



सत्यमेव जयते

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

19th

National Conference on e-Governance **Uncommon Excellence**

Award winning projects during
18th National Conference on e-Governance

TABLE OF CONTENTS

Chapter 1 TDS Reconciliation Analysis and Correction Enabling System (TRACES) Centralized Processing Cell (TDS), Income Tax Department	1
Chapter 2 e-Initiatives in Commercial Taxes Directorate of Commercial Taxes, Finance Department, Government of West Bengal	13
Chapter 3 Passport Seva Project Consular, Passport & Visa (CPV) Division, Ministry of External Affairs	20
Chapter 4 Kanyashree Online 2.0 Department of Women & Child Development and Social Welfare, Govt. of West Bengal	30
Chapter 5 Suraksha Setu - Safe City Surat Office of the Commissioner of Police, Surat	38
Chapter 6 Force Deployment Software Office of the Chief Electoral Officer, Bihar	45
Chapter 7 AGRISNET - Farm Crop Management System Agriculture Department, Government of Tamil Nadu	57
Chapter 8 e-Procurement Industries Commissionerate, Government of Gujarat	62
Chapter 9 Effective Vehicles Database Management Office of the Superintendent of Police, Mandya, Karnataka	70
Chapter 10 e-Panchayat Office of the District Collector, Kathua, Jammu & Kashmir	78

Chapter 11	89
Chhattisgarh Geographic Information System	
Chhattisgarh Infotech & Biotech Promotion Society	
Chapter 12	101
Remote Sensing and GIS Technology in Sericulture Development	
Central Silk Board, Ministry of Textiles	
Chapter 13	113
State Highway Development Project	
Public Works, Ports & Inland Water Transport Department, Govt. of Karnataka	
Chapter 14	118
SMS Based Failed Distribution Transformer Information & Management System	
Madhya Pradesh Madhya Kshetra Vidyut Vitaran Company Ltd.	
Chapter 15	125
SAMVIDA	
Department of Agriculture, Government of Bihar	
Chapter 16	130
e-Governance Training and Certification	
Directorate of Information Technology, Government of Maharashtra	
Chapter 17	138
SAMPARK	
Information Technology & Services Department, BHEL	
Chapter 18	146
ANMOL	
State Adoption Resource Agency, Bhopal, Madhya Pradesh	
Chapter 19	157
Quarry Management System	
Tamil Nadu Minerals Limited	
Chapter 20	165
e-Jaalakam	
Department of Economics, St. Teresas College, Kochi, Kerala	
Chapter 21	172
TCS Financial Inclusion	
Tata Consultancy Services	
Chapter 22	180
Kushal Project	
Kushal, Pune	

TDS Reconciliation Analysis and Correction Enabling System (TRACES)

- | | | |
|----|---|--|
| 1. | Name of State/ Ministry : | Govt. of India/Ministry of Finance |
| 2. | Name of the Host/ Owner Organization: | Income Tax Department |
| 3. | Status of the Host/ Owner Organization: | Directorate of Systems |
| 4. | Name of the Project: | Centralized Processing Cell (TDS) |
| 5. | Name of the Nodal Contact Person: | Satpal Gulati |
| 6. | Contact Address: | Addl. Commissioner of Income Tax (CPC - TDS),Centralized Processing Cell (TDS), 4th Floor, Aayakar Bhawan, Sector 3, Vaishali, Ghaziabad - 201010, Uttar Pradesh |
| 7. | Telephone/ Fax/ email: | +91 120 4816120/ +91 9013840000, Satpal_Gulati@tdsepc.gov.in |

