punjab and UNDP. Distinct colour code for the bi-cycles, affixing Tag and label with code for District, year of manufacture was prescribed for security and tracking purposes.
- Procurement was made through e-Tender, guidelines of CVC were followed, and two bid systems, a) Technical b) Financial of evaluation was adopted.
- Tender process was kept transparent through proactive disclosure of every step in the public domain.
- Existing pool of Government officials at Block, Municipality and District level were aligned. Teachers, Inspector of Schools were sensitized. BDOs and SDOs identified 2,500 large Government infrastructures for taking delivery and assembling. Schools were tagged with these points for sending fitted bi-cycles conveniently. Work was carried out through an SOP communicated via e-mail and Video Conferencing (VC).
- e-Governance has been considered as the most vital component in the project planning. 'Agile Development' methodology followed for faster development of ICT based solution. The grassroots level managers interacted through ICT based support system (Voice, Email and Video Conferencing).

c. Communication and dissemination

Administrative framework for implementation and clear communication to implementers at different levels are key parameters for quick and successful implementation of the scheme. It was planned to utilize services of existing pool of Government Officials and Staffs of various Departments at different levels. No operation was outsourced or paid for. Though large no. of such human resources was deployed they provided service from their own workplace which was already equipped with sufficient ICT based resources. Communication from respective Departmental heads ensured synergy among District & Sub-District level officials. After initial sensitization, State Project Management Unit harnessed all the implementing bodies through ICT based communication network. Video Conference through NIC facility with the Districts ensured quick communication. SOP based communication through Sabooj Sathi on-line defined the specific roles and responsibilities with specific timeline. User manuals available through the portal ensured flawless operation by implementers at decentralized level. Help desk provided dedicated support to all stakeholders.

15. Result achieved / value delivered to beneficiary of the Project and other distinctive features / Accomplishments of the Project:

Services provided:
Sabooj Sathi Online (www.wbsaboojsathi.gov.in) is the e-Governance mechanism of the scheme which ensures end-to-end ICT solution in management of entire processes like capturing of students' record, finalizing bi-cycle requirements, managing supply chain from factory to distribution point, updating distribution records online, monitoring at different levels, and proactive disclosure in public domain.

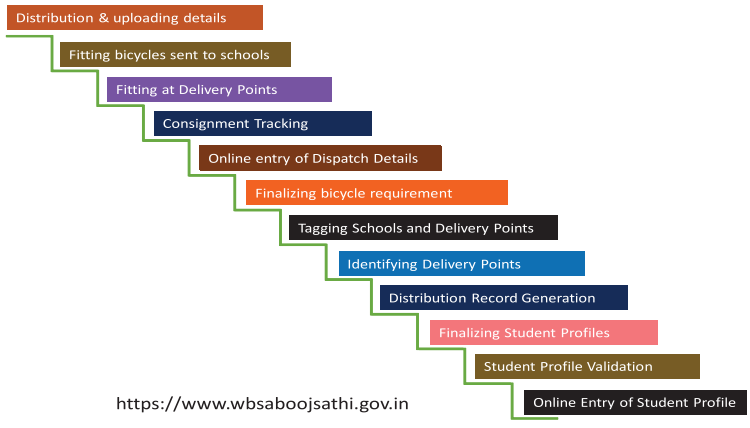
eServices:

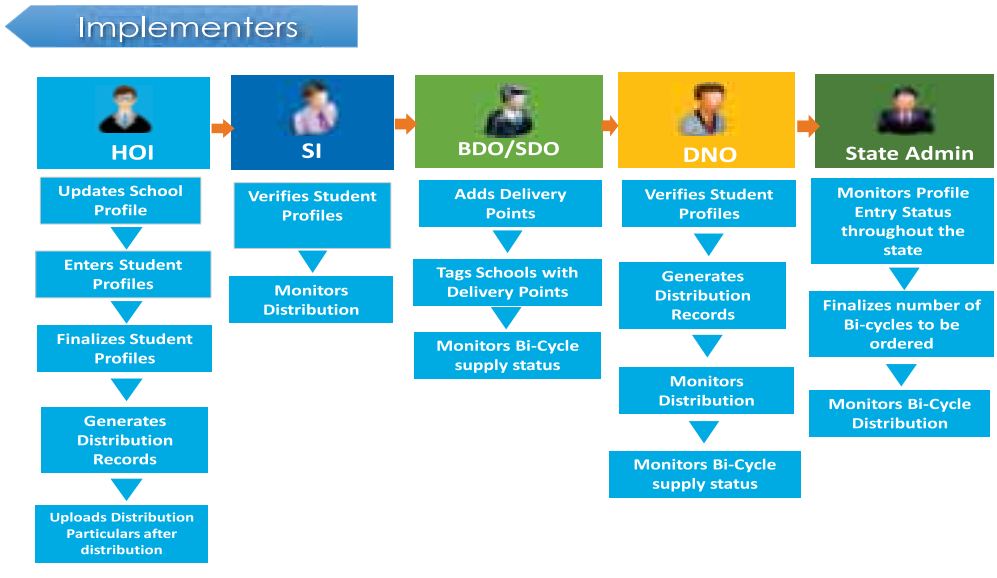
- Entry of students' particulars online by the schools - 12,000 schools participated and entered particulars of 4.00 million students from class IX to XII, both boys and girls (12,000 logins).
- Validation, online – One thousand (1,000) Inspectors, mapped with the schools validated 4 million records (1,000 logins).
- Generation of Distribution record online: Schools (12,000) generated partially filled in distribution records in a specific format with QR code.
- Mapping of schools with delivery points: 333 Blocks, 127 Municipalities mapped 12,000 schools with 2,500 plus delivery points thus finalizing point wise requirement of Boys & Girls bi-cycles – Data made available to the suppliers through their log-in.
- Consignment tracking: 7,500 Trucks dispatched by the Suppliers, their particulars recoded at the time of dispatch by the suppliers and tracked by Block, Municipality, Districts.
- Uploading distribution details: Schools (12,000) uploaded particulars of distribution to 4.00 million students through their log-in which were made available in the public domain for viewing.
- mServices
- Volume of Transactions

e-Service	Vol. of services year-wise (No's)		
	2015-16	2016-17	2017-2018
Entry of students' record	25,34,000	14,60,000	19,84,000
Validation of students' record	25,34,000	14,60,000	19,84,000
Generating pre-formatted, partially filled distribution record (Muster Roll)	For all eligible students	For all eligible students	For all eligible students
Creating Delivery point – Tagging of Schools	2,500	2,500	2,500
Consignment tracking	4,500 truck loads	2,500 Truck loads	3500

Uploading distribution details	24,95,000	14,15,000	14,73,000
MIS – For monitoring, public domain	At various stages of implementation	At various stages of implementation	At various stages of implementation
Viewing Distribution details by citizen (Hit count in bn)	1.5	1.00	1.4

Process Flow:





Technology Platform

Type of services	G2C, G2B and G2G
URL	https://www.wbsaboojsathi.gov.in
Extent and nature of Aadhaar linkage / use	The Aadhaar number of beneficiaries are being captured.
Mobile Governance	Sabooj Sathi mobile app has also been developed for monitoring different processes of implementation. SMS services are also available.
Convergence with other Organisations	Sharing of information and synergy with School Education, Madrasah Education and General Administration at District & Sub-District level. e-Governance Standards are used for seamless data interchange with other standard systems whenever necessary.
System Administration & Maintenance	Maintenance of SW/HW/NW, System Administration: NIC, WB State Centre Day-to-day Operations: All Stakeholders perform their assigned tasks. Entire operation has been carried out internally & without outsourcing. The Dept does not require any separate SLA for maintaining the system as the system development & maintenance are being taken care of by NIC-WBSC directly. The relevant SLAs have been prepared & implemented by NIC as part of its data centre management policy.
Technology Platform	The software has been developed using Open Source technology. • Application Server- PHP engine • Database Server- PostgreSQL 9.6 • Web Server- Apache 2.4.6 • Middleware- N/A • System Software-RHEL 7.2
Cyber Security	The Application software has been security audited by STQC, MeitY, Government of India. The Application has been hosted in NIC's Cloud environment. It is protected through standard security arrangements which are available in the Cloud Environment including Firewalls & Intrusion Detection System.
Compliance to eGovernance Standards	The Application has been designed using available e-Governance Standards. It uses the MDDS for Location, Person's address etc.
Interoperability	The software has been developed using open source software following open standards. Various national Master directories have been used in the software. It is highly scalable & replicable model of e-governance. The software is having high degree of interoperability.
Hosting Platform	The software has been hosted in the National Cloud Environment.
Disaster Recovery and service continuity	DR facility is available.

Achieved Outcomes:

The project is primarily targeted to increase enrollment and retention in high school by increasing access. During post implementation phase:

- An increase by 12.2% in class IX enrolment from 2015 to 2016 and a subsequent increase by 6.18% from 2016 to 2017 were ,
- It was observed that the Girl examinees in Xth standard Board Exam was 9.18% more than the Boy examinees in the year 2016.

State Government engaged "Pratichi (India) Trust", an organization founded by Nobel laureate Dr. Amartya Sen, for evaluation of the project. As per quick study conducted by them ***"Apart from its immediate goal of ensuring accessibility to high schools the programme has had a huge societal impact by enhancing the general mobility of the population and that of the girls in particular. The bicycles distributed among the students are not only used for schooling but also for several other Domestic and Social utilities. The bicycle, indeed, is breaking many boundaries".***

Other measurable outcomes are:

- Efficient distribution of bi-cycles to 7.00 million students.
- Availability of distribution record in electronic format.
- Maintaining transparency & accuracy.
- Creation of replicable model for delivery of 'in-kind' benefits to citizen.
- Enhanced awareness and level of e-literacy supporting Digital India Campaign.
- Creating example of Good Governance.
- Synergy of different Departments.
- Reduction of project implementation cost

Value Delivered

The database and application will facilitate the State Government to track transition status of each student from Class IX onwards. This is also expected to trigger major policy issues in education sector in the times to come. This application has further been extended to facilitate career options and opportunities as per the inclination and likings of the students through their respective logins.

Implementation model involved stakeholders like Government officials, teachers, students and their parents at large. Involvement rather inclusion ensured transparency, accrual of benefit to the entire targeted student population. Proactive disclosure at every stage of implementation established greater faith in Governance. Stakeholders can interact, students can view status; citizen get to know whether benefits actually accrued to the target group.

Accomplishments

- Sabooj Sathi Online was selected for "Order of Merit Award" by SKOCH Smart Governance Award 2017.
- Sabooj Sathi Online has been conferred "Award of Appreciation" by CSI Nihilent e-Gov Award, 2017.
- Sabooj Sathi Online won National e-Governance Award (silver): For innovative use of ICT by Central/ State Government PSU

16. Future Proofing / Longevity of the Project:

Open Source technology and Open Standards have been used while developing the system which makes it sustainable. All national standards of eGovernance have been used in the system. The system can be accessed only by designated persons through a well-defined access control system. The network traffic is encrypted through SSL technology.

In the E-governance mechanism all national master directories were used. The system was developed using open source technology. Cloud based server hosting environment ensures

resources availability dynamically as per user requirement. The stakeholder's logins were password protected and latest encryption algorithm (md5) has been used for password authentication with an additional security of "dynamic salt". The user sessions are well secured and protected from any external session hacking and forgery.

Both the Union and State Governments in the Country are implementing various schemes of individual benefits in different sectors. In all such schemes direct benefit transfer is impressed upon so that the target group can derive maximum benefit out of the schemes. In all such cases this could be a replicable model since it ensures accuracy; transparency, cost minimization which are essential components of good governance.

INAM-Pro+

National Highways and Infrastructure Development Corporation Limited (NHIDCL)

1	**Name of the State / Ministry**	**Ministry of Road Transport and Highways**
2	**Name of the host / owner organization**	National Highways and Infrastructure Development Corporation Limited (NHIDCL)
3	**Status of the host / owner organization**	PSU under Ministry of Road Transport and Highways
4	**Name of the Project**	INAM-Pro+
5	**Name of the Nodal Contact Person**	Mr. Sandeep Kumar
6	**Contact Address**	PTI Building, 4 Parliament Street, Sansad Marg Area, New Delhi, Delhi 110001
7	**Telephone / Fax / e-mail**	011-23461616, Email: gmt1nhidcl@gmail.com

8. Project Summary:

INAM-Pro+ (www.inampro.nic.in) is a web based platform and marketplace for Infrastructure and Material Providers to conduct business in a fair, transparent and swift manner. With this platform, it aims to freeze escalations due to inexplicable variations in material prices etc. that have historically plagued the field of infrastructure development. This portal aims to stabilize the infrastructure material price based on equilibrium between the supply and demand in the infrastructure materials industry, by providing a platform for companies to float their products, prices with stocks and other information for Buyers. The portal also enables New Technology/ Product makers to reach market quickly thereby promoting inclusive growth, free the infrastructure sector from external impediments like materials shortages, cartelization, project cost escalation etc.

9. Date of Launch of Project: 10th March, 2015

10. Coverage (Geographical):

INAM-Pro+ covers suppliers of various Materials & Equipment throughout the country. Any business registered in India can conduct its business on the platform.

11. Beneficiary of the Project

All Stakeholders of Infrastructure Industry are beneficiary of this portal as it serves their needs at each level. The platform provides market access to Sellers of any Infrastructure related materials starting from basic materials like Cement, Steel etc. to innovative materials for Soil Stabilization. The Platform with its other Principal Category such as Infrastructure Equipment and Intelligent Transport Systems covers the mechanical, electrical and electronics requirements of the Infrastructure Industry which helps the projects from planning to execution stage. The platform also allows Sellers to list their old equipment for resale and lease thereby promoting the optimal use of existing resources. The platform with its dedicated category to Safety and Protection, aims to provide access to all kinds of safety materials, equipment and techniques in order to promote safe practices among the Contractors. In addition the Service

providers can also register themselves on the portal and list their services to get leads for their business.

The target population of Buyers comprises the Contractors, Infrastructure Developers who are involved in the Infrastructure Development projects for the Governmental bodies including but not limited to National Highways Authority of India (NHAI), National Highways and Infrastructure Development Corporation of India Ltd. (NHIDCL), Central Public Works Department (CPWD), State Public Work Departments (PWD), Municipal Corporations, Irrigation Departments, Defense organizations, Gram Panchayats among others. Not only the Contractors of such Public Departments but also the departments themselves use the portal to take price references while making payments, updating Schedule of Rates, deciding Cost Escalations etc.

In addition, any individual/company/society can also buy material or equipment using INAM-Pro+ portal. The Visitors like Consultants, Researchers etc take benefits from the portal by using information in planning, cost estimations, capacity enhancement by use of latest technology etc. The portal is also useful for Start-ups to introduce their products by uploading the details for catching by the Buyers' eyes.

Therefore, all kinds of agencies involved with development of Infrastructure can make great use of INAM-Pro+ which shall result into cost savings in public projects and thus benefitting the general Tax Payer.

12. Problem Statement or Situation before initiative:

Major infrastructure projects have got delayed on account of lack of information about timely availability of materials, artificial stock shortages of basic materials like cement, steel etc. Cement industry being the backbone for infrastructure development was affected by cartelization in spite of having more production capacity than demand in the last decade.

Lack of information on current market prices of expanding base of various technologies was not available which led to adoption of age old techniques for decades resulting into cost overrun. The information available on INAM-Pro+ plays vital role in preparing standards for infrastructure works and analysing prices for cost estimation in public projects. For example, SORs do not get updated by many departments for years because of the efforts required to collect data from all over state every year. This platform provides real time information on such materials, equipment, services to any user via digital mode. MSMEs and other businesses which may provide same products at lower cost but cannot access market or does not have marketing budgets or digital presence, can make use of INAM-Pro+ portal without any cost. INAM-Pro+ platform was conceptualized to provide standard services to diverse business domains in simplest manner and was named as INAM-Pro+ abbreviating for Infrastructure & Material Providers.

13. Project Objectives:

- Bringing the Material Suppliers (the Sellers) and the Contractors/Agencies (the Buyers) in the field of infrastructure development to a common platform for improving the ease of conducting business by providing a user friendly web-based platform that reduces uncertainty about the supply and price of the infrastructure material.
- Creating a wider network of Sellers and Buyers which would be accessible with the click of a button from any location across the globe using Internet. All registrations on the portal are listed on the platform and are available in public domain. Any User/Visitor can see the registered Sellers and Buyers list.
- To speed up the entire process of project execution by removing delays in material procurement. Any Contractor can reach registered Seller using Phone number or email or can

place Order request directly using his INAM-Pro+ account. The Sellers are provided with all location and quantity requested by Buyer in order to generate the suitable price quote in least time.

- Check the artificially created material shortages as a result of oligopoly. For example, 36 Cement Sellers across India have committed 27 million MT of cement stock for procurement through INAM-Pro+.
- INAM-Pro+ has set up a Ceiling Price mechanism where Cement Prices have been frozen for 3 years i.e. April 2016 to March 2019. The Ceiling Prices can only be updated once in a year and can be escalated by 10% at maximum. These Ceiling Prices have been offered by multiple Sellers thereby helping to regulate the cement prices in the market across different locations. INAM-Pro+ portal is therefore quite effective in Cement procurement if the market prices go beyond ceiling prices.
- Encouraging greater competition in the industry for generating greater sales for sellers, as well as better pricing for the buyers. The Sellers also have the option to offer cement products at lower prices than ceiling prices but not beyond them.
- Facilitating swift transactions of resources and money through its Payment Gateway without any transaction charges on making payments for the orders placed through the portal.
- Serving as an open database of Infrastructure materials, Equipments and other Services where information on technology, links to their videos, technical specifications etc can be found. This information tool is helpful for Engineers, Project Planners, Consultants, Researchers, Students and Govt. officials.
- One of the main advantages INAM-Pro+ provides is publicly available prices of all items listed on the portal. The Sellers are free to change them anytime to reflect the demand-supply equilibrium or any trend if need be. INAM-Pro is an effective Tool for Government Depts. like State PWDs to update their Schedule of Rates in least time as it provides access to all kind of Sellers through one window.

14. Project Scope, Approach and Methodology:

Details of base line study done

Under the leadership of Hon'ble Minister (RTH&S) an IT Task Force was set up to facilitate simplification of procedures by leveraging the use of Information Technology in the Ministry of Road, Transport, Highways & Shipping.

Having made the study of the state of IT adoption levels, the task force suggested measures to reform & modernize the entire system for better transparency, efficiency & accountability in different verticals/domains of infrastructure industry. The task force worked on improving information sharing through establishment of digital infrastructure tools like a platform for infrastructure & material providers. Later on, this concept took shape as INAM-Pro+.

A proof of our thought process proving successful is that every single day people are using the platform to conduct their market survey for best prices. Even if they don't eventually conduct business by placing all orders online, they are still using the portal as an information resource pool which has helped in stabilizing the price of various products. For buyers all across the nation, this portal is an unprecedented information compendium, a first of its kind.

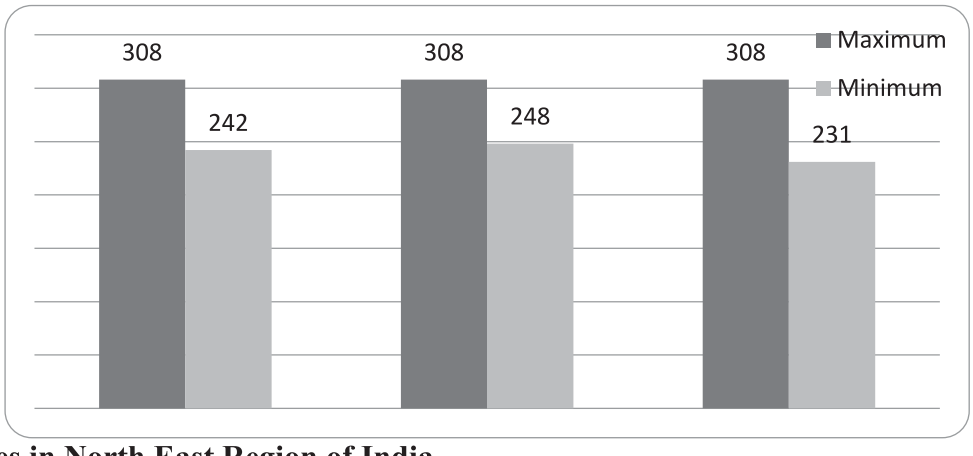
Implementation model

The first step towards the solution was conceptualizing a web-portal in the form of INAM-Pro+. The portal was envisaged to take care of all infrastructure needs and address these in a user-friendly manner. The portal includes the following features:

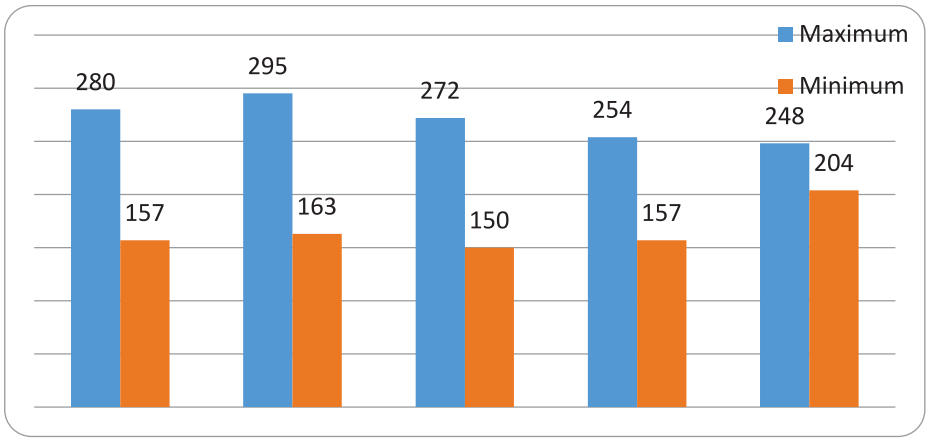
All the sellers were asked to quote their ceiling prices for a 3 years period i.e. 2016-19. After briefing about upcoming projects, it was made possible to convince the sellers to commit to a predefined price for a period of 3 years with the provision to increment the same up to 10% for each subsequent year, if required.