Project Summary

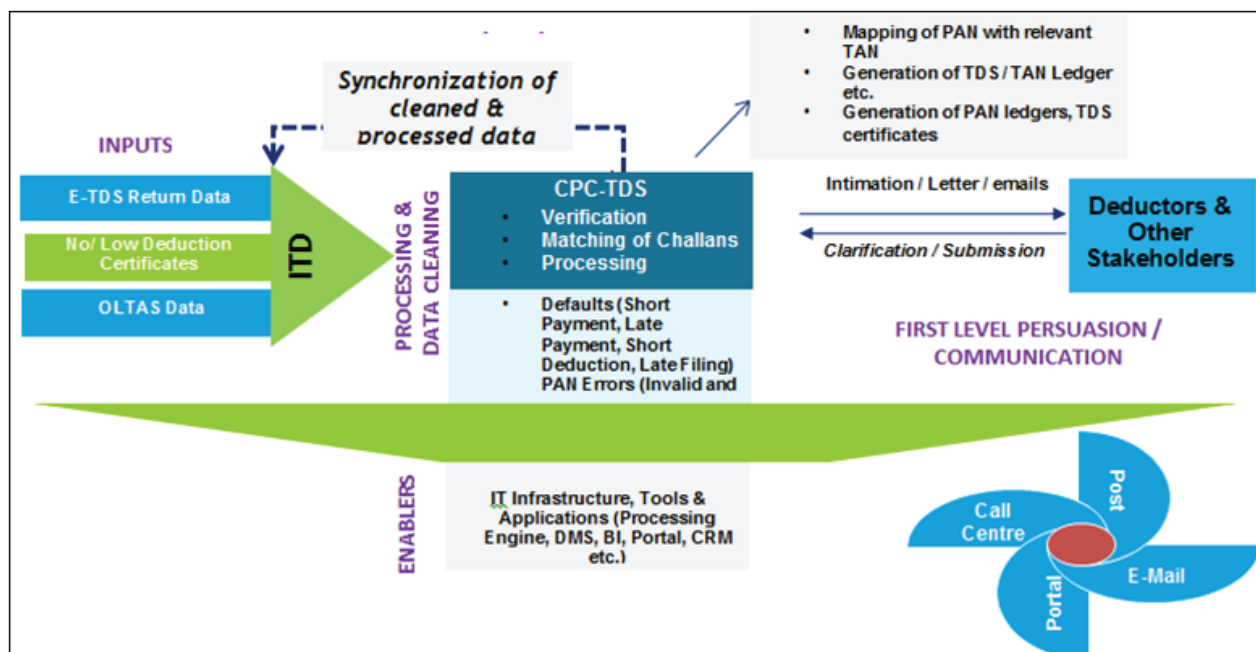
The Centralized Processing Cell for TDS (CPC–TDS) is a strategic administrative reform initiative of the Income Tax Department, for ensuring effective TDS compliance in India, leveraging state-of-the-art modern technology. CPC-TDS has implemented an IT-enabled comprehensive platform, TRACES (TDS Reconciliation, Analysis and Correction Enabling System); alongwith robust backoffice automation for performing resource-intensive non-core bulk activities of the Department,thus achieving economies of scale.

The key functional blocks of the CPC-TDS project include:

- Bulk processing of over 90 Lakh quarterly TDS Statements filed by over 15 Lakh Tax Deductors of the country annually
- Identification of TDS Defaults and centralized bulk dispatch of intimations to Deductors
- Provision of Digital TDS Certificates and Tax Credits in 26AS statements for over 4 Crore Taxpayers, ensuring no TDS mismatches
- Web-based application TRACES that provides a wide variety of Online services, including Online Correction of TDS statements
- Intranet-based Assessing Officer's Portal, creating an e-office that integrates field formation with CPC-TDS
- Multiple channels of communication for an efficient system of grievance handling process, with several closer access points for user convenience, including email services, Contact Centre, IVRs and Online services
- Document &Record Management Systems and Data Centre

CPC-TDS has ushered in a new feature in policy making that is driven through Business Analytics, Sensitivity analysis and Risk profiling of Deductors. While taxpayer centricity remains at the core of the initiative, CPC-TDS actively partners in the nation building process through a robust revenue generation apparatus, progressive tax policy, effective tax administration and seamless voluntary compliance.

The following schematic diagram gives a schematic view of the processes in the CPC-TDS.



Date of Launch of the Project

The rollout of CPC – TDS project involved various milestones, as mentioned below:

- September 2010 – Consultant engaged
- June 2011 – Request for Proposal issued
- September 2011 – ‘Managed Service Provider’ selected
- October 2011 – Project kick-off meeting
- March 2012 – Contract signed
- November 2012 – Soft launch of TRACES website
- February 2013 – Dedicated to Nation by the Union Finance Minister
- May 2013 – Project commissioned

Coverage (Geographical)

CPC-TDS, located in Vaishali, Ghaziabd (UP), services its stakeholders that are spread all across the country. TDS statements received from all over the country are processed in a jurisdiction-free manner. It works on ‘HUB-SPOKE’ model, where CPC-TDS is the hub for e-delivery of services to all its stakeholders. The TDS offices located all over India act as extended delivery centres through the e-office model.

Apart from the web based services offered through TRACES, CPC-TDS connects with its stakeholders through following channels:

- All agency Banks in India are integrated with CPC-TDS website for providing ‘Tax Credit Statement (26AS)’ information to their account holders through respective Banks’ websites. 35 banks are linked to the CPC-TDS system through secured channels for transfer of information;
- E-filing website of the Income Tax Department: Around 4 crore registered users of e-filing website of the Income tax Department (www.incometaxindiaefiling.gov.in) have online access to the CPC-TDS website without any additional registration;
- Over 500 Officers of the Income Tax Department, administering TDS provisions across India, connect with CPC-TDS through its Intranet services. In addition, a dedicated Helpdesk for assistance to these Officers has been enabled.