- The ceiling price, as the name suggests, is the maximum price that has been offered by the Seller. The Sellers were also given the liberty to change the price as many times as they deemed fit within this ceiling price. The portal however does not allow increment in price beyond this price during the year. This was done in order to promote stabilization of prices.
- The registered Sellers on the portal have committed a total stock of 27 Million MT for supplying through this portal during the period 2016-17. The Sellers are mandated to honor this minimum promised quantity every year. They have the liberty to increase this quantity to any extent, any number of times, depending on the business they generate through INAM-Pro+ platform without variation in the price. This was done to ensure that a steady supply of cement was available at all times and no artificial shortages get created.
- The ceiling prices and committed quantities have been made public by publishing them on the INAM-Pro+ web-portal home page. This ensures that the knowledge of prices and quantities available in the market are known to not only the Cement Sellers but to the entire infrastructure sector. This has resulted into absolute transparency in the functioning. Additionally, this also ensures that new customers are not duped, as they remain aware of the prevalent industry rates that are readily available for comparison.

Ceiling Prices on portal are depicted in the form of a Histogram below:



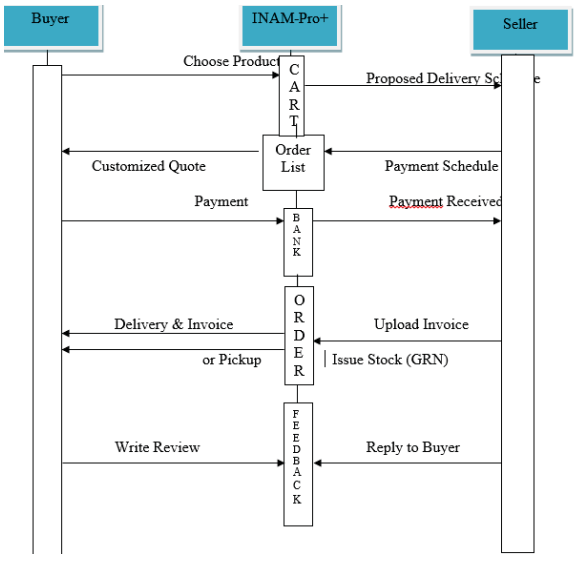
Ceiling Prices in North East Region of India



Ceiling Prices in Plain Regions of India

- Online payment gateways have been integrated with portal as a step towards cashless economy. By providing facilities of NEFT, RTGS and Card payments, the portal aims to move major financial transactions in the material sales and purchases towards an online process. ICICI Bank's payment gateway has been successfully incorporated.
- Sellers and Buyers are updated through SMS and Email whenever there is any activity from their profile. This includes notifications about profile updates, orders placed by them (or with them), order confirmations, payment against created orders, confirmation of received payments and news & updates from administrator.
- GIS mapping facility has also been provided by incorporating Google Maps to ease the order placing process by picking the unique location marker of specific plant or yard which best suits the customer in terms of distance from their project site. The Buyer can view distance from their location to the location where delivery is required. This information eventually becomes part of order and helps Sellers in finding Transportation cost.

Flowchart of INAM-Pro+ operational process



15. Result Achieved/value delivered to beneficiary of the Project and other distinctive features/accomplishments of project:

- The Contractors are getting benefitted due to mitigation of cost risks while bidding for the projects and subsequent implementation by procuring the materials at most appropriate price.
- Tax payers' money is saved since projects' cost get estimated based on the material prices determined by the market forces and mild fluctuations are avoided, which attenuate the premiums charged by Contractors on account of uncertainty in prices.
- Cement Industry was known for abrupt price changes but by introduction of ceiling price mechanism through INAM-Pro+, the prices have stabilized during last 3 years. A kind of trust has built up among Contractors that they can anticipate about the expected cement's cost in next three years while bidding for Infrastructure sector works.
- The expansion of INAM-Pro+ to other domains in June 2017 to cover A to Z of Infrastructure Materials & Equipment has enabled other Material Suppliers to access the Buyers already aggregated on the platform.
- It also helped the Start Ups/ New Technology Providers to bring in latest products at common platform.
- Besides being an e-Commerce platform, it has become a popular information tool to various stakeholders of Infrastructure Industry including the academic institutions in the country.

16. Future Proofing/Longevity of the Project:

The web based platform can host thousands of product listings for material and equipment related to Infrastructure Industry. The Construction Sector being the backbone of economy is getting lot of investments on state as well as national level. Such level of expenditure being done by Governments calls for efficient procurement which thrives on price transparency and ease of doing business. The platform has potential to reflect market prices and trends for materials, equipment and services to be used for Infrastructure development by Govt. Contractors or Infrastructure Developers. The number of product and suppliers has increased from 136 & 36 at the time of launch to 1004 & 341 respectively currently and is capable of scaling up for variety of Services & suppliers.

The platform can be used throughout the globe through any internet device, which makes it suitable for facilitation up to root level i.e. from Ministry level to Gram Panchayats. This platform will enable Govt. Engineers to update SORs throughout the country by taking the local suppliers on board as well. Not only Contractors of MoRTH but also other Govt. Departments and Ministries too can use the platform to connect their Stakeholders (Buyers and Sellers) along with their products/services on real time basis.

MeeSeva 2.0 for NCeG Publication

Electronic Service Delivery, Department of Information Technology, Electronics and Communications (ITE&C)

1	**Name of the State / Ministry**	Government of Telangana
2	**Name of the host / owner organization**	Electronic Service Delivery, Department of Information Technology, Electronics and Communications (ITE&C)
3	**Status of the host / owner organization**	Department of Information Technology, Electronics and Communications (ITE&C)
4	**Name of the Project**	MeeSeva 2.0
5	**Name of the Nodal Contact Person**	Shri G T Venkateshwar Rao, IRS, Commissioner, Electronic Service Delivery, Dept. of ITE&C, Govt of Telangana
6	**Contact Address**	MCH Building, Road No. 7, Banjara Hills, Hyderabad
7	**Telephone / Fax / e-mail**	040 23352595

8. Project Summary:

MeeSeva initiated in year 2011 provides smart, citizen centric, ethical, efficient and effective governance leveraging advancements in technology. The initiative involves delivery of Government services to citizens & businesses of all strata in a universal and non-discriminatory manner. The core design of MeeSeva was based on the objectives of improved efficiency, transparency and accountability for the Government resulting in significantly improved service delivery to citizens.

MeeSeva is an interface between Government departments and citizens acting as the nodal agency (Electronic Service Delivery) as well as the platform for delivery of G2C services. MeeSeva has redefined the way Government services are delivered to citizens by bringing about 600+ services of 38 departments on a single platform. MeeSeva has taken Government to the citizen's doorsteps through various touch points which include:

- 4500+ MeeSeva centers spread across the state
- A mobile app called T App Folio (launched in February 2018)
- A web portal

In 2016, ITE&C department conceptualized MeeSeva 2.0 to undertake a major strengthening of key aspects to improve the performance of MeeSeva and deliver a significant improved service delivery experience to citizens.

9. Date of Launch of Project: 4th November 2011

10. Coverage (Geographical): Telangana state

11. Beneficiary of the Project:

Citizens: Ease in availing Government services

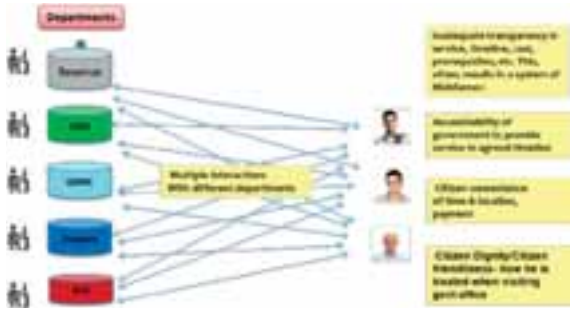
Kiosk Operators: Livelihood opportunities to Village Level Entrepreneurs

Government departments: Fast-tracked application approval processes

12. Problem statement or situation before the initiative:

MeeSeva had aimed to completely revamp various steps involved in submission and processing of G2C service applications. The Business Process Re-engineering undertaken in case of MeeSeva is captured below:

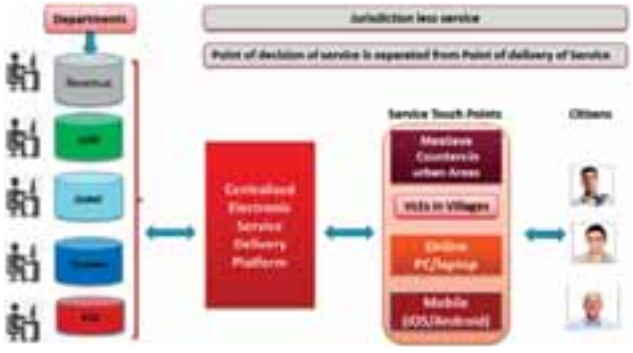
Pre-MeeSeva Scenario (before year 2011)



In developing countries like India, the citizen service delivery happens at Government offices wherein citizens are required to visit multiple departments, often multiple times to avail Government services. In case of India, Government offices are often located in District headquarters or Village Panchayat, requiring citizens to invest considerable time and money to avail the services.

A need was felt to adopt an innovative service delivery model to overcome these challenges and provide improved convenience to citizens by improving the quality of service delivery.

Post MeeSeva Scenario (After year 2011)



MeeSeva was designed to address most of the challenges that citizens were encountering prior to existence of MeeSeva. Telangana used ICT to ensure citizens can access Government services, along with a host of B2C services, within a 5 Km distance from their residence.

MeeSeva integrated services of 38+ departments on a single platform and provided these services to citizens through MeeSeva centres in an assisted service delivery mode.

Situation prior to MeeSeva 2.0

During initial phases of MeeSeva, the focus of ITE&C department was primarily on establishing the MeeSeva platform and on boarding various services of Government department on to the platform. MeeSeva had also brought in alignment with line departments and department officials to accept the digital documents and not to ask for any physical documents for processing applications. MeeSeva facilitated the change in process where Government officials accept digitally signed certificates produced through MeeSeva.

With the progress of time, as electronic delivery of citizen services stabilized, Govt of Telangana started to look beyond the initial mandate. As a result, a comprehensive analysis of the, then, existing scenario was conducted to identify the areas which required further strengthening to further improve the quality of service delivery. Some of these areas are as follows:

- During initial years of adoption of IT in Governments, multiple applications were developed by the department in order to achieve a quick value add. Very often, these applications were developed with different technical architectures. However, with the passage of time and expansion of the scope of these applications, the maintenance of multiple applications started to pose challenges with sub-optimal utilization of resources.
- The earlier applications, including MeeSeva, used to face occasional outages owing to a series of issues. This was identified as an area of concern.
- Owing to different vendors developing different applications, the user experience was found to be inconsistent across applications.
- ESD had identified issues productivity levels of the MeeSeva centers in terms of number of transactions handled by them. A series of process changes were identified to enable MeeSeva centres to handle a higher number of transactions.
- The financial sustainability of the MeeSeva centres or VLEs was a key focus areas. A need was felt to undertake concerted efforts to ensure improvement of incomes of the VLEs.
- It was identified that a mobile based service delivery solution for service delivery would further strengthen MeeSeva in terms of its ability to provide convenience in availing Government services.
- The Application was available only in one language i.e. English. A need was felt to make the application available in multiple languages.
- With increasing in the size of MeeSeva system handling average ~1,00,000 daily transactions from a portfolio of 600+ services from 38 departments, effective monitoring the status of these transactions and resolving field level issues was becoming a challenge

  With the intention of bringing out a series of changes in MeeSeva, ITE&C department formulated the initiative of MeeSeva 2.0 which aimed at keeping MeeSeva up-to-date with the emerging technological landscape and constantly leverage ICT to deliver improved service quality to citizens.

  With the identification of the areas of improvement, a comprehensive revamp of MeeSeva, under MeeSeva 2.0 initiative was conceptualized and approved for implementation. The scope of MeeSeva 2.0 was further extended to amalgamation of other Government applications pertaining to citizen service delivery. These included eSeva, SSDG and eDistrict.

13. Project Objectives:

MeeSeva 2.0 is a complete overhaul of different platforms being used in Telangana to address the issues that were being faced in the erstwhile systems, namely MeeSeva, eSeva, SSDG and e-District. MeeSeva 2.0 would essentially merge all different platforms in a single platform designed and implemented using state-of-the-art architecture to improve system performance, efficiency, reliability, and scalability.

- MeeSeva 2.0 would provide a consistent user experience to citizens and department users along with making existing systems more efficient and effective.
- MeeSeva 2.0 would simplify the processes being followed at every stage of service delivery using MeeSeva platform. These include Citizen – MeeSeva Centre, MeeSeva Centre – Master Franchisees, Master Franchisees - ITE&C department, ITE&C department – Technical Service Providers, ITE&C department – Other departments of Govt of Telangana.
- MeeSeva 2.0 would aim at widening the channels of service delivery by including Mobile Service Delivery as a key focus area.
- MeeSeva 2.0 would allow quick and effective monitoring of every node of MeeSeva setup to ensure quality in the service delivery.
- MeeSeva 2.0 would aim at providing improved income generation opportunities to VLEs, the stakeholder group which provide last mile access of citizen services to citizens.

14. Project Scope, Approach and Methodology:

Post conceptualization of MeeSeva 2.0, the thought process underwent a series of discussions within ITE&C and other departments in a structured manner. In addition, multiple consultations with IT experts from industry were conducted to identify latest technologies which can help improve the reliability, responsiveness and adaptability of MeeSeva from technology perspective.

The improvements identified to be undertaken as part of the MeeSeva 2.0 were categorized in two categories: Technological changes and Process changes

Technological Changes

- Merging four individual applications into a single unified application
- Introduction of state-of-the-art architecture for improved performance of the application: SOA and ESB.
- Implementation of Single source of Truth (SSOT)
- Modernized UI and UX incorporating intuitive design features
- Developing a Multilingual application and providing service delivery in three languages i.e. English, Telugu and Hindi
- Interactive MeeSeva Dashboard: Visualization of KPIs of various stakeholders and processes of MeeSeva to facilitate efficient monitoring of the key components of MeeSeva setup. This was required to have an effective control on the entire MeeSeva system.
- Development of a mobile service delivery gateway: Extending the MeeSeva services to smartphones and feature phone users
- Implementing a document less governance system for re-using the citizen documents available with MeeSeva
- Strengthening the Grievance Redressal System for citizens, MeeSeva Centres and Department users.

Process Changes:

- Reducing number of service providers from 4 to 1.
- Reducing the number of Master Franchisees from five to three to ease the coordination.
- Increasing the number of MeeSeva centres from 3500 to 4500
- GIS mapping of all the 4500 MeeSeva centres
- To ensure financial sustainability of all stakeholders of MeeSeva
- To improve settlement cycles for departments, franchises and kiosk operators

Progress under MeeSeva 2.0

Given the vast scope of MeeSeva 2.0, the implementation plan was devised in a phased manner. As on March 2018, most of the Process Changes have been completed which has been well appreciated by all stakeholders. On Technical changes front, the final set of improvements are also nearing completion and MeeSeva 2.0 is being targeted to launch in December 2018.

As a part of MeeSeva 2.0., applications such as Interactive MeeSeva Dashboard and T App Folio (a Mobile Service Delivery Gateway) have been developed to improve the efficiency of electronic service delivery of Government services.

All services have been redesigned with the aim of easily converting them to a format which can be used to integrate with a mobile application as well. T App Folio, the app for service delivery through mobile has integrated nearly 150 services which include many MeeSeva services.

The workflow and approval process for citizens' applications for G2C services have been redesigned to ensure that the process of approvals from departments is independent of the source of the application.

The implementation of Single Source of Truth is under progress wherein a system to re-use citizen documents available in Govt database has been devised. This system, currently integrated with top 5 services, basis number of transactions, has been resulting into significant added convenience to citizens, and time savings for MeeSeva centres.

15. Result achieved /value delivered to beneficiary of the Project and other distinctive features /Accomplishments of the Project:

Telangana (excluding union territories) has seen the highest number of e-transactions per thousand population as per e-Taal website for June 2014 to October 2018 period. MeeSeva 2.0 platform is the one of the primary sources of e-transactions in Telangana with over 20 lakh applications per month.

Since its inception in year 2011, MeeSeva has brought in significant changes in the way Government services are delivered by Government Departments. MeeSeva has had a transformational impact in Telangana in multiple areas:

Increased Transparency in Governance:

- MeeSeva brings in high transparency in service delivery by Government Department in terms of timelines mandated by Government, prescribed cost of the services, prerequisites of the service, etc.

- Citizens are provided with milestone linked updates through SMS to citizens.
- The involvement of agents & middlemen has been minimized to a large extent by use of technology and separating point of service delivery from point of decision making.

Increased Accountability at Government Departments:

- MeeSeva insists and focuses on provision of services to citizens in a timebound manner which has been prescribed in the Citizen Charter.
- Clear communication to citizens about the status of their application brings in information symmetry and equips citizens with necessary information.

Citizen Convenience and Savings:

- Reduction in time and monetary cost for citizens - By delivering Government services within 5 Km of every citizen, MeeSeva has been able to substantially reduce the cost of transaction for citizens by saving their time and money.
- Citizen convenience has improved with respect to time and location. (4500+ centers open from 8 am to 8 pm)
- Multiple payment modes have been integrated with MeeSeva providing multiple options to citizens for making payments.
- Citizens are not required to visit Government offices. (saves time and cost for citizens) as services are provided in a jurisdiction less mode as service delivery is not linked to the requirement of having a common physical presence of the citizen and the Government officer

Citizen Friendliness:

- The interaction between MeeSeva centres and citizens have been controlled using specific clauses in the agreements with the centres wherein they are required to maintain an amicable environment at the centre.
- A well-defined 24x7 grievance redressal call center, called Parishkaram Call Centre, has been put in place to ensure citizen grievances are appropriately addressed. Parishkaram Call Centre has been a key component of the MeeSeva system wherein citizens can get their queries on application requirements, application status, complaints resolved. In addition, ESD has defined a clear framework for escalation of citizen complaint to ensure resolution of issues in a time bound manner.
- As the revenue of MeeSeva franchises is directly related to the number of transactions carried out, MeeSeva centres have an incentive in properly maintaining cleanliness in their premises.

Benefits to Government Departments:

- Lowered cost of delivery of services for Government departments - By utilizing a common platform for service delivery, Government saved significant costs and overall cost of delivery of services has been reduced.
- Increase in Government revenues - With improved accessibility to Government services, it has been noticed that number of transactions itself for G2C services have increased significantly.

Digital awareness among citizens

- With a MeeSeva centre in the range of at max 5 Km of every citizen, Telangana citizens have been sufficiently exposed to technology and its benefits.
- This resulted in making Telangana citizens very receptive to new technologies which further enables them to derive benefits of technology in their welfare.

Sustainability and Revenue Generation

MeeSeva has undertaken a series of measures to ensure sustainability of the overall system both prior to as well as under MeeSeva 2.0. While financial sustainability and manpower sustainability have always been a focus area in MeeSeva, MeeSeva 2.0 has aimed at including a slew of other measures to achieve an overall sustainability of the system. These include key process changes such as:

- Reducing number of Service provider / application O&M teams from 4 to 1. This ensures better coordination and effective allocation of resources along with consistency in the development deliverables.
- Reducing the number of franchise vendors from five to three. This ensures scale for each of the remaining franchisee.
- Increasing the number of kiosks from 3500 to 4500. This improves the reach of MeeSeva within state.
- Several measures have been undertaken to improve the financial status of franchisee operators. As a result, franchise earnings have increased by 60% over the past one year
- Specific measures, including above, have resulted in increase in higher commissions to franchisees and departments along with improved settlement cycles for departments, franchises and kiosk operators

The contribution of MeeSeva to the digital empowerment of citizens in Telangana has been recognized by several prominent agencies.

- MeeSeva has won the National E-Governance award in Year 2014 under the category "Outstanding performance in Citizen Centric Service Delivery" and subsequently in Year 2018 under the category of "Innovations in existing projects of Government Departments other than PSUs".
- In 2018, MeeSeva has won WITSA Chairman's Award conferred by WITSA World Congress on Information Technology (WCIT).
- Year 2018: Technology Sabha Award
- Year 2017: Gems of Digital India Award

16. Future Proofing/ Longevity of the Project:

MeeSeva already has a presence in entire Telangana. ESD has scaled up to a very big scale in last 5 years. MeeSeva currently provides 600+ services of 36 departments across 31 districts through 4500+ MeeSeva centres. Going forward, MeeSeva would be further scaled up in following aspects

- Onboarding of more departments
- Onboarding of more services
- Setting up more MeeSeva centres
- Expanding on the scope and quality of services

MeeSeva has been designed in a manner which allows it to be highly adaptable to new requirements making it interoperable with other platforms of Govt of Telangana and Govt of India. Moreover, MeeSeva 2.0 involves a revamp of the complete technical architecture by bringing in advanced technology such as Service Oriented Architecture and Enterprise Service Bus in the core design of MeeSeva. This allows MeeSeva 2.0 to quickly expand and

modify services and features in the application. Having a dedicated infrastructure hosted in Telangana State Data Centre, MeeSeva is capable of operating independently even through State Wide Area Network.

eHRMS- Manav Sampada

Department of Personnel, Government of Himachal Pradesh, National Informatics Centre, Himachal Pradesh

1	**Name of the State / Ministry**	**Himachal Pradesh**
2	**Name of the host / owner organization**	Department of Personnel, Government of Himachal Pradesh, National Informatics Centre, Himachal Pradesh
3	**Status of the host / owner organization**	Department
4	**Name of the Project**	eHRMS – Manav Sampada
5	**Name of the Nodal Contact Person**	Ajay Singh Chahal
6	**Contact Address**	NIC HP State Centre, 6th Floor, Armsdale Building, HP Secretariat, Shimla-171002, Himachal Pradesh
7	**Telephone / Fax / e-mail**	0177- 2624045 (O), 0177-2621154 (Fax), Mobile: 94182-75076, sio-hp@nic.in , ajay.chahal@nic.in

8. Project Summary:

Manav Sampada (appropriately name for Human Capital, being the most important factor for the success of any Government, Organisation or Company) is a standard ICT solution for the Government sector, addressing maximum requirements of State Governments related to personnel management. It is also referred as the eHRMS or the electronic Human Resource Management System and can be replicated for the entire State/Organisation covering almost 2 to 6 lakhs employees of a State Government, giving a holistic State wide view.

9. Date of Launch of Project: 1st September, 2015

10. Coverage (Geographical):

- National Level-Number of States/UT covered: **17**
- State/ UT level-Number of Districts covered: **237**
- Number of State/Central/UT Government departments:**755**
- Number of offices involved in its implementation:**331706**
- Roistered employees : **19.76 Lakhs** (as on 31-10-2018)

11. Beneficiary of the Project:

G2G Benefits:

- Growing **demand for a Standard ICT Solution** to manage the human resources: All State Governments face resource and financial crunch. Limited financial resources of the States demand proper finance and personnel management for planning purposes. Manpower management has become a major component in managing State resources. In order to implement it, they need to select a software solution or get it developed on

outsourcing basis, which is a time consuming and costly affair. Manav Sampada, provides them with a software, which can be on-boarded easily, with least cost.

- Initial conversion of software to a product version for rapid replication in other States, through **MeitY funding** under the World Bank Project: The initial software has been converted into a product version through MeitY funding and replicated on immediate basis in the State of Jharkhand, which was a mandatory requirement of the project deliverables. Necessary funding for handholding, data entry and customization was provided to the Jharkhand State Government under the project.
- Lower cost of maintenance, which has been met out of funds allocated by different States for their customization requirements: The solution is robust, cloud hosted, with load balancers and DR facility, being made available without additional cost to the participating States. This has enabled States to come on board and adopt the solution.
- Mandatory implementation of a feature rich Personnel Management System for availing World Bank Assistance in States: These days, the World Bank insists on the States having a proper Personnel MIS system in place before releasing any funds for any ICT project. This has put pressure on States to adopt the Manav Sampada software because other market solutions are extremely extensive and require complete replacement of existing processes, which is normally not feasible in Government sector.
- Integration with AG office/ NSDL and eSalary software: The software has been integrated through web-services for providing the details of salary, GPF/ CPF details from the respective software in their employee dashboard. This also ensures that estimated pension information / retirement benefits are available in the employee dashboard at a single location, completing the eService book entries.

G2E Benefits:

- **Incentive to employees** to get their services records updated: The employees have access to their official service records in a user friendly manner on the Web and smart phones. They also have an employee dashboard, which shows their financial benefits in an easily understood manner. They have every reason to ensure the regular updation of data because it is now being used for generating their pension, gratuity, leave encashment papers at the time of their retirement.
- Availability of all employees related data at a **central portal**: The State Government knows exactly the entire manpower situation, with category, type, designation, office, department wise availability at a single location.

Cost saving

In the manual system the service book of employees was being maintained at different designated establishment offices and every order related to the employees use to be filed in the service book manually. It involved printing, postage, paper, manpower resource time, fuel cost. Even form verification of the service book employees used to travel to their establishment offices. In the Manav Sampada service book is maintained in active mode and available to every individual through the Web. All orders, transactions get posted to the eService book electronically saving money, time and effort. The Manav Sampada is a green governance solution giving an environmental value of more than 5 Crores a year with manpower saving amounting to more than 35 Crores a year.

12. Problem statement:

Maintaining employee service book record is a routine job of all establishments and these were being maintained manually by respective establishment staff. It was observed that in most of the cases they were incomplete and some or many entries were missing in between.

The updated service book was mostly available only at the time of retirement or when someone desired to refer to it for any clarification. The manual service book keeps on moving as and when the employee gets transferred to new location and thus getting deteriorated day by day. Even locating the service book an employee was a task in itself.

13. Project Objectives:

The first and basic objective of Manav Sampada is to provide a generic, product based solution to the State/Central Government organisations for better management of personnel through electronic service record. It further assists the top management in knowing the exact number of employees, the retirement pattern, additional requirements in coming year for planning recruitments, funds required for retiring employees, re-allocation of surplus employees to other Departments/organisations within the State, ACR/ APR status, seniority lists etc.

The transaction based updation of electronic record ensures that there is no additional data entry effort involved at Department level as the records get updated automatically based on the transactions. For eg. An employee gets transferred, the transfer orders is generated from the software, relieving/joining letters are issued and the service history gets updated. The transfer orders are issued online, there is no time-lag or favouritism to any employee as these gets published on the website and there is no paper copy of these orders. In fact, such online transactions and auto-updation of records has helped to sustain the project at the Government level. Additional requirements related to online ACR/APR, leave/ tour applications, appointment orders, GPF withdrawal etc. have been added to further enrich Manav Sampada.

The secondary objective has been to provide this record to the employees in a user friendly manner and hence, mobile apps have been developed on Android and Apple platforms. These days, almost all employees have Smart phones, and if they are able to view and verify their service record, GPF/CPF balance, monthly salary, other payments, they have a reason to ensure that their records remain correct and updated which has been a challenge. In fact, one time data entry of personnel records has been attempted many times in different States, but keeping the data updated later, remained the sole reason for failure of many Personnel MIS systems in the past.

After initial implementation of the Project in Himachal Pradesh, and realising the benefits accruing/foreseen, the MeitY (then DietY) provided funds to NIC Himachal Pradesh (for making Manav Sampada a Product) and Government of Jharkhand (for replicating the Project). Accordingly, the software was converted into a Product and replicated first in Jharkhand, then in 17 States which include Bihar (Forest), Maharashtra (Jal Pradhikaran), Uttar Pradesh, Chandigarh, Punjab, Assam, Tihar Jail, New Delhi, Telangana, Ministry of Water Resources, Government of India, covering almost 19.7 lakh service books all over the country.

The product version allows local customization as per State requirements, is easy to on-board, there are no costs related to hosting/ security audit individually for States, configurable parameters/ forms allow for minor customization at State level. Additional requirements are met through funding support either to NIC HP or to the concerned State on their own.

14. Project Scope, Approach and Methodology:

- Standardization of forms and procedures

- Improvement in Carbon-Credit rating by reducing the usage of paper
- All Establishment of all departments were linked together with centralized solution concept
- Discontinuation of Manual Service Book/ACR/APR/Pension/Leave/Tour.
- Discontinuation of manual method of sending various order from Sectt./Head office to field offices
- Discontinuation of gathering information regarding staff strength , service books and vacancy from field offices
- Issuance of gazette Notification for restructuring of 'Manav Sampada' application implementation.
- Online transaction related to employee transfer, promotion, joining, relieving, appointment, ACR etc.
- A front end of Manav Sampada was developed to integrate 17 different e-governance application for menus, roles, access control and user authentication
- Centralized solution for all Government Departments
- Online delivery of services to all stakeholders
- Availability of important master data of department, offices, designation and employees.
- Unique Employee ID to all employees.
- Integrated Dash Board of employee to view attendance, salary, service record, APR and ACR
- Employee Id Based User authentication for multiple e-Governance application. - single sign on
- Manpower planning, employment, placement, training, appraisal and compensation of employees.
- SMS based information dissemination (Service Transaction, APR) to employees
- Input gathering from citizen – dissemination of power under 73 amendments of constitution
- Staff rationalization (Teacher – student ratio in education)

15. Result achieved / value delivered to beneficiary of the Project and other distinctive features/Accomplishments of the Project:

- eHRMS-Manav Sampada" has significantly reduced the number of court cases against Government Departments as the system has become more transparent and all employee related information is available to every stakeholder, thereby creating more awareness and transparency amongst them. It provides important statistical report like vacancy, staff strength, retiree detail and employee service detail etc. at each level which allows user in answering various Assembly Questions in timely and effective manner.
- Lower cost of maintenance, which has been met out of funds allocated by different States for their customization requirements: The solution is robust, cloud hosted, with load balancers and DR facility, being made available without additional cost to the participating States. This has enabled States to come on board and adopt the solution.
- User convenience wit Service delivery channels (Web, email, SMS etc.) and collection of data is provided through multi-channels namely mobile phones, web-application (eHRMS-Manav Sampada) and Android/iOS mobile Apps (eHRMS and eTransfer).
- The application capture the data related to employee service book detail including personal, professional, family, address, nominee, history, ACR and APR which can be viewed as part of employee eservice book in web and mobile application.

- A graphical interface has been developed in Manav Sampada to monitor the number of employees, General public accessing the application during different time of the day including peak office hours. In case of any problem (slow speed etc.) corrective actions are taken through Help Desk. In last financial year the total number of transactions has jumped to almost 35 lacs and reported problems have been substantially reduced. The dynamically generated graphical view is reproduced.
- Manav Sampada is a web enable solution providing even SMS based services. The employee can access it in their offices and general public can access it at the LokMitra Kendra/CSCs situated at Panchayat Level and Sugam Centers at Tehsil Level, reducing travel time and distance to minimal.
- The eHRMS- Manav Sampada software has been developed and implemented with minimum capital, recurring, replication and maintenance cost. No software of this magnitude can be effectively implemented with such minimal cost / time in the country and that too at the village level.
- The Model is self-sustainable as the project execution has been done by NIC State center with Zero Paisa investment and available for s/w support for the Government of Himachal Pradesh on 24*7 basis and in the field this is executed by the officials of the department thus incurring no cost to respective Government. The "Manav Sampada" is hosted on NIC data centre thus department does not invest on security and safety of the data as well

16. Future Proofing/ Longevity of the Project:

- The software is multi-lingual, uses Unicode to provide all Indian language support and to prove the concept, the product version of the software is available in both Hindi and English languages. Any State, who wishes to put it their local language support, can enter the equivalent labels in local language, using the State Administrator credentials and the software interface will change accordingly.
- Proper Measures have been taken to ensure adaptability and scalability of the software.
- There is direction from the State Government for implementing eHRMS- Manav Sampada software in their respective departments.
- Developing standard, product based software application, which can be replicated in other States/ Departments quickly has been a big challenge. There is both a tendency to avoid other State ICT initiatives citing local requirements/ customization needs and/or re-develop applications to take credit.
- Hosted on National Cloud for faster replicability and scalability.
- There are no restrictions of any kind on replication of eHRMS software because the MeitY is itself promoting its replication in the left out States and they can come on-board in coordination with State NIC.
- The website is hosted on NIC cloud at New Delhi, which is robust, has remote site DR/ Back up, sufficient power back-up and is scalable on demand
- Integration with other e-Gov application for single sign-on, user authentication, application roles and data sharing through open API.

Rohtang Pass Permit Issuance MIS

Deputy Commissioner, Kullu

1	**Name of the State / Ministry**	**Himachal Pradesh**
2	**Name of the host / owner organization**	Deputy Commissioner, Kullu
3	**Status of the host / owner organization**	Department
4	**Name of the Project**	Rohtang Pass Permit Issuance MIS
5	**Name of the Nodal Contact Person**	Ajay Singh Chahal
6	**Contact Address**	NIC HP State Centre, 6th Floor, Armsdale Building, HP Secretariat, Shimla-171002, Himachal Pradesh
7	**Telephone / Fax / e-mail**	0177- 2624045 (O), 0177-2621154 (Fax), Mobile: 94182-75076, sio-hp@nic.in , ajay.chahal@nic.in

8. Project Summary:

Rohtang Pass Permit Issuance MIS is web based application. This web application is the only Mode to get the permits for visiting Rohtang Pass or beyond. There are no manual processes involved in issuance of the permit, which is end-to-end online solution. It is easy to use and being Web based solution it can be accessed from anywhere in the world. Payment Gateway is integrated with the system for online payments. It strictly adheres to the guidelines laid by National Green Tribunal (NGT) for Tourism at Rohtang Pass. The system has been improvised by extending it to cover the Manali Entry Tax (validity 7 days), Gulaba Green Tax (one trip). Special Rohtang Pass Permits (100 permits daily are issued to Outside Manali Region, Vehicles with restriction that permit is issued once in the entire season to particular vehicle) and Beyond Rohtang Permit (one trip, no fee but no same day return) further facilitating the tourists, operators, residents and administration. Mobile apps have been made available for Android and iOS platforms

9. Date of Launch of Project: 25th September-2015

10. Coverage (Geographical):

Being a web based solution; the outreach of the application is at the doorstep of any individual. The only prerequisite is to have Internet connectivity and desktop/ laptop/ tablet.

- National level - Number of State covered: All States of India and abroad
- State/UT level - Number of District covered: All Districts of India
- District level - Number of Blocks covered: All Blocks in All Districts of All States
- International-Tourists of all countries can avail of this service

11. Beneficiary of the Project:

The main beneficiary is the mankind and environment. As it is a proven fact that mountains' eco-system is about two and half times more vulnerable to environmental change and impact is felt downstream. So the main concern was degradation of eco-system due to pollution which has direct impact on flora and fauna and leads to extinction of species. With this in mind National Green Tribunal (NGT) issued guidelines to control the degradation of eco-

system being caused due to pollution. With the cleaner and balanced eco-system the human beings stand to benefit by achieving better living condition and standard of living.
Other main beneficiaries of the project are the tourists visiting Rohtang Pass or beyond, residents of Leh and Lahaul areas, taxi/ tour operators of the region, the District Kullu administration, which was directly in the line of fire, HP Transport Department and the NGT. The specific benefits to each of these categories are:
Tourists visiting Rohtang & beyond Rohtang are hugely benefitted as follows:

- Easy to get permits for common citizen without human intervention
- Facility to get the permit in advance, as per guidelines
- Facility to pay Fees/Charges online using Credit Card/Debit Card/ Net banking
- Reprint of permits as and when required
- Facility to check the availability of permits for desired day
- SMS and Email based information of permits/ payments to citizens so that they don't have to print the permit but can show it on their mobile phones at the check-barriers
- Facility for logging of Check-In and Checkout
- Facility to check the validity of permit
- Simple, transparent functional system as all data is shown live while making an application for permit issuance
- User friendly and easy interface
- Facility to get 3 kinds of permits in one go by making online payments for Manali Entry Tax, Gulaba Green Fee and Rohtang Visit Permit fee in one go.
- Mobile application to assist Citizen as well as authorities

For taxi and tour operators, it is a transparent system and they don't have to bribe any officials for getting out of the way permits. The entire system is online and permits are issued on the basis of first come first serve basis only. The residents or tourists visiting places beyond Rohtang have the advantage that although they have to get the permits, they can get these from their homes without visiting the office at Manali. The residents of areas around Rohtang also stand to benefit in the long run as their livelihood depends upon the regular and steady inflow of tourists to the Rohtang area. If the un-controlled inflow of tourist during particular times had continued, there won't be snow round the year on Rohtang Pass and in due course of time it would have turned into a garbage dump. So regular influx of tourists will keep the economic activities going to aid the residents.
Benefits for the Kullu Administration:

- Timely and effective implementation of NGT Guidelines, meeting the timelines
- No parallel manual system of permits
- Printing of Barcode on permit to check fraudulent permits and for easy checking of permits at the barriers
- Real time reporting of Vehicular traffic to Rohtang Pass for traffic management
- Control over law breakers by Black listing the vehicles not adhering to law.
- Real time monitoring of amount collected as various charges
- Role based logins for department users
- Multiple MIS reports to track defaulters, multiple bookings, vehicle / phone wise reports which allow for analysis of data for control purposes
- Lesser cash handling issues at the 3 barriers due to facility of online fee payment or other two types of entry taxes too along with Rohtang permit.
- Lesser stoppage times at barriers result in less pollution and lesser wastage of fuel due to idling of many vehicles.
- Minimum additional staff required for managing the permits issue

- The software has provision to control the number of vehicles, fuel and types of vehicles to be allowed and to declare a day as no vehicle day through the software itself, which also announces this on the website for the tourists and taxi/tour operators.
- No crowds and queues of people at SDM office, Manali for getting the permits
- Transparent and trustworthy system of permit issuance

12. Problem Statement:

Taking suo motu cognizance for degradation of environment and ecology in the eco-sensitive area in and around Rohtang Pass, National Green Tribunal (NGT) issued various directions to Himachal Pradesh Government particularly in relation to vehicular pollution by restricting number of vehicles allowed to visit daily.

In order to Implement Guidelines of NGT, system of physical issuance of Permits was started. Physically standing in queue in the SDM office Manali for hours together resulted in huge law and order problems and many a time the angry applicants even resorted to stone pelting, breaking of windows of the SDM office. Also issue was raised by residents and tourists going beyond Rohtang to Keylong and other places on way to Leh in Laddakh region.

After lots of deliberations it was decided by District Administration, Kullu to go in for a computerized system

13. Project Objectives:

At an elevation of 13,054 ft, Rohtang Pass Known for its scenic beauty, holds strategic importance for India. The Pass offers beautiful sights of glaciers, peaks, Lahaul Valley and the Chandra River. Rohtang Pass normally remains covered in snow throughout the year. Rohtang Pass figures high on itineraries of tourists visiting Manali, Kullu, Leh and nearby areas. In 2016, over 35 lakh domestic and foreign tourists visited Manali. Despite ban on many tourism activities and limitation in number of vehicles allowed to go to Rohtang pass, it has failed to stop tourists from making beeline. Tension in Kashmir has also forced tourists to choose Manali as their alternative holiday destination.

14. Project Scope, Approach and Methodology:

As Rohtang is one of the most sought after tourist destinations of Himachal Pradesh, tourists from all over the world come to Kullu/Manali and pass through the Rohtang pass on way to Keylong and Laddakh. The main economy of the region is dependent upon tourists visiting Kullu and Manali. A number of local people provide sports and adventure activities to tourists, besides providing warm winter clothes on rent, fast food in extreme weather conditions as putting up permanent structures is next to impossible at such height. Just stopping the tourists from visiting Rohtang would result in loss of livelihood of the local people besides keeping the tourists away from such exotic location. A number of agitations were organized by local people and taxi operators/ unions/ transporters and residents of Lahaul valley as they were also fearful of being made to pay heavy permit fees. The District Administration faced a number of challenges in convincing these stakeholders and based on their requirements, a software based solution was proposed to make everyone's life simpler and better in the long term. This was a major challenge for the District Administration, who were looking for a solution which will not only adhere to NGT guidelines but will also fulfill the expectations of local residents. The manual system put in place as per deadline had many flaws. So the primary basis of the web based application was guidelines laid by NGT and the other main consideration was the feedbacks and concerns of local residents and final and foremost consideration was development of transparent and user friendly solution with main objective of ease of delivering the service with minimum effort for visitor/citizens visiting Rohtang Pass.

The application was implemented in one go with a mandate that this will be the only mode of permit issuance. In the due course of time, changes have been made based on the guidelines issued from time to time by NGT and the feedbacks received from various stake holders. The application has passed through different phases starting from just issuance of permit to introduction of OTP based authentication to introduction of payment gateway and finally to the integration of multiple permits into the single system, bringing major change in the process and relief to the tourists/ Government officials. The District Administration entrusted the software development work to NIC Himachal Pradesh State Centre and the payment gateway part was assigned to the HDFC Bank. The internal discussions were carried out locally by the Deputy Commissioner office with stakeholders and their requirements forwarded through the NIC DIO/ADIO Kullu who were also present in the meetings during the discussion stage. Stakeholders from the HP Tourism and Transport departments were brought on board for integrating and issuance of all permits from the same software to further facilitate the tourists/ residents/ citizens. The software uses payment gateway and the service is completely online. Therefore, the software has been security audited through CERT empanelled vendor to make the complete service fully secure. Mobile app has been rolled out.

15. Result achieved/ value delivered to beneficiary of the Project and other distinctive features/Accomplishments of the Project:

To organization:

- Drastic decrease in vehicular traffic to Rohtang Pass resulting in decrease of Pollution levels which was the main concern of the NGT: With the restriction on the total number of vehicle visiting Rohtang Pass, the number of vehicles has reduced drastically from 2500-3000 per day to 1200 vehicles per day. This has definitely resulted in decrease of pollution levels, which was the main cause of concern of NGT and environmentalists.
- Better Management of Traffic: With less number of vehicles visiting Rohtang pass across the narrow hilly roads to Rohtang pass, there are less traffic jams on the road and the traffic is manageable by lesser police personnel. Less traffic jams mean that there are fewer vehicles emitting fumes. The online payment of fees of multiple barriers also means that there is no cash involved and only checking of the permit manually or through bar code is being done, moving the incoming traffic towards Rohtang in faster manner. Otherwise long queues get formed when payment is being made at the barrier.
- Complete details of vehicles visiting Rohtang Pass: The application captures details of the vehicle as well as the number of persons visiting Rohtang Pass. This helps in ready availability of information about the visitors at any point of time on real time basis. This information is quite helpful in case of any exigency. This information becomes valuable in case of any disasters, which do happen frequently in the Rohtang area due to difficult terrain and extreme weather conditions.
- Timely and effective implementation of NGT Guidelines: As all the permits are issued using web application only, this has resulted in the effective implementation of NGT guidelines.
- The software has met the conditions of the NGT guidelines by maintaining the record in computerised form and restricting the number of vehicles visiting the Rohtang pass.
- Real time reporting of Vehicular traffic to Rohtang Pass: There is a real time MIS creation of the vehicular traffic. Anyone can verify the validity and reprint the permit using the web interface. The application also provides easy to use interface to the authority through which they can monitor the traffic flow to the Rohtang Pass.

- Real time monitoring of amount collected as charges: The web application enables the common citizen to pay the charges online via web interface this leads to the creation of real time MIS of the fund accumulated as charges to visit Rohtang Pass.
- Better Law and order situation: As the permits are issued online, there are no queues of people in the SDM office, where the permits were issued manually, and it usually resulted in serious law and order situations when people had to wait for long hours since 5 AM in the morning for 5 hours to wait for the office to open. Later they also resorted to stone pelting, slogan shouting against the administration.
- Integration of 3 Permits: This has resulted in better cash collection, lesser embezzlements, lesser staff to keep a check on such activities, lesser vehicles in queues at the check-posts.
- Least cost solution: The Administration has also saved on the computer infrastructure which would have been required in the offices if permit issuance required any approval at the officer level, in place of first come, first serve.
- Mobile Application: For checking the validity of permit using smart phone.

To citizen:

- Transparent and fair system of issuance of permits:
  At present the web application is the only mode to get permits. As the permits are issued on real time basis, there is no human intervention in the generation of the permits and hence the system is quite transparent and the permits are issued strictly on first cum first serve basis.
- Ease to get permits for common citizen on 24x7 basis:
  The web application facilitates for online application for permits which include online payment of charges/taxes with the help of integrated payment gateway. Common citizen can pay the charges for the permit online using any of their Debit Card, Credit Card or net banking options.
- Simple, accountable, responsive, corruption free and transparent system for the citizens. Less time consuming process. No parallel manual system.
- Option to get multiple permits in one go.
- Mobile App for checking the permit availability and checking the status or downloading the PDF of the permit.

To other stakeholders:

Other stakeholders (CSC operators, Transporters, Taxi and Tour operators, Local Residents, Tourist going beyond Rohtang pass to Lahaul Valley and Leh-Ladakh): The other stakeholders of the Rohtang Pass Permit issuance MIS are CSC operators who provide the service for online application. In the process, they earn some money and citizens are informed about other Government and private services being offered to citizens from the CSCs (LokMitra Kendras). Therefore, they get aware about the Digital India success stories. The stakeholders also include transporters carrying goods to Keylong/Leh, taxi and tour operators, local residents of nearby places like Lahual valley and tourists going beyond Rohtang to Keylong /Leh-Ladakh. They are able to get online permits in advance for their date of journey without having to visit SDM Manali office on reaching Manali. Earlier they had to spare one day at Manali to just get the permit, even if they were not required to pay any fee as they had to compete with other Rohtang Pass visitors during the office hours.

16. Future Proofing/ Longevity of the Project:

As the service is delivered at doorstep without any human intervention, so there is no special cost involved to the department for manpower deployment or for purchase of special hardware. This makes Rohtang Pass Permit issuance MIS viable and sustainable in long run.

The software system is interoperable among its components viz. payment gateways, SMS gateway and email server. All these are completely independent software applications components deployed on entirely different platforms using different architectures. The same can be scaled up for future demands, if these arise, as per the technology trends of the time, and if need be, it can be hosted on NIC Cloud Meghraj at New Delhi. Rohtang Pass Permit Issuance MIS will need to add bandwidth, new features, and faster processing capabilities on a yearly basis to keep pace with new technology. Therefore, in due course of time, the application may need some updates related to high speed servers. Migrating application to cloud environment. The NIC team is already in the process of hosting the application in cloud environment. However, as has been experienced during the last few months, that all 1200 permits get issued within the first 30 to 35 minutes of the opening of permit application window, hence, there are no issues related to application access time/ overloading etc. The application is able to handle the existing traffic load at present. The initial objective of the application is to adhere to the guidelines of NGT in time bound manner and restrict the number of vehicles going to Rohtang which was in the range of 5000-10000 during the peak tourist months of May-June-July. The 2nd objective was to ensure an online system for permit issuance which was hassle free, convenient and corruption free for the citizens. The other objective of integrating different kind of permits came up later and was made part of the application. The issuance of permits for residents/ transporters going beyond Rohtang was also added later. The last objective of information and fee sharing among stakeholder department has also been successfully met through the online integration. Also, the launch of application before the stipulated date fulfilled all the mentioned objectives. With the decrease in number of vehicles visiting Rohtang pass, this has reduced the pollution which was the main cause of concern to NGT and environmentalists. The application has met all objectives outlined under the G2G, G2C and G2B (taxi operators/transporters/barrier operators in case of Manali entry fee).

Panch Parmeshwar Portal

Department of Panchayati Raj, MP State Tech e-Panchayat Society (MP STePS)

1	**Name of the State / Ministry**	**Madhya Pradesh / Ministry of Panchayati Raj**
2	**Name of the host / owner organization**	Department of Panchayati Raj, MP State Tech e-Panchayat Society (MP STePS)
3	**Status of the host / owner organization**	Department of Panchayati Raj, MP State Tech e-Panchayat Society (MP STePS)
4	**Name of the Project**	Panch Parmeshwar Portal: the Digital Panchayat Platform of Madhya Pradesh for facilitating e-Governance, m-Governance & e-Payments, Financial Inclusion & Digital Transformation of Panchayats under the Digital India program.
5	**Name of the Nodal Contact Person**	Mr. Sunil Jain, Senior Technical Director, NIC, Madhya Pradesh State Centre
6	**Contact Address**	NIC, Madhya Pradesh State Centre, C-Wing, Basement, Vindhyachal Bhawan, Bhopal, 462004
7	**Telephone / Fax / e-mail**	0755-2557727 / dirpanchayat@mp.gov.in 0755-2551265 / sjain@nic.in

8. Project Summary:

Panch Parmeshwar Portal is an e-Governance and m-Governance solution designed and developed by NIC MP to facilitate transformation of various processes involved in the functioning of Gram Panchayats. The Panch Parmeshwar Digital Panchayat platform includes a suite of web and mobile application. It has been seamlessly integrated with National Automated Clearing House (NACH) platform of National Payments Corporation of India (NPCI) & core banking systems of 8 nationalized banks to facilitate financial inclusion by discontinuing cash and cheque payments and switching to online electronic payments. The solution judiciously uses all available cutting-edge technologies such as online banking, NACH platform of NPCI for digital payments, Mobile Apps, Jan Dhan Aadhaar Mobile - JAM Trinity, GPS-enabled smart-phones, Geo-tagged photos of works, SMS etc.

Beneficiaries of the project are the 5.26 Crore rural residents residing in 51,380 villages of Madhya Pradesh State (2011 census figures), 22,816 Gram Panchayats, their elected representatives, Panchayat Secretary and other functionaries, 313 Janpad (Block) Panchayats, 51 district Panchayats, their elected representatives & Government functionaries working in Panchayat and Rural development sector.

Stakeholders of the project include vendors, suppliers, agencies, involved in Panchayat and Rural Development Sector, National Payment Corporation of India, 11,000 bank branches, and IT teams of 8 Banks.

9. Date of Launch of Project: 1st August 2015

10. Coverage (Geographical): The geographic coverage of the Panch Parmeshwar posed a unique challenge as it was to be implemented in 22,816 Gram Panchayats of the Madhya Pradesh State

11. Beneficiary of the Project:

- 5.26 Crore Rural residents residing in 51,380 villages of State(2011 Census Figures)
- 22,816 Gram Panchayats, their elected representatives, Panchayat Secretary and other functionaries
- 313 Janpad (Block) Panchayats, their elected representatives & Government functionaries
- National Payment Corporation of India
- 11,000 bank branches
- Corporate offices and IT teams of Banks: State Bank of India, Central Bank of India, BoB, PNB, BoI, BoM, UBI, Allahabad Bank
- 51 Zilla (District) Panchayats, their elected representatives & Government functionaries
- 51 District Collectors
- 10 Divisional Commissioners
- MP State Tech e-Panchayat Society (MP STePS)
- Department of Panchayati Raj
- Office of Development Commissioner, Madhya Pradesh
- Department of Panchayat and Rural Development, Madhya Pradesh
- Ministry of Rural Development & Department of Panchayati Raj, Government of India
- Program offices under Panchayat & Rural Development Department i.e. MG-National Rural Employment Guarantee Council, Rural Engineering Services, National Rural Livelihood Mission, Rural Road Development Authority, Watershed Mission, PM Grameen Awas Mission MDM Council etc.

12. Problem statement or situation before the initiative:

The credibility and capability of Panchayats was frequently questioned because of offline and manual operations, lack of transparency and absence of a single source of authentic information regarding receipts, revenue, expenditure, works and non-effective implementation of schemes and programs.

Due to lack of credibility, the Government and departments often hesitate in devolving their powers to the PRIs and even transferring their funds for various works / activities. The limited liability of PRI functionaries is further crippled by the lack of adequate mechanisms, both robust and lucid, to monitor and track the expenditures, progress of works, receipts of funds from different sources, generation of revenue, utilization of funds for various development works & activities and implementation of welfare schemes.

- Gram Panchayats used to maintain DIFFRENENT bank accounts for each scheme.
- Manual system did not have any mechanism to capture the information of unutilized funds available with the Gram Panchayats. If possible, Panchayats may be instructed to utilize these funds for other priority works.
- The payments to vendors, agencies and other stakeholders was made using cash /cheque
- The account keeping was manual and offline.
- Details of the works, expenditure on works were NOT available in public domain for social audit and oversight by public at large.
- Manual system did not have any mechanism to monitor and track the progress of works, utilization of funds and implementation of schemes.

- Manual system did not have any mechanism to identify or estimate the expenditure on works against the sanctioned amount.
- Details of availability of funds in bank account of Gram Panchayats was not available to residents and higher offices.
- Details of payments, receipts and other financial transactions were NOT available in public domain.
- Details of the amount spent on development works and other activities / functions of Panchayats were NOT available in public domain.
- There was NO system to enforce accountability and rule-based expenditure by the Panchayats
- Manual implementation involved compilation, file movement, certification and sanction at higher level officers for different development plans and works. Process of Payment to various vendors/agencies against the works involved the payment through the Cheque which sometimes resulted in delayed payments to Vendors.
- There was NO system for facilitating online payments.
- Cheque / cash payments required manual intervention. The vendor / supplier has to personally visit the Panchayats office and meet the functionary for collecting the payment. Personal visit of the supplier / vendor to Panchayats office and interaction with PRI functionary for collection of the amount resulted in inconvenience and hassles in payments. It discouraged vendors / suppliers for their participation in the supply of materials and deployment of labours. It also prohibited the vendor in quoting economic rates.
- No web-site of the Gram Panchayat was available for dissemination of the process information
- Due to lack of adequate mechanisms for enforcing accountability and transparency, complaints on financial irregularities and arbitrariness in the decisions and functions of the Panchayats were not uncommon.
- Due to secluded style of functioning and lack of information, the public at large was not interested in the participation in the functions of the Panchayats.
- Cases of poor representation, failure to implement the participatory decisions of their constituencies, lack of transparency in functions / operations & mismanagement of funds were reported.
- Lot of financial irregularities used to be reported during the financial audit of the Panchayats due to due to the limited skills and acumen of the elected representatives and non-availability of a reliable and authentic technology-based solution for operations.
- In the manual system there was No single source of information regarding implementation of schemes and programs, status of works, utilization of funds and expenditures of Gram Panchayats.
- The manual system had NO computerization, no regular updation hence effective monitoring at different levels was possible, No record keeping and lack of knowledge of accounting at the lowest level.

13. Project Objectives:

To design, develop and implement a technology-based yet simple to use platform for e-Governance, M-Governance, e-Payments, Digital and Financial Inclusion with the aim of establishing the credibility and capabilities of PRIs.

Major objectives are as under:

- Enforcing rule-based operations in PRIs.
- Enforcing 100% transparency in all operations, payments, works and benefits.
- Enforce accountability in all operations
- Discontinue the practice of operating multiple bank accounts and parking of funds. Enforce the rule that each PRI will operate ONLY one bank account. This is aimed at better and optimal utilization of financial resources available with PRIs.
- Publish the Panchayat bank Statement / bank passbook in public domain so as to enable the residents to view the financial transactions, payments, receipts related to their grams Panchayats.
- Publish the balance amount available in the bank account of PRI for public dissemination.
- Ban on use of cash /cheque payment and enforcement of e-Payments for all transactions
- Enforce an online system for centralized database of all payment receivers by undertaking online registration of detailed profile and bank account details of all vendors, suppliers, staff, PRI functionaries, elected representatives and all other entitles who receive payments for any purpose from Panchayats. Generation of a unique vendor ID for each payment receiver.
- Online registration Detailed Project Report / Development Plan of all GPS. The Plan contains a bank of development works that are to be taken up in the GP as per the availability of funds.
- Registration of detailed profile AS, TS of all works
- Generation of e-Payment Orders for all types of payments being made by the Panchayats and their automated payments by the bank using the NACH system of NPCI
- Eliminate the need to the payment receiver to visit the Panchayat office for collection of payments
- Eliminate the need of GP Sarpanch / Secretary to visit the Bank branch for payments.
- Disseminate the detailed information of each and every bill being paid by any Gram Panchayat in public domain
- Disseminate the details of payments made against any works, list of bills and amount paid.
- Implement rule-based mechanisms for identification of PRIs performance and incentivize them.
- Implement a system for concurrent audit, Social Audit, Public Scrutiny
- Transform the Panchayats into Digital and Smart Panchayats.

14. Project Scope, Approach and Methodology:

MP State Tech e-Panchayat Society (MP STePS) was set-up under the Department of Panchayati Raj, Madhya Pradesh to realize the dream of Digital Panchayats and Digital India

and to facilitate the Panchayats to run in a rule-based and transparent manner.

The proposal was to design, develop and implement a smart technology driven yet simple to use solution that works in real-time and facilitates rule-based, time-bound and transparent transformation of the various activities of Gram Panchayats, district and block offices.

As per the guidelines and recommendations of Digital India program of Government of India, MP STePS in partnership with NIC has envisaged, designed, developed & implemented an e-Governance, m-Governance & e-Payment Platform named "Panch Parmeshwar (पंच परमेश्वर)" to facilitate transformation of various processes involved in the functioning of Gram Panchayats and realize the dream of Digital Panchayats.

The main problems identified were related to manual processes, procedural lapses & delays, lack of institutional mechanism to enforce rule-based operations, accountability transparency, timely, optimal and judicious utilization of financial resources available with Panchayats.

15. Result achieved/value delivered to Beneficiary of the Project and other distinctive features / Accomplishments of the Project:

To organization

- The system has resulted into significant improvement in the functioning and governance of PRIs.
- The system has enforced rule-based operations, transparency and accountability.
- The system has ensured that 100% accurate, authentic and updated information on all works, payments, bills, e-payment Orders, Vendors, Suppliers, receipts, employees, etc. is readily available in public domain for social audit and concurrent audit.
- System has encouraged more participation from various vendors and agencies as their payments are being processed through the system and the payments have been made directly into their bank accounts.
- Now there is no or less-paper and manual implementation of scheme that would have required compilation. Now compilation, record keeping, resource sharing and financial exigencies are done in an automated manner.
- Use of technology-based solution that allows the automation of processes, enforcement of rules, auto-compilation that brings in transparency in the governance, has resulted in significant cost savings to the Department.
- Initiative made the whole process paperless resulting in significant reduction in expenditure incurred in stationery.
- Now the Department can easily get each and every information on a single click.
- There was no query/application under Right to Information (RTI) Act after adoption to automated systems.
- Bank statement of all PRIs are being imported from the concerned bank SFTP server and imported into the portal for public dissemination.

To citizen

- Users can easily access the complete profile of their Gram Panchayat and contact the designated officials and public representatives.

- Development plan of the Gram Panchayat, status of ongoing works, payment against the works and purchased materials, funds available in the Gram Panchayat and details of events organized at the various levels can be easily accessed on a single click.
- Various circulars, orders and documents published by the Departments, technical and administrative sanctions of the works, photos and press releases of the events organized and other relevant documents are available as a repository and can be easily accessed at any time.

Other stakeholders

- Vendors/Agencies/ Suppliers/Firms are now sure of timely and hassle-free payments in a transparent manner.
- System encouraged the vendors for more participation in procurement process, as it eliminates possibility of delay in payments.
- They are not dependent on local offices for certification to claim their payments
- Employees are getting their salaries in their bank accounts at the end of every month.

16. Future Proofing/Longevity of the Project:

- The initiative has brought in transparency and public participation in all operations and functions of the Panchayats and hence it will NOT be possible for anyone to back track. The innovation is sustainable as there is no alternate manual system that can track status of ongoing works/activities at a Gram Panchayat, estimate the availability and requirement of funds for the Gram Panchayats, help to commence the audit process for the Gram Panchayats and provide a repository of circulars/orders/documents issued by various line Departments.
- The system is self-sustainable as it brings in convenience and comfort to all its users and benefits the masses and all sections of the society.
- The initiative is successfully running for more than 2 years
- The initiative has resulted in drastic reduction of the repetitive manual work, compilation work etc. as the processes have been automated.
- The initiative has resulted in enforcing accountability on the PRI functionaries.
- It also created a win-win proposition for all the stakeholders, i.e. Gram Panchayats, employees, GP functionaries, public representatives, vendors, suppliers, agencies, district, block and State-level offices and line Departments.
- As the system also uses mobile app and generic web-services, it can easily be scaled up.
- It is sustainable as it is integrated with the banks for processing the financial transactions and the system can be used for disbursing payments against the ongoing works and bills registered and hence payment of the vendor/agencies can be released in a timely and hassle-free manner.

Padhe Dantewada Likhe Dantewada(PDLD)

Department of Education, South Bastar Dantewada

1	**Name of the State / Ministry**	**Chhattisgarh**
2	**Name of the host / owner organization**	District Administration of South Bastar Dantewada
3	**Status of the host / owner organization**	Department of Education, South Bastar Dantewada
4	**Name of the Project**	"Padhe Dantewada Likhe Dantewada"(PDLD)
5	**Name of the Nodal Contact Person**	District Education Officer, District- Dakshin Bastar Dantewada, Chhattisgarh
6	**Contact Address**	Office of District Education Officer, Awarabhatta, District- Dakshin Bastar Dantewada, Pin -494449
7	**Telephone / Fax / e-mail**	07856-252326, 9424270562, deo.officedantewada@gmail.com

8. Project Summary:

Dantewada is an aspirational District under ADP of Niti Aayog. Due to poverty and lack of any alternative earning mechanism most of the children of district are involved with their parents in forest yields collection and hunting animals and thus they could not focus on their school studies. Many children in Government schools in the district could not achieve basic reading ability and arithmetic skills in according to the learning outcomes specified for their previous classes. District being a heavily malaria endemic area is prone to rampant cases of low haemoglobin and stunting cases mainly among the children. Project has been launched to achieve the dual objective of achieving a proper reading ability and arithmetic skills to the students of Standard 3 to 8 and to individually monitor their height, weight and health.

9. Date of Launch of Project: 16th May 2016

10. Coverage(Geographical): The program has been conducted in all the Government primary and upper-primary schools in Dantewada district

11. Beneficiary of the Project:

All 39,000 students in Government schools in Dantewada studying from classes 3 to 8 in all 526 primary schools and 230 upper primary schools are beneficiaries of this initiative. Apart from them, teachers, Government officials and parents are also indirect beneficiaries as individual health and educational achievements of school children can be monitored and corrective actions taken.

12. Problem situation before the initiative:

According to its own internal survey of district administration, most of the students from primary and upper primary schools were found to be low on parameter of appropriate learning and studying skills. It was shocking to know through surveys specially conducted in the year 2016 as part of PDLD initiative, that only 18% of students between classes 3rd and 8th were able to identify letters in Hindi and were able to read fluently. Similar was the case of basic mathematical abilities wherein only 11% of students were found comfortable with the simple mathematical division. As the students are not able to read and write they are unable to cope up with the studies in higher classes. This is further leading to low net enrolment ratio in classes 9th to 12th. And being a sparse area of district has large number of students who have very low haemoglobin level in their blood, could not be identified and given appropriate treatment. Malnutrition is the biggest cause for child deaths. Being sickle cell anemia prone region the problem of malnutrition become more complicated. Baseline survey of the children indicated that approximately 10% students were suffering with less haemoglobin as per national standards. Dantewada is an endemic malaria area with more than 57 as Annual Parasite Index (Normal is 4). It is thus very much needed to have health profile and growth chart of every student.

13. Project Objectives :

"PDLD" programme has been launched to achieve multiple objectives:

- To measure, provide, track and monitor the age appropriate learning of the students from class 3rd to 8th at central level.
- To monitor and address the health related issues of students studying in Government schools of the district using ICT based mobile application and web portal.
- To identify individual learning needs to adopt targeted, innovative pedagogical practices.
- To get data of all the student's progress at granular level.
- To make collection of data from school and dissemination of information to schools easier as most of the area of district are geographically difficult.
- To bring transparency in the working of the schools.

14. Project Scope, Approach and Methodology :

Due to lack of child friendly pedagogical practices children were not finding education interesting so they were not showing any interest in studies.

So first to make the learning attractive, understandable and relevant, teaching and learning materials were developed in local dialects of "Gondi" and "Halbi" and in compliance with the MHRD LO's and SCERT syllabus.

To address various issues we came up with this Padhe Dantewada Likhe Dantewada program along with mobile application and web portal. This helps us in tracking progress of each and every child in the district. Prior to this application it was a hard task to collect data from schools. Previously all the schools used to send their data to respective clusters, Clusters used to send their summary to Blocks, Blocks to District. Firstly; it was time taking job and there were high chances of data forging. Even it was quiet hard to verify the data.

Mobile application is only helping in making this process easier. Low learning levels are universal problem in our country especially in rural and tribal areas. This application is made to work in one of the most remote areas of India, Where there is no internet connectivity and mobile network in most of the areas. We followed innovative technical method of making the entire mobile app offline so that it could work in all areas. It also helps us in identify the geographical areas where the performance is continuously low to administrative measures of the same. After PDLD district level functionaries' are able to get all the information about the schools in their hand which made real time tracking of each and every student's progress easier.

Then to measure the learning levels of the students, base-line test were conducted and results are uploaded by teachers using the Mobile app. After the base line test workshops for capacity building of teachers were organised because they were those who were to go on and work at grass root level with children. On the basis of the base line test result students have been segregated in two categories (i) Remedial – those who need remedial classes (ii) Non Remedial – those who do not need remedial classes.

Remedial classes have been conducted for Language (Hindi) and Mathematics. In both the subject 4 level have been identified and students were segregated in those level based on the base-line test results. Akshar, Shabd, Anuchhed, Kahani were the levels for Hindi subject and Digit, Addition, Substraction and Divison were the 4 levels for Mathematics. Teachers were instructed to take the extra classes of the students irrespective of the class but on the basis of above 4 levels. To measure the improvement of those student mid-line

tests were conducted regularly. Using the mobile app by teachers, health data of the district wide students were aggregated and based on the data, monitoring of health profiles were done at different levels and routine health checkups were conducted and appropriate actions were taken to address the situation.

To strengthen the SMC and Gram Shiksha Samiti regular meetings and training session have been conducted to make them aware of their rights, duties and improve their understanding towards the functioning of system.

Citizen charter has been issued across the district. Here after all the details of students and progress reports will be downloaded from www.padhedantewada.com

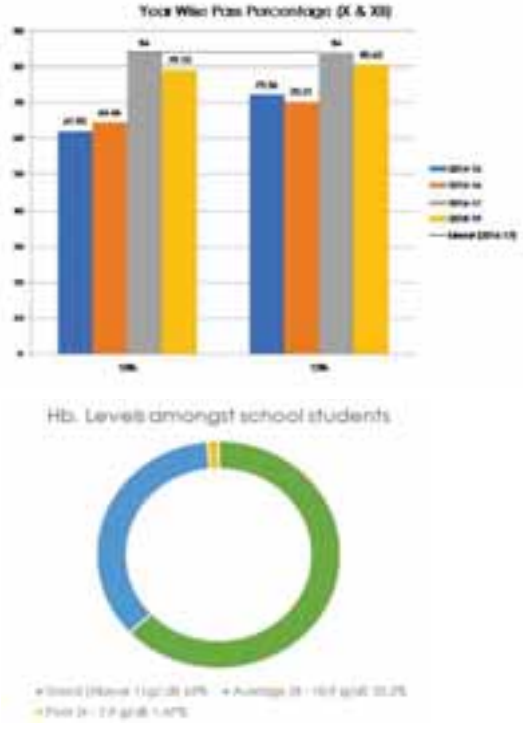
15. Results achieved :

This entire program has become a great help for the system in general to track education in such a manner where technology plays a vital role. From the initiation of the project in 2016 to till date, **over 38299** students from class 3rd to 8th are the primary beneficiaries of this intervention with teachers and Government functionaries being the secondary beneficiaries. Students have reached to a level where they can now speak correctly & write with almost 70% accuracy. According to base line exam carried out at the beginning of the program only 4,385 students (18%) of 23,903 students between class 3 and 8 were able to read Hindi fluently. Similarly, only 2,731 (11 %) students were able perform simple division; these are the statistics of 2016. This was extremely poor considering the standards set by National Council for Education Research and Training (NCERT) which mandates that class 3rd student should be able to read Hindi fluently and should be able to do simple division. Now when we moved at the end of 2017 where the growth was approximately 50% & total 36000 students were enrolled in the program. Initially only 20.9% students were able to read Hindi Fluently now it is 50.6% (Assessed by Pratham in their independent study for full report). In case of Mathematics though the growth rate is very high we are still at 41.7% this year we are hoping for better results.

Three students who were extremely critical identified and referred to higher centres and Special Diet charts are implemented for the students with poor and Average HB levels.

With the state highest pass percentage of 84, Dantewada has created a benchmark for other districts in 2016-17.

Similarly; no health profile was ever maintained in Government schools; the single source of learning in this backward, tribal dominant district, for the students. Considering the lack of awareness among the rural citizen in health sector and the vulnerability of the students being in a prone area, proper health profile and growth chart were essential for each student. PDLD has fulfilled that requirement, and had made available the health statistics of every student to officials by putting the information on portal. Now these statistics can be browsed for every student along with his/her photographs and academic details.



PDLD had brought in an encouraging spirit of competitiveness not only among the children of different schools but also among the teachers and community heads of the villages, persisting of which may see a seashore change in the quality of teaching and learning in Government Schools. As part of this program the role of Gram Shiksha Samiti has also improved. Earlier shiksha samitis mostly used to discuss about physical infrastructure. Now the whole discussion revolves around learning levels as they have readily available student wise data with them.

Regular communication with people representatives with student wise data are also conducted. Monthly teacher union meetings are held. Around 2000 teachers were trained at DIET and Cluster level using mobile technology and innovative pedagogy. This program has also strengthened the APJ Abdul Kalam Gunvatta Abhiyan run in the state.

16. Future Proofing of the Project:

There are no additional resources required to sustain this project. Mobile app and portal are in place, the project do not depends on the financial sanction every year thus we can say the longevity and sustainability of the project is long and sustainable.

To improve the effectiveness of the project and to get the desired result after the previous year's success, this year to align the learning outcomes of the children with the points, pre decided by MHRD, whole mobile App and its various modules has been modified and restructured according to the LO's (learning outcomes) designed by the MHRD for different classes and the classroom teaching and different tests are also being conducted according it.

Focus was earlier on providing remedial education to slow learners but from this academic year, focus is on acquiring age appropriate skill sets based on the MHRD prescribed class and subject appropriate skills from class 1 to class 8. From this academic year Annual

academic and assessment calendars have been prepared for the district by core team of teachers.

Separate login have been created for members of SMC (Parent teacher association) through which they are to verify the data independently to avoid data forging by teachers. Parent friendly school report card is being prepared to facilitate monthly SMC meeting and 4 *palak balak smeelans* to be held to involve parents in children's learning process. We have some plans to instill the sense of inter-village competition to achieve better enrolment, attendance and learning outcomes.

To bring the Orientation of Sarpanches and PRI members towards education, from this year monetary incentives are also to be the part of the programme, as it is also the most effective tool to motivate the people. The incentive is for top 100 better performing schools, top 10 out of 54 clusters and top 8 Gram panchayats out of 112, at all three level, monetary rewards is being given on the basis of the results after every quarterly test. Grading mechanism of the schools has been devised on the basis of learning outcomes of the students of that school, student's attendances, teacher's attendances and SMC (School management committee) activeness. Thus 4 times(after every formative exams) in a year some hefty amount in the form of the reward will be given schools, clusters and Gram-Panchyats so that they can spend these amount at their own will for the improvement of their school's infrastructure and education. To strengthen and improve the activity of SMCs, some features have been added in the mobile app for the purpose of monitoring and redressing their grievances at time.

क्र	ग्रेड विवरण	प्रोत्साहन राशि	स्कूल की संख्या	कुल राशि
1	O	30,000	10	3,00,000
2	A+	25,000	15	3,75,000
3	A	20,000	20	4,00,000
4	B+	15,000	25	3,75,000
5	B	10,000	30	3,00,000
	योग		100	17,50,000

SEITRA (Smart Energy Infrastructure and Revenue Administration)

Bihar State Power (Holding) Company Limited

1	**Name of the State / Ministry**	Department of Energy, Government of Bihar
2	**Name of the host / owner organization**	Bihar State Power (Holding) Company Limited
3	**Status of the host / owner organization**	Statutory Body
4	**Name of the Project**	SEITRA (Smart Energy Infrastructure and Revenue Administration)
5	**Name of the Nodal Contact Person**	Suraj Kumar, Electrical Executive Engineer, SBPDCL
6	**Contact Address**	1st Floor, Vidyut Bhawan, Bailey Road, Patna-800001
7	**Telephone / Fax / e-mail**	7763814573/eeeit.sbpdcl@gmail.com

8. Project Summary:

SEITRA (Smart Energy Infrastructure and Revenue Administration) is a major IT initiative in the State's power sector for enhanced e-services. The initiative spans across the Power Transmission Company, BSPTCL, Power Distribution Companies, SBPDCL and NBPDCL for all its offices and consumers across Bihar State. SEITRA, is an open source platform system built in-house by the State Energy Department under the technical support of National Informatics Centre (NIC).This integrated solution entails mainly Mobile app based four major components- GIS based Infrastructure Management, door-step Electricity Connection, Spot Billing and Spot Collection using virtual-wallet.

GIS based mapping of electrical infrastructure and consumer indexing has enabled the transmission company and the DISCOMs to efficiently plan GSS / PSS and feeders based on load centers analysis to effectively reduce feeder losses. Adopting completely paperless process based on mobile app to provide new service connections under DDUGJY/ Saubhagya and Mukhya Mantri Vidyut Sambandh Nischchay Yojna to APL/BPL families in rural Bihar within the shortest possible time and serving their first bill in the immediate next billing cycle has empowered the rural families to access quality power. The last mile innovation of door step real time spot billing and payment collection has also added value to RURAL consumers as well as DISCOMs. Due to the cumulative efforts of ICT on various fronts by the power companies a major reduction of 7-8% in the AT&C losses was achieved for the current FY 17-18 as compared to FY 16-17. These IT based initiatives have set a leading example for the rest of the country.

9. Date of Launch of Project: The project was launched in June 2015

10. Coverage (Geographical): All 38 Districts and 534 Blocks of Bihar are covered

11. Beneficiary of the Project:

Bihar State Power Transmission Company Limited, South Bihar Power Distribution Company Limited, North Bihar Power Distribution Company Limited and Electricity Consumers of Bihar State.

12. Problem statement or situation before the initiative:

- Infrastructure Development- unavailability of Geographical and spatial layout of electrical assets and network layout leading to:
  - Sub-optimal planning of new projects leading to cost escalation.
  - Improper planning leading to lengthy feeders causing high technical losses
- Delayed New Connections and accumulated first billing:
  - Manual document and dues verification process taking average 3-6 months for to release a new connection
  - Delay of more than 6 months for more than 80% rural consumers to be brought into billing cycle
  - Non-regularization led to no billing for initial period followed by serving of a huge bill of arrears leading to poor collections, threating the viability of investment behind electrification
- Poor Revenue Administration:
  - Table/ fake Reading in lack of a proper system finally leading to a disputed bill
  - Lack of control on Billing agencies due to Multiple billing agencies with different platforms leading to security risks and isolated operations.
  - Manual collection system causing delayed/wrong posting or sometimes non-posting of collection leading to consumer dissatisfaction
  - No control over collection agents on deposit of collection amount due to lack of actual collection data.

13. Project Objectives:

Major project objectives are below:

- Ensuring 24X7 power supply through proper planning of Load Centres and reliable Power network
- 100% electrification of households.
- Release of connections in a transparent and simplified way with minimal delay.
- Immediate inclusion of Consumer into Billing cycle after issuance of new connection
- On spot bill generation with actual meter readings
- 100% delivery of bills generated
- Generation of quality bills

- Increasing consumer touch-points for payment of Electricity Bills
- Real-time monitoring and control system for New connection, Billing, Collection and other allied activities
- Reduction in Technical & Commercial losses

The years 2014 and 2015 saw a quantum jump in the cumulative no. of consumers of the two Distribution companies (Discoms), which allowed them to shift focus from the rapid ongoing electrification drives, to the operational efficiencies of the two companies. It was assessed that the billing mechanism, except for R-APDRP areas which was completely under three outsourced billing agencies, were the bottleneck preventing them from realizing their revenue potential from consumers. The billing mechanism was completely manual, wherein meter readings were handed over in hard copies / excel files to the billing agencies, which then printed manual bills and distributed them to consumers. The problem with this was that there was no review or quality control mechanism from the Discom's side in the process. As a result, the energy consumption for consumers was recorded through table readings. It was estimated that only 10% of bills were generated on actual or OK meter readings at the time, and the rest were billed on average with most bills containing errors and a large portion of the bills remained undistributed. This was evident by the fact that the Billing agencies managed to distribute bills of 100% consumers within a week's time, which is practically impossible with due date of all consumers on the same date viz. end of the month. Sample surveys also proved that only 50% of the consumers in fact received their bills timely. There were also several errors and discrepancies in the billing software's used by the three agencies (each agency had its own proprietary software). This created a vicious circle wherein the bills were erroneous. The consumers either disputed the bill or did not receive it, which led to accumulation of arrears. Finally further inflating the consumer bills (rendering the consumer almost incapable of making payments) putting a major dent in the Discom's finances.

14. Project Scope, Approach and Methodology:

With an objective to ensure 24X7 power supply, accelerate household electrification and reducing losses, ***GIS and Mobile based Infrastructure Management***, has been developed. The initiative was designed primarily to tackle challenges of unavailability of spatial representation of electricity network, project cost escalations due to sub-optimal planning, inadequate network capacity and improper planning leading to lengthy feeder lines and thus high losses. Therefore, a comprehensive solution with GIS tagging of GSS & PSS, logical feeder

Figure 1: GIS Mapping - Features

restructuring (with similar category loads under one feeder) and creation of new feeder lines has been implemented. Further, mapping of consumers to their respective distribution transformer has been implemented to identify loss pockets and improve operational performance of the distribution utilities.

The second key initiative under SEITRA has been revamping of the new ***electricity connection process with the help of a mobile app***. With the accelerated addition of consumers to the electricity network under various schemes such as the Mukhya Mantri Vidyut Sambandh Nischchay Yojna to APL/ BPL families in rural Bihar, DDUGJY, Saubhagya etc., It became crucial to bring the consumer within the billing net in the shortest possible time. By serving their first bill in the immediate next billing cycle to enable them the access to quality power. The implementation of the mobile app has ensured the release of new connections within 7-9 working days from an earlier average timeline of 3-6 months and tackling its second order effects such as delay of over six months to bring consumers into the billing cycle. Due to non-regularization of consumers, no billing and untimely billing leading to poor revenue collection. The following graphic (Figure 3) captures the mobile app based new connection process.

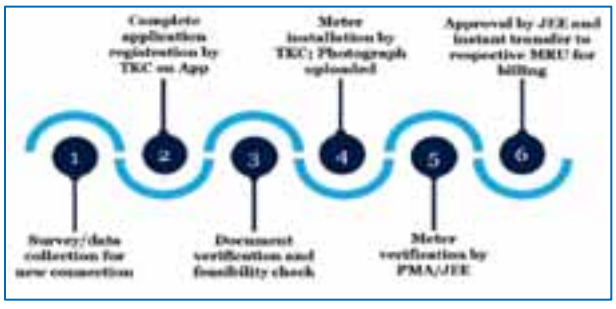


Figure 2: Mobile app based new connection release process

A critical solution that has caught the eyes of other state utilities in India and the third key solution under SEITRA is the ***mobile app based revenue administration*** (spot billing and revenue collection). The solution has effectively reduced billing errors and made monitoring of multiple billing agencies seamless to drive efficient operations with the use of a standard mobile app and spot billing machine. Due to this for on-the-spot and online consumer bills were generated for all meter readers. The solution has completely eliminated manual meter reading, replaced with meter reading unit (MRU) and geo-tagged photograph of meter reading. In addition to, online bill generation, an SMS is also sent to the consumer instantly.

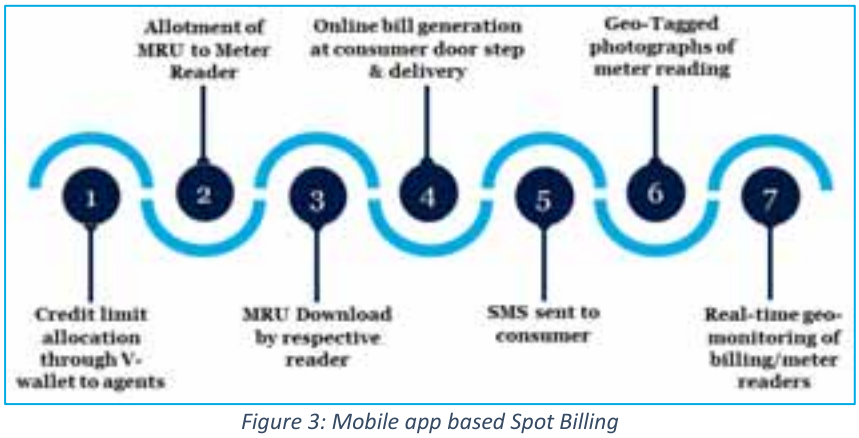


Figure 3: Mobile app based Spot Billing

This in-house developed solution, has a long and arduous history laced with continuous rounds of testing, pilot implementation, and evolution. The evolution process started in

2015 with the customization of a legacy software earlier used for billing in the PESU area, with support from NIC, which took nearly 3 months. The interesting fact about this software is that post it's decommissioning in 2012, this had been adopted by NIC in Silvasa for billing in Dadar and Nagar Haveli. In 2015, this again came back into the eyes of the Discom. This Java based tool integrated with the oracle database, was implemented as a pilot first in Fatuha and Hajipur. Roles and responsibilities were properly defined, due-dates were scattered, a provision of 10 days was given for distribution of bills, and consumer books/ledgers were reorganized to balance equal no. in each ledger grouping consumers in the same locality together. This refined billing system was handed over to the billing agencies to ensure reduction in billing errors. However the issues of table meter readings and untimely bill distribution still remained. The problem of collection it had been tackled to some extent through the implementation of RRFs by this time. Through subsequent multiple rounds of discussions and testing, a mobile based spot billing app was developed with features of meter reading, uploading of image on site, bill generation through a Bluetooth printer and distribution of bill to the consumer. A key feature was the ability of the app to record the GPS coordinates, which ensured that meter readers actually visited consumer premises for meter reading. The app was tested throughout 2016 and towards the middle of 2017, spot billing agencies were hired for billing through this in-house mobile app for all the non R-APDRP areas. The results have been promising with a significant increase in billing efficiency, and a reduction in average billing. One of the most important impact, has been on revenue collections, due to the delivery of timely bills. Consumers are also willing to make regular payments to avoid the pressure of one time payments of huge accumulate arrears.

On the revenue collection side, although doorstep cash collection had been implemented through RRFs and subsequently through Spot Billing Agencies in the non R-APDRP areas, a few challenges still remained. There was generally a huge delay between the time when the revenue was collected by the RRF from consumers and the time it was deposited with the Discom. There were in fact multiple cases reported wherein frauds were detected for the misuse of the revenue collected from consumers. To resolve this issue, the feature of v-wallet, and now e-wallet, was introduced wherein the cash collection agency first deposited a credit with the Discom, and it was then allowed to collect cash receipts only to the extent of the credit. The mobile app based revenue collection has led to massive collection efficiency improvements with the monthly revenue collection having doubled from INR 96 Crores in April 2017 to INR 190 Crores in December 2017. Increased

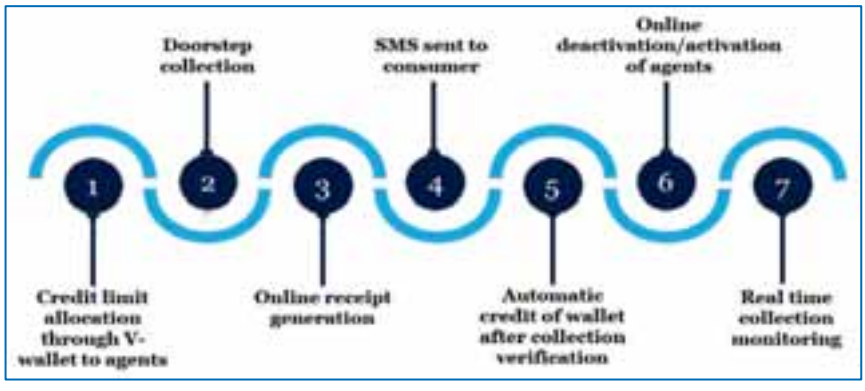


Figure 4: Mobile app based revenue collection process

revenue collection may be attributed to introduction of multiple models of payment such as online portal, integrated ATP machines, m-POS facility at consumer doorstep, UPI/BHIM/e-wallets, online recharge (for prepaid meters) and a discount of 2.5% in the bill to promote digital payments. Following graphic (Figure 5) captures the mobile app based revenue collection process.

15. Result achieved/ value delivered to beneficiary of the Project and other distinctive features/ Accomplishments of the Project:

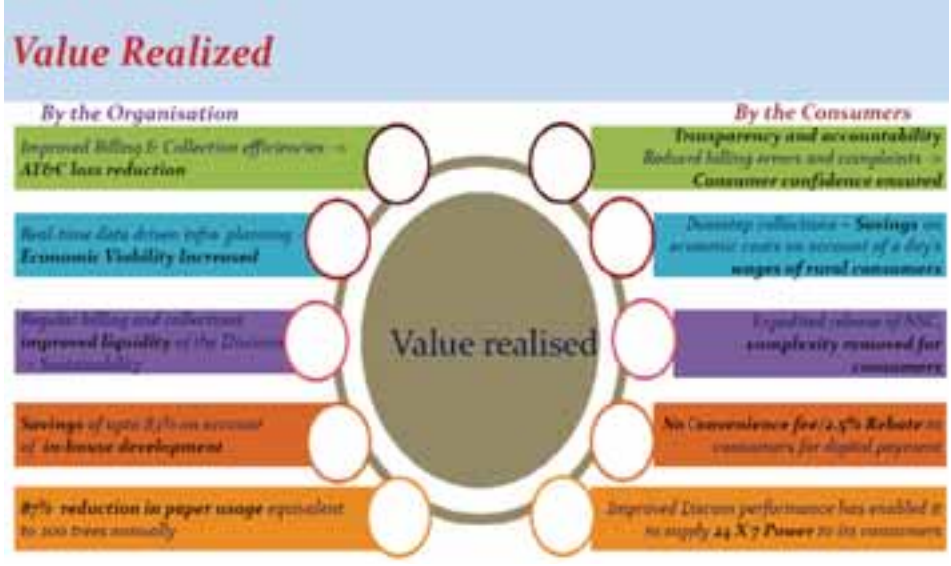
SEITRA initiative has contributed significantly to some of the key efficiency and reliability improvement in power sector in the State such as lower AT&C losses, increased average hours of supply and an increased monthly revenue collection as below:

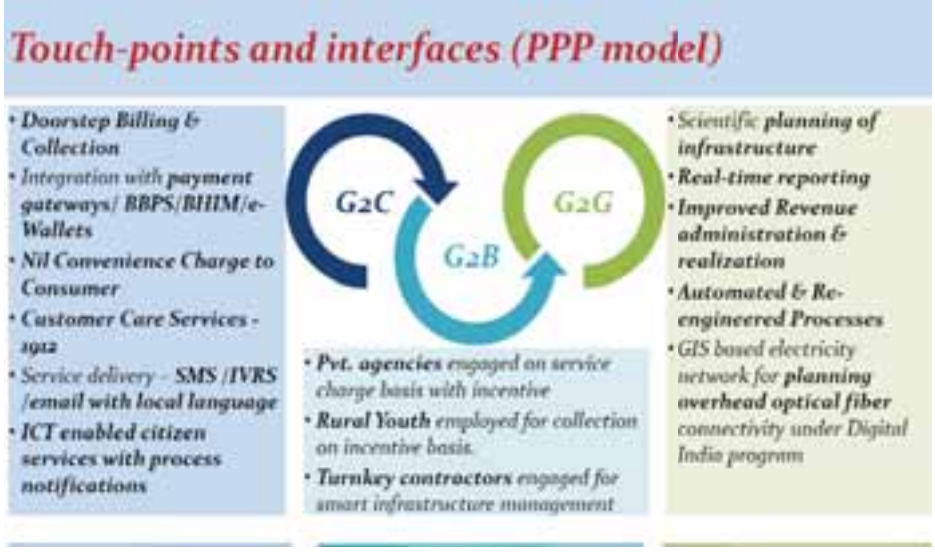
Year	AT&C loss (in %)	Average hours of supply of power	Monthly revenue collection (in INR)
2014-15	46%	10-12 hours	364 Crores
2017-18	34%	16-18 hours	650 Crores+

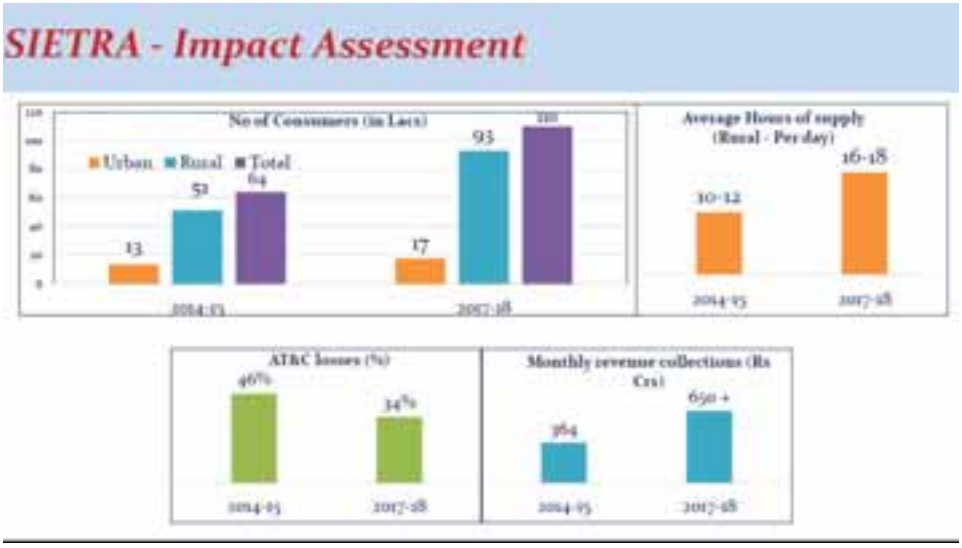
The higher order benefits of SEITRA include improved sustainability and efficiency of State distribution utilities and enhanced economic viability with real time data driven infrastructure planning. The paperless operation of Government has led to 87% reduction in paper usage (equivalent to 200 trees) and a whopping saving of 83% in the State account pertaining to in-house development. More than the State, SEITRA has led to massive consumer engagement and trust building through enhanced transparency. The simplification of billing/collection and multi-mode payment mechanism has led to satisfied and delighted electricity consumers in the State.

This has led to manifold appreciation of the initiative with visits by Ministry of Power, Government of India, REC (Rural Electrification Corporation) along with sixteen states, especially to study of the re-

engineered process of new service connection. The initiative is in synergy with and supplements national e-Governance projects such as DDUGJY, Saubhagya and UDAY. The road ahead for BSPHCL is to leverage the existing systems, and spear head IT enablement in the power sector by optimizing the use of the GIS enabled Smart Infrastructure in Operations & Maintenance, reducing turnaround time; moving to 100% online based bill generation, distribution and cash collection; upscaling and integrating with SCADA – Unmanned sub-stations and fully automated Operations; implementation of Smart Metering for real time monitoring of n/w and revenue performance; and continuously bring in new products such as mobile app for managing electricity connections for consumers, mobile app for defective meter replacement, real time and geo-spatial tracking of meter readers, etc., to enhance overall operational efficiency as well as quality of service for its consumers.







16. Future Proofing/ Longevity of the Project :

SEITRA has been developed on open-source platform using JAVA / Android at front-end and Oracle as Database. Hosting has been done on BSP(H)CL owned Data Centre with all hosting environment under FMS. A team of around 20 developers led by steering-cum-monitoring team including Database Administrators, Chief Database Administrator, domain experts and representative from Revenue and other Business Departments looks after the up-coming development as well as regular case analysis and system health monitoring to keep on mitigating the challenges arise on shortest span of time. Many new mobile based developments for Meter replacements, Agriculture connections and re-conductoring have been added recently whereas we are on the verge of completion to integrate with pre-paid/ smart metering and system. Apart from these. The below chart shows the major steps taken for sustainability, scalability and longevity of the project.

SEITRA - Scalability & Sustainability

Scalability

- **Proposed investment** (~250 Crores) in Smart meters & ICT Infra Development
- **Spot Collection System** being linked with banks for cashless transactions
- Current Version – can be **replicated by utilities with customization** in other states as well
- **Self Assessment billing** by Consumers
- **Compatible with Prepaid/Smart metering** systems
- **Integration with SCADA/DMS** systems
- Scheduled **GIS based smart Operations** and Maintenance

Sustainability

- **Monitoring** of project from **highest level of Governance**
- **IT cadre** of trained **1100+** manpower
- **Dedicated Core team** to support and maintain applications
- **FMS support** for all devices and applications
- **Capacity Building** 20,000+ manpower
- Mobile based **Training to all JEEs, Lineman and Helpers** on GIS electrical network survey
- Equipped all officers with **android based mobile/tablets**

SAMRAKSHANE

Government of Karnataka & National Informatics Centre

1	**Name of the State / Ministry**	Karnataka
2	**Name of the host / owner organization**	Government of Karnataka & National Informatics Centre
3	**Status of the host / owner organization**	e-Governance Secretariat for Department of Agriculture. Govt. Of Karnataka
4	**Name of the Project**	SAMRAKSHANE
5	**Name of the Nodal Contact Person**	Mr. Rajeev Chawla, IAS
6	**Contact Address**	Room No. 106, Ist Floor, Gate No. 2, M.S. Building, Bengaluru- 560001
7	**Telephone / Fax / e-mail**	080-22353953 / 22032633 / 9448361600, acsegov@karnataka.gov.in rajeevchawlaias@gmail.com

8. Project Summary:

Agriculture in Karnataka is prone to variety of risks, more than 66% percent of Agriculture area dependent on rain fed system. Karnataka has been continuously reeling under drought for six years and in last 16-year nature has been kind only 3 times. 78 % farmers are small and marginal and therefore suffer much more from such risk. Climate change is adding to the complexity of the problem.

It is in this background that efficient Crop Insurance system; acquires much more relevance and importance. A well designed Crop Insurance system which is transparent and quick in providing relief largely de-risk the farmers and helps in even catalyzing private investment / capital formation in Agriculture sector.

The coverage of Crop Insurance Schemes in Karnataka has been one of the lowest amongst other States. The average number of farmers covered has not exceeded 15% in Kharif and 30-40% in Rabi with most of the covered farmers are as loanee farmers (65% of total insured farmers). The reasons are not difficult to understand. The involvement of Agriculture and Horticulture Department in Scheme implementation was minimal with its role largely limited to issue of Crop Insurance notifications and release of some advertisement. District administration involvement was minimal. The insurance agencies worked with banks and a very opaque and closed system existed with no information on details of covered farmers, the lands or the crop was available with the State Govt.

The system of Crop Cutting Experiment was again extremely neglected and opaque. Manual system ensured that yield data came as late as three months after crop harvest was over with no way for any stakeholder including farmers to verify or challenge the correctness of data. The claim settlement was always delayed by months together. There was no way for Government or farmers to know which all farmers got the claims and when they actually got the money into their bank account.

After understanding the above serious short comings as detailed above, it was decided

to work towards evolving an e-Governance solution called "Samarakshane"

- To create a transparent and farmer friendly system for enrolment, registering claims, compensation calculation and payment of compensation to farmers under the Crop Insurance Schemes
- To simplify and speed up the disbursement of claims within 8 to 12 weeks from the harvest date and credit the same directly into the farmers Aadhaar linked account
- To facilitate transparent conduct of crop cutting experiment involving all stakeholders and publishing the videos and photos of the conducted experiments
- To prevent people from misusing the scheme by registering for crop insurance enrolment on land belonging to others, OR by registering multiple crop insurance enrolments on their own land, OR for registering for crops which have not been planted
- To capture digitally the Term Sheets used for payment calculation in RWBCIS on online database and to use weather data available in electronically form from Karnataka State Natural Disaster Management Centre (KSNDMC) in pay-out calculation

9. Date of Launch of Project: 30th June 2016

10. Coverage (Geographical): All 30 district of Karnataka with 100% coverage

11. Beneficiary of the Project:

Farmers – Get Insurance Policies, State Government (Department of Agriculture, Department of Horticulture and Directorate of Economics & Statistics), Central Government, Banks & Financial Institutions and Insurance Cos. – Farmer Policies automated

12. Problem statement or situation before the initiative:

- Non farmer friendly opaque system:
  The system discouraged the farmers from enrolling into the programme. They did not know where to go, bankers were indifferent and there were no other service delivery points. There was no way for farmers to find out which crop were notified in his village and what was the premium to be paid.
- Badly delayed Insurance settlement:
  It was extremely inefficient system. The Kharif 2015 was settled during June to December 2016. The manual system paid him much after he had taken loan at high interest and sown his next Kharif crop.
- Threat of application of acreage reduction factor:
  Manual system facilitates bogus registration by unscrupulous elements in name of farmers. These elements would find out which farmer is not registering his crop under the programme and would steel his identity and register in his place and put owns bank account number. Further some farmers used to register multiple times as there was no check. Farmers/elements needed to pay only highly discounted premium while remaining premium came from Government. With heavy outgo from Government towards its share of premium, on the other side, the real farmers only got fraction of the crop loss towards insurance settlement, as "acreage reduction factor" was applied resulting in reduction in payment if area enrolled under a crop exceeds total sown area in a insurance unit.
- Manipulated crop cutting experiments:
  Farmers alleged that many CCE were rigged or manipulated. Complaints were that the touts/ middlemen manipulated the yield as per their needs. The experiments trails

(video or photos) were just not available infact it was not even possible to know whether they were conducted or not – Insurance companies were unhappy, farmers were unhappy and Government was also unhappy!

13. Project Objective

- Transparent and farmer friendly system of registration by farmers under the Crop Insurance Scheme (both PMFBY & MWBCIS).
- Disbursement of payment of claims directly into the farmers Aadhar linked account under intimation to them.
- Transparent conduct of crop cutting experiment involving all stakeholders and publishing the videos and photos of the conducted experiments.
- To prevent unscrupulous people to misuse the scheme by registering request on others land or by registering multiple time on their own land or by registering for crop which they have not grown.
- Involvement of the District Collectors in more coverage of the farmers and faster settlement of claims.
- To capture digitally the Term Sheets used for payout calculation in WBCIS on relational database and to use weather data picked up electronically from Karnataka State Natural Disaster Management Centre (KSNDMC) for automating payout calculation.

14. Project Scope, Approach and Methodology

- The crop Insurance registration form was redesigned keeping in mind the IT system and giving objectivity
- The farmers were given the freedom to go to any bank for registration, VLEs (Village Level entrepreneur) of CSC (Common Service Centers) or even RSKs.
- Demographic authentication of Aadhar number versus proposer name using AUA services of NIC to ensure farmer provides correct aadhar number.
- The CCE random number generation for deciding the location of the plot was fully automated reducing about two months of drudgery for finalization of 90,000 experiments
- To bring fairness through unpredictability on which CCE would be carried out, the IT system created a buffer of four say nos with primary worker being told only towards the end as to which say no the CCE has to be conducted
- To ensure that Insurance amount goes to the actual land owners and not to unscrupulous elements (even if they ended up imitating the farmer) it was decided to do Aadhaar enabled payment much to discomfort of many.
- It may be pointed out that no outsourced vendor was used for software writing, training or help desk. The Government organizations capacity was increased though continuous trainings, motivation.
- Multiple WhatsApp groups were created at State and district level with Additional Chief Secretary participating and answering queries in each of the groups

15. Result achieved/ value delivered to beneficiary of the Project and other distinctive features / Accomplishments of the Projects

- Increased coverage of farmers: After getting stabilized during kharif 2016 the results of Samrakshane are very clear on the ground. As against rabi 2015 coverage of just 3.23 lakh farmers (appox. 30%), the coverage during rabi 2016 is 13 lakh which is about 400% more. The efficient hassle free and quick registration process for farmers saw coverage of non loanee farmer jump from 2.99 lakh to 11.5 lakhs which is 300%

increase. The non loanee farmers reposed full confidence in the transparent system including the fully revamped and transparent IT enabled crop cutting experiment system. The Prime Minister's vision of 50% coverage was so hugely surpassed with coverage of more than 90% in rabi 2016. The farmers whole heartedly embraced the system.

- Easy detection of bogus registration: The Samrakshane system has facilitated deployment of field workers armed with power of enrolment data onto smart phones. While the system has facilitated genuine farmers to easily enroll under the scheme, it would equally easily help Government to detect the only one possible mischief which can be played with the system: insurance of the crops which farmer has not grown. The pilot in Kharif had showed how easy it is to find out such unscrupulous elements who were playing with the system. Thus on one side the system rewards honest farmers, on other side it prevents any foul play- thanks to timely availability of enrolment data with crop information when crop is actually standing in the field.
- Settlement of Kharif claims in two Gram Panchayats (Insurance Units) of Bidar district in Dec 2016 itself

  Samrakshane proved its worth when State Government was able to settle Kolar (K) & Chitta GP claims of 426 farmers within three months of CCE being over. Incidentally Kharif 2015 payment in respect of these two GPs was done in 13th January 2016. This was lightning speed. These farmers would have got the money in the month of November 2016 had they sold their produce in the market. This was what samrakshane had promised to itself and farmers. Claims of all farmers would be settled in next 15 days.

16. Future Proofing / Longevity of the Project

Government of Karnataka has made it mandatory that all the activities like issue of notification, enrolment, settlement etc., need to be done only on Samrakshane portal and insurance companies have been advised to accept the enrolments received from Samrakshane and not to entertain manual proposals. Project has stabilized and successfully running since Khariff 2016.

Remote Sensing and GIS Based Mapping for Water Supply and Sanitation (WSS) using High Resolution Satellite Data

Maharashtra Remote Sensing Application Centre (MRSAC), Department of Planning, Government of Maharashtra & Water Supply and Sanitation Department (WSSD), Government of Maharashtra

1	**Name of the State / Ministry**	Government of Maharashtra
2	**Name of the host / owner organization**	Maharashtra Remote Sensing Application Centre (MRSAC), Department of Planning, Government of Maharashtra & Water Supply and Sanitation Department (WSSD), Government of Maharashtra
3	**Status of the host / owner organization**	Maharashtra Remote Sensing Application Centre (MRSAC)- An Autonomous Body under Department of Planning, Government of Maharashtra & Water Supply and Sanitation Department (WSSD), Government of Maharashtra
4	**Name of the Project**	Remote Sensing and GIS based mapping for Water Supply and Sanitation (WSS) using high Resolution Satellite data for Maharashtra state
5	**Name of the Nodal Contact Person**	Dr. Vivek M. Kale Scientific Associate and Project Head Maharashtra Remote Sensing Application Centre (MRSAC), Nagpur
6	**Contact Address**	Maharashtra Remote Sensing Application Centre (MRSAC), VNIT Campus, South Ambazari Road, Nagpur – 440010, Maharashtra, India
7	**Telephone / Fax / e-mail**	Phone No. 0712-2220086, 2238576 Mobile No.:- 09423682098, 09763046961 Fax- 0712-2225893 Email - vivek.kale@mrsac.maharashtra.gov.in, info@mrsac.maharashtra.gov.in

8. Project Summary:

Water is most precious natural resources for the planet earth and essential for human and other living organisms, industries, agriculture, etc. However, with increasing demand day by day, and limited natural resources, pressure is mounting towards conservative, efficient and effective use of this precious natural resource. Judicious planning in supply of water source and its distribution to all habitations is a challenging task.

In this endeavor, the latest innovative technology of Remote Sensing, Geographic Information System (GIS), GNSS (Global Navigation Satellite System, e.g. GPS,

GLONASS), Mobile and Web GIS has opened up the new vistas of adopting geospatial database for effective planning, execution, and management of drinking water supply schemes. Thus, there was a strong need for a decisions support system, which can perform the Government process re-engineering to effectively support the decision/policy makers in a centralized tool depicting the resources scenarios of the cases under consideration, thus bringing transparency.

9. Date of Launch of Project: 4th February 2016

10. Coverage (Geographical):

State Wide Application with delivery availability at 6 Divisions, 34 Districts, 351 Blocks spanning the wide area of 3, 07,690 sq. km. The application has used the geospatial technology (RS, GIS, GPS & WebGIS) which reaches up to the grass root level through the Water Supply and Sanitation (WSS) department, Government of Maharashtra. About 41207 villages and 1, 00,543 habitations are being catered by the digital database.

11. Beneficiary of the Project:

Water Supply and sanitation department, Government of Maharashtra is the principal beneficiary of the project. The WSSD caters to the need of drinking water supply for more than 100543 habitations through rural drinking water supply schemes.

More than 643144 GIS assets pertaining to 592 Regional Rural, 64647 Pipe Water Supply and 283901 Spot Schemes are mapped using "Jalsurksha" mobile app, hence the officials and citizens covered under the schemes are the secondary beneficiary.

The Geodatabase generated in project is very vital input for decision/policy makers. The precise and correct drinking water feasibility and scarcity report can be generated from the digital database. Hence the apex official hierarchy of the State Government is the tertiary beneficiary. This system has a major role to play in future utilization of advance technology, which can replace the conventional and time taking systems thus bring more transparency in the overall operation of the department, and server the citizens with timely and effective management system.

12. Problem statement or situation before the initiative:

Despite the fact that there are well defined rules set by the Government for construction and maintenance of rural drinking water supply schemes, the technology for effective implementation of the rule-sets was missing. The situation before the execution of the present initiative was challenging as the time delays and decisions in pending cases were proving as bottlenecks in the Government machinery. Construction and maintenance of rural drinking water supply schemes carried out by various departments varied in its own way and lack of coordination amongst the offices of the department further aggravates the situation. The conventional approaches using the human dependencies and age old methods of planning and execution of rural drinking water supply schemes have its own limitations. Government machinery was desperately on outlook for any technology solution, which can overcome the above difficult situations and speed up the overall process of maintenance, monitoring, and management of the schemes.

Moreover, the quality of the drinking water is always an issue for health. Timely monitoring

of the water quality and its deterioration, if any, will allow the administration to take appropriate step. The present system takes long time for integration and analysis.

13. Project Objective:

The principal objectives of the project are:

- Mapping of all water supply Schemes from the source to the stand post using RS, GIS, GPS & Mobile technologies.
- To evaluate and standardize the Water Supply Schemes Geo-spatial database.
- To design, develop and implement GIS based Mobile application for field level Water Source locations and its allied asset data collection, in a standardized and Integrable format.
- To store and maintain Geo-spatial database on a central server of State Data Centre (SDC), Government of Maharashtra, Mumbai.
- To develop a web browser based GIS application in Geo-portal, for seamless accessibility in G2G and G2C domain.
- To integrate existing 'Management Information System (MIS)' database of WSSD and the geospatial technology based Geodatabase with Natural Resources and Administrative Database available with Maharashtra Remote Sensing Application Centre through Web Services.
- To design and develop an online mechanism of water quality data collection, laboratory analysis and map preparation using mobile and web technologies.
- To design and develop an online Redressal system for monitoring and management of the water supply schemes using mobile and web technologies.

14. Project Scope, Approach and Methodology:

The mobile application (Jalsuraksha) developed by MRSAC to assists the field officer to map the location of the scheme using GPS and Mobile technology. Further, the geo-tagged photograph of the scheme and its related assets are being captured. All drinking water supply schemes from source to sink are mapped in the GIS domain as point and line feature. The inputs are collected on server and are converted to geo-database and further made available for GIS analysis and query. The water sample collection for pre monsoon and post monsoon using geofencing concept in Mobile is being used by the department. This method has proved a vital point in authentic input for the water quality mapping thus providing quick outputs for the decision/policy makers. The web based management information system has been developed as a decision support tool for daily operation and maintenance of water supply schemes. Creation of Query builder and analysis module, generation of digital key plan, generation of water quality map based on water sample collected by geofencing concept for pre and post monsoon season comes as a handy tool for management of the schemes. Periodic changes in the drinking water supply schemes and its related assets are being updated using this geospatial technology, at appropriate interval.

The roll out method which utilized the modern technology is spelt out in the flow chart below:

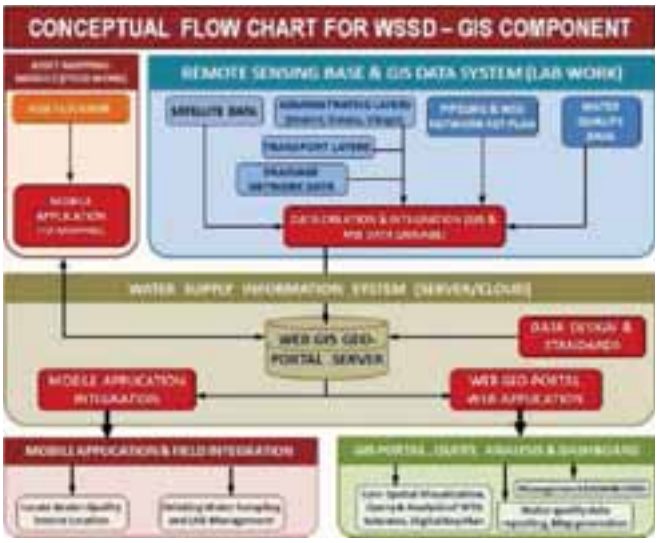


Figure-1: GIS work Flow chart for Water Supply Schemes project

15. Result achieved/value delivered to beneficiary of the Project and other distinctive features/Accomplishments of the Project

Result achieved: The mammoth task of GIS asset mapping has been completed in record time using the "Jalsuraksha" mobile App. The details are as follows:

- Total GIS Assets mapped Point (as well as Line) - 643144 assets which include 335907 drinking water sources.
- Total Schemes mapped were for 34 districts of Maharashtra state.
- Total Number of schemes mapped are- 592 Regional Rural schemes, 64647 Pipe Water Supply schemes and 283901 Spot Schemes.

Figure 2: Jalsuraksha Mobile application for WSSD Asset mapping.

The Web Geo-portal is designed for viewing the various drinking water supply schemes and its related assets & its attributes, catering the need of drinking water to all villages/habitations pertaining to Maharashtra State. The thematic and administrative layers can be overlays for better visual perception to the decision/policy makers. Furthermore, these modules facilitates

the generation of drinking water supply scheme 'Digital Key Plans' for the users' area of interest.

Figure-3: WSSDWeb Geo-portal showing the mapped drinking water schemes (red line raw water, blue line is treated water in the water supply scheme)

The voluminous water supply scheme data of the department was organized in a standardized manner during the course of the project. All assets and drinking water sources, especially the spot source, in the habitation was mapped. Many unrecorded assets were also mapped with their location information for the GIS visualization and analysis for water quality assessment. Presently all schemes with their 'Digital Key Plan' and their operation location are readily available centrally on Web GIS portal.

Figure-4: Digital Key plan of regional scheme generated in WSSDWeb Geo-Portal.

The Statistics module is designed for displaying detail and abstract report for different asset status, scheme category, scheme type, sources type, etc. for the district as well as block wise.

Figure-5: Statistic Module for monitoring the day to day activities and reporting

'GeofencingWSSD' mobile application has been developed for collecting accurate and reliable water sample from sources and related assets of drinking water supply schemes using geo-fencing concept.

Figure-6:'GeofencingWSSD' mobile application for accurate water sample collection.

With regards to the drinking water quality management, near real time water quality sample collection, LAB data submission, LAB analysis and quality assessment and its depiction as spatially distributed maps has been incorporated into the GIS system under easy of doing work/business.

To integrate the existing MIS database of WSSD and GIS asset mapping Geodatabase, MIS & GIS Linkage was establish through Drinking Water & Sanitation Informatics Division, National Informatics Center, New Delhi.

Figure-7: MIS & GIS Linkage of the water supply schemes.

Water Supply and sanitation department, Government of Maharashtra is the principal beneficiary of the project. The WSSD caters to the need of drinking water supply for more than 100543 habitations through rural drinking water supply schemes.

Value delivered to beneficiary of the Project

I. To Organization

The voluminous water supply scheme data of the department was organized in a standardized manner during the course of the project. All assets and drinking water sources, especially the spot source, in the habitation was mapped. Many unrecorded assets were mapped with their location information for the GIS distribution and analysis for water quality assessment. Presently all schemes with their 'Digital Key Plan' and their operation location are readily available centrally on GIS portal.

With regards to the drinking water quality management, near real time water quality sample collection, LAB analysis and quality assessment and its spatial distribution has been incorporated into the GIS system for easy of doing business.

II. To Citizen

The most vital component i.e. WATER is to be provided efficiently and without any contamination to the citizens. The system allows the citizen to know the schemes that supply water to their households along with the quality of the water. The citizen can also act as a watchdog by using the Redressal System developed for effective monitoring and management of drinking water supply scheme assets.

III. Other stakeholders

Ease of decision making and effective monitoring of the drinking water supply schemes and its related assets can be shared to other departments in the geospatial domain. The surface and ground water monitoring department can understand the actual usability and requirement of the water in the habitation. In case of adverse water quality and quantity of the source, new alternative source can be planned out using this data. Further the billing of the schemes

can be taken up by the authority.

Other distinctive features/Accomplishments of the Project

- Unique Identification No. (UID): The Asset Unique Identification No. (A-UID) for each asset, the user needs to note this code for any future requirement. IMIS scheme coding and Asset code excel file are used for generating the code. The unique code is generated on the basis of "S" for existing schemes or "N" for new schemes (1digit) + SchemeId or HabitationId (7 digit) + Asset code (4 digit)+ Counter (3digit). For Example, the unique code for existing scheme: S+0450094+2601+106 = S04500942601106, Where "S" is for existing scheme, "0450094" is scheme Id, "2601" is asset code for Elevated Storage Reservoir (ESR) and "106" is auto incremented counter. The unique code for new scheme: N+0601165+2202+1 = N060116522021, Where "N" is for new scheme, "0601165" for Habitation ID, "2202" is Bore Well with Hand Pump and "1" is auto incremented counter.
- Asset Mapping: Total Number of schemes mapped: 592 Regional Rural, 64647 Pipe Water Supply and 283901 Spot Schemes. An additional unrecorded spot source asset to the tune of 213901 assets was mapped and documented.
- Pipeline mapping using GPS technology
- Water sample collection through Geofencing concept
- Water quality parameter range customization
- Mobile/Tab Based complain Redressal System

16. Future Proofing/Longevity of the Project

The mobile application (Jalsuraksha) developed by MRSAC, assists the field officer to map the location of the scheme using GPS and Mobile technologies. Further, the geo-tagged photograph of the scheme and its related assets are being captured (as location and photographs). All drinking water supply schemes from its source to sink (stand post) are mapped in the GIS domain as point and line feature. The inputs are received on the central server and are converted to geodatabase. These are further made available on web based GIS application for query and analysis. For water sample collection during the pre-monsoon and post-monsoon season, using geo-fencing concept in Mobile is being used by the department. This method has proved a vital point in authentic input for the water source and quality mapping, thus providing quick outputs for the decision/policy makers. The web based management information system has been developed as a decision support tool for daily operation and maintenance of water supply schemes. Creation of Query builder and analysis module, generation of digital key plan, generation of water quality map based on water sample collected by geo-fencing application for pre and post monsoon season, comes as a handy tool for management of the schemes. Periodic changes in the drinking water supply schemes and its related assets are being updated using this geospatial technology, at appropriate interval.

Replicability and Response of the stakeholders:

The entire scope of this project though is being concentrated on the rural and village setups, the same effort can be replicated for the urban enclaves in the country. The model can be replicated in other states and MRSAC is ready to share the technology knowledge and experience for the benefit of the country. The State of Gujarat has shown preliminary interest in replicating the method and technology at their end. The example is continually being

showcased on diverse Government and other platforms to increase awareness about the huge effort. Multiple enquiries are received by MRSAC showing their interest in this useful application. WSSD officials are using the Geodatabase for their day to day activities. The 'GeofensingWSSD' app is being used for the water sample collection and quality reporting. As per the Government mandate, the inputs from the projects are essential for preparation proposal of new drinking water supply schemes in the state.

e-Office

Itanagar Capital Complex, Arunachal Pradesh

1	**Name of the State / Ministry**	Arunachal Pradesh
2	**Name of the host / owner organization**	Itanagar Capital Complex, Arunachal Pradesh
3	**Status of the host / owner organization**	Itanagar Capital Complex, Arunachal Pradesh
4	**Name of the Project**	e-Office
5	**Name of the Nodal Contact Person**	Mr. Prince Dhawan
6	**Contact Address**	Deputy Commissioner Itanagar Capital Complex, Itanagar, Arunachal Pradesh- 791113
7	**Telephone / Fax / e-mail**	Phone Number 0360-2292199 Mobile Number 9436040047

8. Project Summary:

e-Office is a complete digital work place solution for Government offices that is built based on the Central Government Manual of Office Procedure. It provides an effective monitoring mechanism to monitor the performance of individuals, pendency of files, files cleared, files worked on, etc. which was not available earlier. Prior to adoption of e-Office, departments/sections submitted their own reports which could not be cross verified. The digital monitoring mechanism has increased the accountability and responsibility of staffs at all levels and brought about a positive change in the administrative system.

With the implementation of e-Office, the District Administration of Itanagar has brought a radical change in the way the office functions using ICT. Additionally, e-Office has brought about standardization across various departments/branches in terms of creation of file heads, file notings etc.

e-Office is a step forward into an era of paperless administration in Itanagar Capital Complex. It is a Digital Workplace Solution that replaces the existing manual handling of files and documents with an efficient electronic system. Being an electronic system, it has its inherent advantages such as data is stored digitally with audit trails for every transaction being done. Regular backups and Disaster Recovery systems are in place which ensures that Government files are not damaged in case of any mishap. Additionally, this being a web based application, it can be accessed from anywhere via Virtual Private Network (VPN), thereby enabling the ability to work while outside the office premises as well.

Some other distinctive features and Accomplishments of the Project are as follows:

- Seamless integration of various other applications with e-Office.
- Creating an e-environment for the employees.
- Simplifying the future with good infrastructure and increased awareness on computers.
- Paving a way for the transition to a Paperless/ Less Paper Office.
- Searching any employees' details is now on fingertip, the application itself contains a directory for employee search provide their name, designation, office, contact number.
- The Knowledge Management System acts as a central platform for circulating information, notices, orders, etc.

- The office is now a cleaner, spacious place with no heaps of files and paper. As the internet look over delivery of files from one table to another, hence many manpower efforts are saved and are being used in other beneficial work

9. Date of Launch of Project: 16 August, 2016

10. Coverage (Geographical): District Itanagar, Arunachal Pradesh

11. Beneficiary of the Project:

Government of Arunachal Pradesh was consulted before the implementation of project with complete specification and customization needed as per their requirement. The staff of the DC office and NIC were also consulted for early and smooth roll-out of e-Office.
Post implementation for user level satisfaction, feedbacks from departments were taken for further customization and necessary addition of features.

12. Problem statement or situation before the initiative:

The need for effectiveness and transparency in Government processes and service delivery mechanism is a long-felt one. The physical movement of official documents incurs a lot of time and requires a continuous monitoring from desk to desk before the final decision is made by the senior officials. Consequently, many crucial decisions get delayed due to the slow movement of files and/or unavailability or absence of the senior officials in the office for clearing these files. Theft and misplacement of files is also common in the office. The immediate need in this scenario was to have a system where an authorized employee can locate the required documents and/or files in the shortest possible time, update and share them with other relevant users and eventually store them with proper reference. This will make the system not only efficient by speeding up the decision making process but also make the office virtually paperless thereby also contributing to Swachh Bharat Abhiyan.

Conventional manual method of file system in office was consuming time. It was a challenge to store huge amount of old files safely. File tracking was cumbersome and excessive space was consumed by paper files. Further one could not monitor the performance of officials and could not check unnecessary delays in the processing. Moreover, there were many cases of misplaced files or torn/damaged files that put citizens to inconvenience. All these factors led to conceptualization of this project for turning DC office into a digital paperless workplace and hence, e-Office was initiated.
e-File is a workflow based system that includes the features of existing manual handling of files with addition of more efficient electronic system. This system incorporates all stages, including the diarisation of inward receipts, creation of files, movement of receipts and files and finally, the archival of records. With this system, the movement of receipts and files becomes seamless and there is more transparency in the system since each and every action taken on a file is recorded electronically. This simplifies decision making, as all the required information is available at a single point.

As this is a web based application, response time is very fast. Once correspondence /receipt are digitized no physical visit is required as file movement is electronic. Users get file movement intimation through SMS or Email, file/receipts can also be tracked through web based tracking system.

There was immense resistance amongst the office staff to adopt a digital mode of working; however, the following innovative strategies were adopted to facilitate roll-out:

- Multiple hands-on training was conducted for all staff.

- The staff was motivated for behavior change.
- A team of trainers was formed that went from desk to desk in the office and gave individual training to all officials
- A NICSI empaneled vendor was shortlisted for digitizing all old files in a time-bound manner.
- Files once digitized were marked with a prominent stamp <Scan Done> and thereafter were handed over to the record room.
- The DC ensured that files with the stamp <Scan Done> are not accepted by his office physically and all the office branches were mandatorily asked to process it in e-Office.
- This forced the various branches to shift to e-Office immediately.

13. Project Objective:

The objective of the project is a paperless office and paperless table in terms of file movement in Government offices. The main objective is to make the Government functioning more efficient, transparent and accountable.

It will also help in reduction of the huge cost that the offices spend on office stationary.
The project will also help with the correspondences with the citizens, as they can be digitally signed and the citizens can track their files easily and also verify the digitally signed correspondences. The cases of loss of file or file-tampering are done away with, thereby making service delivery hassle free and convenient for citizens.

14. Project Scope, Approach and Methodology:

All files of DC office including land records, leave permissions, service books etc. have been digitized into e-Office.

- Incoming PUCs are digitized and put up in e-Office system
- Workflow/approval process is electronic,
- Database is electronic/digitized
- The correspondence with citizens and other departments is through electronically signed letters.

A Central Receipt Unit was also established in the DC office to accept all paper dak coming from citizens and other Departments and process it in e-Office.
The Digital Signatures were made for all office staff and each office staff beginning with the lowest levels to the highest level was given a computer with working Internet Connection. The staff was also trained to use the e-sign facility as an alternate to the DSC.

The Connectivity is a major issue in the State of Arunachal Pradesh and hence to minimize disruption due to connectivity issues following strategy was adopted-

- Multiple channels of getting NIC connectivity were used viz WiMax, lease line etc.
- Further, VPN has also been made for most of the office staff so that they can access e-Office using public IPs. This enabled the DC office to take connectivity from private vendors such as Airtel, Jio etc.
  Hence, unlike other e-governance projects that are mostly just conceptualized but fail at the implementation stage; in this case, the DC office implemented an off-the shelf solution that brought out transparency and efficiency in the office functioning and also avoided unnecessary time waste in software development.

15. Result achieved/value delivered to beneficiary of the Project and other distinctive features/Accomplishments of the Project

Sl No.	Category	Before e-Office implementation	After e-Office implementation
a)	Service Access points	At every User level	At every User level
b)	Service charges paid by user	0(zero)	0(zero)
c)	Travel cost	Cost to hire Manpower for physical file movement	0(zero)
d)	Indirect cost incurred by user	Cost of paper/note sheet/file cover / printer/ink cartage etc.	0(zero)
e)	Distance required to travel	Office peon/staff have to move the physical file from one desk to other	0(zero)
f)	Mode of service delivery	Manual	Electronic (Web based application)
g)	Green e-Governance	Huge amount of paper/note sheet/file cover are used on day to day basis	No paper consumption, Electricity is required to run computer systems
h)	Revenue collection	0(zero)	0(zero)
i)	Capacity Building	No such training is required	All Officers/staff are trained with hands-on practice for e-Office.

To organization

- Transparency & Accountability has been one of the best advantages brought by e-Office. The documents or the files are preserved forever. There are no chances of the files being misplaced, modified or lost. There is an absolute transparency as anything once written on the file cannot be changed or undone. The files cannot be kept pending as the system is designed to give feedback and monitoring mechanism.
- Quick disposal of files and systematic and timely monitoring of pending files has been the other immediate advantage of e-Office. Exact position of receipts and files are available at any point time to all required employees, which made file tracing lot simpler and easier.
- Instant file exchange: The files can be received within fraction of seconds, which previously used to take number of days. This has also reduced the financial burden related to transport expenditures of the staff moving to and fro with the documents. e-Office gives a Single Employee directory that aids better communication.
- Knowledge Repository: As we know Knowledge is wealth and now using KMS knowledge can be preserved in an organized fashion in KMS (Knowledge Management System), which has a centralized, easily accessible knowledge base for all our employees. Documents like GRs, circulars etc. can easily be accessed through KMS.

- Simplification and standardization of Government processes and procedures, elimination of unproductive/ non-value-adding work, and reduction in paperwork has been other advantage of e-Office.
- Remote usage: Many users work on files remotely when they are away from office through VPN Services. This was not possible earlier.

Achievements

- DC Itanagar office is the only DC office in entire North East to go completely paperless and implement the e-Office solution

Comparative Analysis of earlier Vs new system:

Sl No.		Manual file Management system	e-Office
a)	Access	Difficult to access at all times	Easy to access whenever required
b)	Longevity	Manual files get worn off and can be destroyed/tampered easily by hand	Electronic files are difficult to destroy and can last for a long time.
c)	Size	It is difficult to store hefty amount of information manually.	Large amount of information can be stored and transferred
d)	Type	Manual files can be transported through physical means, very slow movement.	Files are transferred electronically so file movement is fast and efficient.
e)	Tampering	Can be tampered	All transactions are captured with audit trails and cannot tampered for ever
f)	Monitoring mechanism	No such Mechanism	Monitoring mechanism available to track file pendency and users can be made accountable for pending files
g)	Authenticity		Ensure Authenticity of records with use digital signatures
h)	Readiness to Disasters	Fire accidents can cause loss of physical files, which can never be retrieved. Important decisions, files that can impact citizens or Government can be hampered due to loss of files.	e-Office as an alternative to physical file movement, will leave no chance for loosing files in disasters. The cloud wherein all data is stored also has a Disaster recovery

			backup.

Fig 1: e-Office dashboard showing the status of files and papers that have been digitized

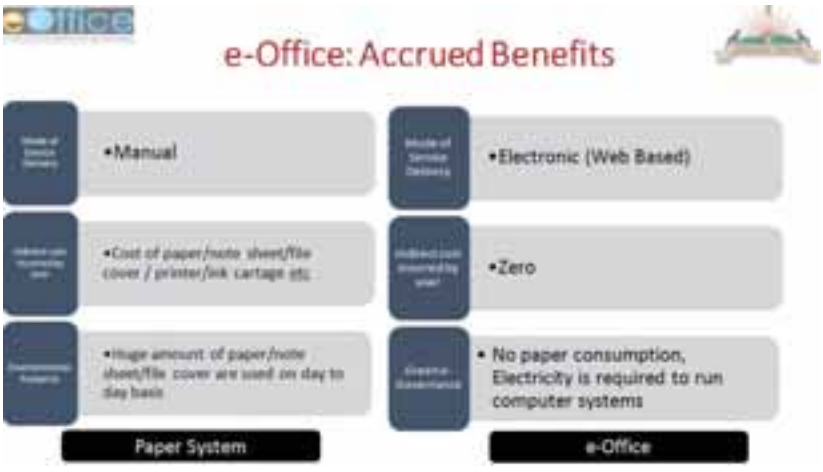


Fig 2: e-Office Accrued benefits

Fig 3: Before and after images for e-Office implementation

16. Future Proofing/Longevity of the Project

It is a G2G project, in which the objective is completely fulfilled as it has rolled out, a paperless office and paperless table and has led to huge cost saving on office stationary.

While, at some points users are printing the eFile documents for record keeping, but we feel that in coming future with 100% completion of project we will see a total paperless office in terms of file movement.

The Government functioning has become more efficient, transparent and accountable.
The project also has a G2C component as the correspondences with citizens are now digitally signed and the citizens can track their files easily and also verify the digitally signed correspondences. The cases of loss of file or file-tampering are done away with, thereby making service delivery hassle free and convenient for citizens.

Mahatma Jyotiba Phule Jan Arogya Yojana

State Health Assurance Society, Maharashta

1	**Name of the State / Ministry**	Government of Maharashtra
2	**Name of the host / owner organization**	State Health Assurance Society, Maharashta
3	**Status of the host / owner organization**	State Health Assurance Society, Maharashta
4	**Name of the Project**	Mahatma Jyotiba Phule Jan Arogya Yojana (MJPJAY)
5	**Name of the Nodal Contact Person**	Dr. Nidhi Pandey
6	**Contact Address**	Chief Executive Officer, Jeevandayee Bhavan, Mahatma Jyotiba Phule Jan Jan Arogya Yojana, State Health Assurance Society ESIS Hospital Compound, Worli Naka, Worli- 400018 State- Maharashtra
7	**Telephone / Fax / e-mail**	Phone Number 022-22671797, Mobile Number 7045745209

8. Project Summary:

Mahatma Jyotiba Phule Jan Arogya Yojana (MJPJAY) is a Universal health care scheme by the Government of Maharashtra intended to improve the medical access of BPL and APL families of the Maharashtra State, who holds any one of the ration card issued by the Government of Maharashtra i.e. Antyodaya card, Annapurna card, Yellow ration card and Orange ration card whose income is less than one lakh rupees per annum or farmers holding White ration card in 14 agriculturally distressed districts. The scheme was launched in 8 districts of the Maharashtra State in July 2012 and then across all 36 districts of the State in November 2013

9. Date of Launch of Project: The project was launched in July 2012 in 8 districts of Maharashtra State and then across 36 districts of the state in November 2013.

10. Coverage (Geographical): It is spread across all the 36 districts of Maharashtra

11. Beneficiary of the Project:

The Scheme covers around 2.23 Cr. families of the Maharashtra State. It provides free access to quality medical care in 492 empanelled hospitals for 971 types of surgeries and therapies with sum insured up to Rs.1, 50, 000 per year per family (Rs.2, 50, 000 only for renal transplant) on floater basis, Empanelled hospital are multispecialty or single speciality hospitals accessible to community which are supposed to provide cashless medical services in 30 identified specialities under the Scheme.

Families belonging to any of the 36 districts of Maharashtra and holding Yellow Ration Card, Antyodaya Anna Yojana Card (AAY), Annapurna Card and Orange Ration Card along with Farmers from 14 agriculturally distressed districts of Maharashtra (Amravati, Akola, Aurangabad, Buldhana, Beed, Hingoli, Jalna, Nanded, Latur, Osmanabad, Parbhani, Wardha, Washim and Yavatmal). The identification for farmers from 14 agriculturally distressed districts of Maharashtra will be based on White Ration Card along with 7/12 extract bearing the name of the beneficiary / head of the family or certificate from the concerned Talathi / Patwari stating that the beneficiary is a farmer or a family member of farmer with valid photo ID proof of the beneficiary.

12. Problem statement or situation before the initiative:

The poor people used to approach Hon. Chief Minister in instance of catastrophic illnesses for seeking some financial assistance from Chief Minister's Funds. In order to streamline this, Government of Maharashtra launched the "Jeevandayee Yojana" for covering few catastrophic illnesses of the poor families in 1997. The coverage of illnesses, access of services and out of pocket spending by beneficiary were still issues of concern.

For Jeevandayee Scheme proactive Feedback was not there, feedback in the form of manual/written complaints only, during tenure of 16 Years no major reforms were done.
Since it was purely a manual implementation, time required for each process was not time bonded.
Average Time for service delivery was:
Enrolment- Not done
Registration- 2 Hrs
Preauthorization approval – Average 7 days
Claim Processing- 60 - 90 days as per availability of grants from Plan head.
Grievance redressal- Not there

13. Project Objective:

To improve access of Below Poverty Line (BPL) and Above Poverty Line (APL) families as well as Antyodaya and Annapurna cardholders (excluding White Card Holders as defined by Civil Supplies Department) to quality medical care for identified specialty services requiring hospitalization for surgeries and therapies or consultations through an identified network of health care providers.

14. Project Scope, Approach and Methodology:

Government of Maharashtra pays in advance the insurance premium in instalments on behalf of State Health Assurance and insured beneficiary families to the Insurance Company.

Steps for Treatment in the Network Hospital:
STEP 01: Beneficiary families shall approach nearby General, Women/District Hospital/Network Hospital. Arogyamitra placed in the above hospitals shall facilitate the beneficiary. If beneficiary visits Government Health Facility other than the Network Hospital, he/she will be given a referral card to the Network Hospital with preliminary diagnosis by the doctors. The Beneficiary may also attend the Health Camps being conducted by the Network Hospital in the villages and can get that referral card based on the diagnosis. The information on the outpatient and referred cases in the General, Women/DH and the camps will be collected from all Arogyamitra /Hospitals on regular basis and captured in the dedicated database through a well-established call centre.
STEP 02: The Arogyamitra at the Network Hospital examine the referral card and health card or Yellow/Orange Ration Card, Annapurna or Antyodaya card register the patients and facilitate the beneficiary to undergo specialist consultation, preliminary diagnosis, basic tests and admission process. The information like admission notes, test done will be captured in the dedicated database by the Medical Coordinator of the Network Hospital as per the requirement of the MJPJAY.
STEP 03: The Network Hospital, based on the diagnosis, admits the patient and sends E-preauthorization request to the insurer, same can be reviewed by MJPJAY.
STEP 04: Recognized Medical Specialists of the Insurer and MJPJAY examine the preauthorization request and approve preauthorization, if, all the conditions are satisfied. This will be done within 24working hours and immediately in case of emergency wherein e-

preauthorization is marked as “EM”.

STEP 05: The Network Hospital extends cashless treatment and surgery to the beneficiary. The Postoperative notes of the Network Hospitals will be updated on the website by the medical coordinator of the Network Hospital.

STEP 06: Network Hospital after performing the covered surgery/ therapy/ procedure forwards the Originals bills, Diagnostics reports, Case sheet, and Satisfaction letter from patient, Discharge Summary duly signed by the doctor, acknowledgement of payments of transportation cost and other relevant documents to Insurer for settlement of the claim. The Discharge Summary and follow-up details will be part of the MJPJAY portal.

STEP 07: Insurer scrutinizes the bills and gives approval for the sanction of the bill and shall make the payment within agreed period as per agreed package rates. The claim settlement module along with electronic clearance and payment gateway will be part of the workflow in MJPJAY portal and will be operated by the Insurer. The reports will be available for scrutiny on the MJPJAY login.

STEP 08: The Network Hospital will provide free follow-up consultation, diagnostics, and medicines under the scheme up to 10 days from the date of discharge.

15. Result achieved/value delivered to beneficiary of the Project and other distinctive features/Accomplishments of the Project

Health Camps were conducted in Taluka Head Quarters, major village Gram Panchayats and Municipalities. Minimum of two camps per week per empanelled hospital were held in the all districts in the policy year at the place suggested by SHAS. Medical Camp Coordinator MCCOs of the hospital coordinated the entire activity. Network hospital carried necessary screening equipment along with specialists (as suggested by the SHAS) and other Para-medical staff. The Insurer put in the minimum requirements as regards the health camp in the MOU with the hospitals. The empanelled hospital worked in close liaison with District Coordinators of the SHAS, Civil Surgeon/District Health Officer in consultation with District Collector. Hospital shall follow the Camp policy of SHAS. A total of 8,743 health camps were conducted as on 5-04-2018.

E-Nam- Soil to Sale

NIC, APSC , MeitY , Government of India & Food and Civil Supplies Department,
Government of Andhra Pradesh.

1	**Name of the State / Ministry**	Gujarat
2	**Name of the host / owner organization**	Collectorate Rajkot, Gujarat
3	**Status of the host / owner organization**	Collectorate Rajkot, Gujarat
4	**Name of the Project**	e-Nam- Soil to Sale
5	**Name of the Nodal Contact Person**	Mr. Vikrant Pandey
6	**Contact Address**	Collector and District Magistrate, Rajkot, Dist. Collector Office Shroff Road, Sadar, Rajkot Pin 360001, Gujarat
7	**Telephone / Fax / e-mail**	Phone Number 0281-2473900 Mobile Number 9978406220

8. Project Summary:

Soil to Sale was envisaged as PAN -INDIA electronic trading portal which seeks to network the existing APMC & other market yards to create a united national market for agriculture commodities. Soil to Sale project objective is to create a national network of virtual market that can be accessed online enrapturing a physical market (mandi) at back end.

9. Date of Launch of Project: The project was launched on 125th birth anniversary of Babasaheb Ambedkarji, i.e. on 14th April, 2015

10. Coverage (Geographical):

The project was initially adopted to 21 mandis of 8 States and expanded to 455 mandis of over 13 States with 96118 Buyers, 51126 Commission Agents and 5076501 Sellers.

The total Traded Quantity (in Ton) is 11371.72 Tons

Comprehensiveness of reach of delivery centers: Through this centers, more than 45,000 farmers, 976 Traders and agents and during the span of limited time, this centers has done more Apporx. 200 crores turn over with 22 commodities.

Number of delivery centers: Rajkot APMC- one ITC,

Grass root level: appox. 190 Gram Panchayats covered under this project

Geographical

District level- Number of Blocks covered: 04.

Total 35000 farmers were covered and approx. more than Rs. 200 Cr and more than 22 commodities.

Demographic spread (percentage of population covered): 4-5%

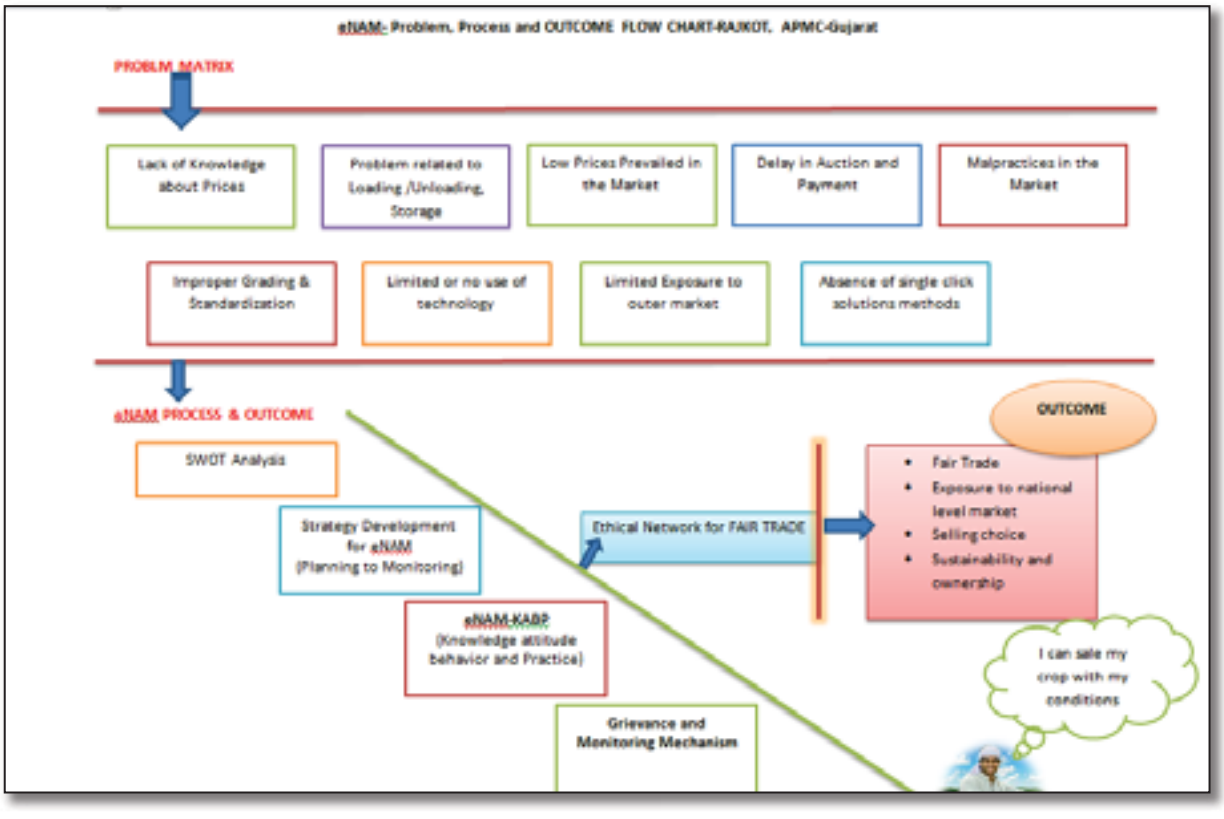
11. Beneficiary of the Project:

Famers, Agents commission, Traders & Exporters, Processors, Government administration, APMC team, Mandi functionaries and other stakeholders in Agriculture supply chain

12. Problem statement or situation before the initiative:

Various stakeholders were convened several issues faced by the farmers, agricultural markets and traders in the district; These discussions and deliberations have helped in highlighting the major concerns as: (a) Information asymmetry between the traders and the farmers (b) Lack of transparency in market operations (c) Inadequate competition (d) Post auction difficulties (e) Remoteness of existing markets and (f) Lack of choice to the farmer.

Though the APMCs are well known for their efficiency and farm gate procurement or buying by users / traders directly from the farmers have not emerged as a realistic alternative. Given this scenario, the argument that the need of the hour is to make APMCs more efficient by using the latest technology and e-governance may invite good results.



13. Project Objective:

The project was with the following objectives:

- G2G- Convergence with other department
- G2C – direct benefited to farmers/traders
- G2B – developed Good Business Practice model
- G2E – easy operation with quick, transparent and better execution

14. Project Scope, Approach and Methodology:

Farmer Friendly soil to sale concept adopted by farmers, will surely make secure and stable economy of farmer. The APMC in Rajkot was established in 1964 and began serving only three blocks of the district namely: Rajkot, Padaddhari and Lodhika. As the district became agriculturally prosperous with time, the APMCs business also expanded and its operations grew many a fold. It has become one of the largest APMC in the state with a state-of-the-art with all facilities and services in 90 acres of huge plot. APMC has done remarkable work in information technology. For the last 15 years they have their own website expanded with mobile application for daily updates. For transparency and security entire APMC covered under CCTV. In August 2015, the APMC and the district administration jointly organized a District level seminar in which a large gathering of concerned farmers, traders and commission agents were apprised & Registered on the e-Nam scheme. Mass awareness under banner of IT in Agriculture was done at various places with variety of communication channels.

The details of base line study done

Baseline study was done on following criteria;

- S- Strength
- W-Weakness
- O-Opportunity
- T-Threat

All above mention criteria were measured on following aspects;

- Agri. Infrastructure
- Farmers KABP for ICT use
- Difference between fair price and price
- Transparency
- Sustainability of the project.

- Convergence
- ICT in Agriculture

In all above mentioned aspect we covered ICT use in the current services and listed out gaps.

Problems identified

Limited knowledge of main stakeholders (Farmers) in terms of

- Farming Practice
- Use of IT in Agriculture (Soil to Sale level)
- Limited access to mandi
- Well established network of Agents/traders
- Absence of sequential convergence
- Transparency
- Ownership and sustainability
    - One common platform to get agri. Services at one platform

Communication and dissemination strategy and approach used

Participatory decentralized approach has been adopted for communication and disseminates this S2S concept.

In September, 2016 e-NAM has been started with main objective of "Doubling the income of farmer". To spread this message at grass root level Rajkot APMC has developed and adopted various strategies and further ahead different communication modules have been developed to reach out.

1. E-Media :Through website, SMS and Whatsapp groups, awareness has been disseminated amongst the farmers (Approx. 5600 farmers and 1000 traders)

2. Print Media: Through, leaflets, posters, banners
3. One to one :

- Individual contact and group meetings at village level through mandli members, peer groups and PRI members (Approx. 10,000 Farmers)
- Individual contact at APMC: e-NAM scouts at APMC level is the initiative taken by Rajkot APMC to make understand the farmers about e-NAM who haven't sufficient knowledge on the procedure while coming for selling their commodities. Easily identified scouts wearing blue t-shirt with e-NAM logo are available to provide handholding support to the farmers for e-NAM and the team interacted with a couple of these volunteers and asked about their methodology.

4. Mass Awareness: through Camps and Shibirs: Krushishibir, Camps, GramoUdoy Se Bharat Uday(35,000 farmers)


Village level Meetings

15. Result achieved/value delivered to beneficiary of the Project and other distinctive features/Accomplishments of the Project:

To organization:

- Rajkot-Bedi APMC has achieved the following with effective implementation of e-NAM:
  - Highest coverage of commodity at the national level

- 2nd rank in the country in terms of transaction.

- Competiveness: Rajkot APMC has developed a framework that aims to create a common ground to develop policies that balance economic prosperity with social inclusion and environmental stewardship.
- 100% cashless trading
- 100% registration under eNAM
- 100% entry and exit monitoring and transparent system

To citizen:

- 100% removal of exploitation and hardship for marking
- 100% focused of reduction of Marketing management cost and increased direct benefit of farmers
- 95% adoption of eNAM by all stakeholders
- Sequential convergence has provided single window to get all agriculture and allied services support
- Fair Trade
- Exposure to national level market
- Selling choice
- Sustainability and ownership

Other stakeholders:

Buyers, traders and other brands have directly approached to APMC for purchase.

The APMC Rajkot, established 52 years ago, now spreads over 135 acres of space and is stated

Largest APMC, in the State, infrastructure in 135 Acers of land *(main and Sub yards)*, coverage more than 1.45 lakh farmers, 20 commodities, with total turn over of RS.2037 cr. Visited by 7 states and 3 countries

to be one of the largest APMC in the State. It has a dedicated website which gives all necessary information about APMC and its activities. Entire APMC is covered under CCTV for security and transparency purpose. Maximum solution are provided under one roof e.g assaying, grading, weights ,completion , storage, farmer's choice for timely selling time and at desired rates. This has helped APMC to attract maximum number of farmers and traders to come under e-NAM. As a result the APMC which started with 3 commodities in September 2016 has now registered 33 commodities as on date. On interaction with farmers most were of the view that they have gained 25 to 30 % of more profit through e NAM and now it is easy to buy and sell commodities.

With the increase in farmer's income, APMC's income has also increased. It was told that with only 0.5% tax on sales, the APMC Rajkot is one of the Mandi with lowest tax rate in the country. All transactions, being cashless, there has been a tremendous increase in transparency. APMC, Rajkot through e NAM has been effective to save time of both farmers and traders and ending the role of middle persons. Various facilities under one roof e.g grading assaying, storage etc. have helped farmers to make more financial gains.

Farmers are now feeling empowered as they are not susceptible to exploitation. APMC has also gained because all transactions are recorded and their tax collection is ensured. APMC Rajkot has provided several other facilities for stakeholders, e.g. storage, parking, guest house, seven banks, e-library and training facilities. It has also made considerable efforts for spreading awareness and handholding exercises to bring farmers and traders under e-NAM. AAPMC has also developed a mobile application through which farmers /traders and directly participate in buying /selling process through mobile their phones. A help line (0281-2790001) has also been provided for addressing any queries and providing solutions.

Mandi has also made efforts towards environmental protection steps e.g. waste management- under which the waste fruits and vegetables are converted into bio manure. This is distributed to farmers at subsidized rates. Likewise waste food grains are converted into cattle feed. Thus APMC has made efforts to increase its income and help farmers as well. They have also developed a green zone in the vacant space by planting trees and has effectively used solar lights in the campus. This shows the inclusive approach of the Mandi and concern for the nature.

16. Future Proofing/ Longevity of the Project:

- At the time of e-Nam's initiation (September 2016), only three (03) commodities were registered. In the next four (04) weeks, 20 commodities got themselves registered; against 35 commodities.
- Farmers have gained a larger marketing platform – the nation – to sell their agricultural produce and are reaping better prices in the bargain

- Similarly, as the e-Nam scheme ensures transparency, the APMC's income too has acquired an upward swing
- In 26 working days since the initiation of e-Nam, the district has successfully done transaction of Rs. 101 crores in 20 commodities with 9200 farmers and 89% coverage of traders/agents, and till the date more than Rs. 200 crores and 22 commodities (18/11/2017)
- Just at one go, farmers are participating in auction as well as selling / marketing their products at desired prices and also get lager network at national level and international level.
- Establishment of Bank Bhavan and e-transaction facility made all cashless transactions.
- With 100% of registration of each commodity on gate entry has made 100% transparency at marketing level which has removed all mischief of entry and exit level marketing.
- With all fair trade mechanism has increased farmers income by 10%, almost 85% local traders and agents done selling through APMC, 87% of URDs covered under eNAM.

Department of Administrative Reforms & Public Grievances
Ministry of Personnel, Public Grievances & Pensions
Government of India

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