- The Inbound Call Centre, with a toll free number 1800 103 0344 is accessible to all stakeholders for immediate assistance during business hours 6 days a week.
- CPC-TDS has provision for easy and convenient services to its stakeholders across globe through email.
- An Online Grievance module is available for the benefit of deductors, through the CPC-TDS website.
- Written queries, grievances and letters can be sent to CPC-TDS. CPC-TDS has a fully automated 'Document Management System' in place where physical letters are digitized and processed through an elaborate digital workflow.

CPC-TDS extends service coverage to its stakeholders not only within the entire country, but also to the taxpayers living abroad, that fall within the ambit of Income Tax Act 1961.

Beneficiary of the Project

CPC-TDS offers free of charge 'anytime anywhere' services to all its stakeholders, significantly reducing cost of compliance. The stakeholders not only reap tangible benefits of the accuracy, fast turn-around and overall efficiency of CPC-TDS system, but also through its sensitive citizen centric approach to deal with grievances/ feedbacks.

Deductors:

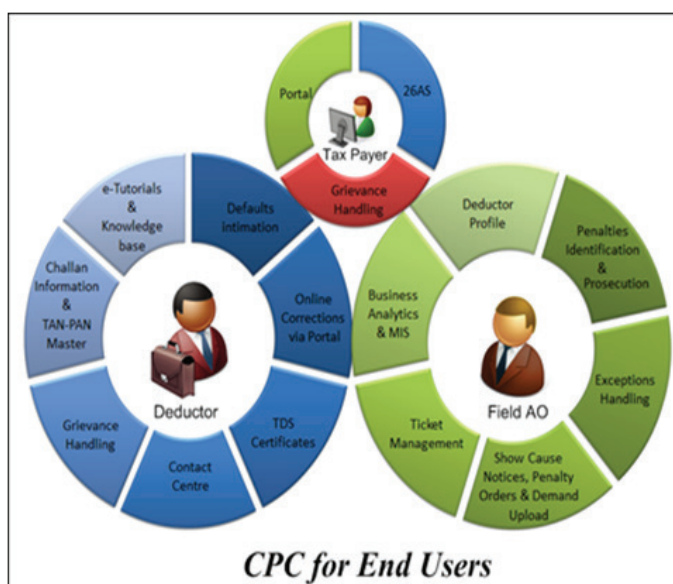
- Non-intrusive integrated platform that provides online services related to TDS Statement processing
- Default information & Resolution mechanism
- Online Corrections
- Digital TDS certificates
- Wide variety of incidental services
- Feedback & Grievance Redressal

Taxpayers:

- View of Tax Credit Statements in Form 26AS
- TDS Certificates in Form 16B
- Realtime support for clarifications

Field TDS Officers:

- Focus on enforcement with annulation of bulk Manual activities
- Comprehensive Assessing Officers Portal
- Consolidation of Demand Registers
- Real time Analysis of MIS for enforcement
- Online Ticket Management System.



Government:

- TDS Revenue Augmentation and robust TDS Administration
- Reduced Administrative Costs
- Savings due to prevention of dubious TDS Claims and on Interest outgo on account of refunds
- Reduced Cost of Compliance in country

Problem Statement before the initiative:

The Income Tax Act, 1961 provides for Tax Deduction at Source (TDS) by the payer on certain categories of transactions. The person/entity deducting tax (deductor) has to fulfill following responsibilities:-

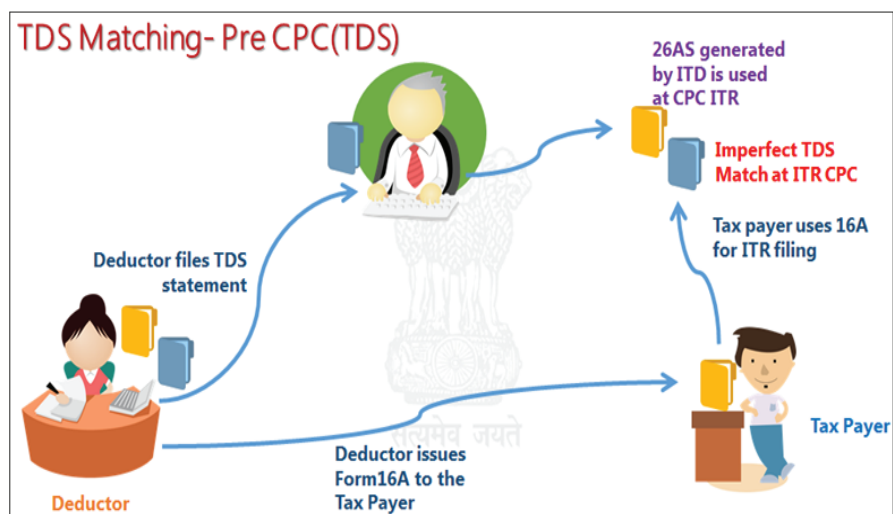
- The Tax Deducted at Source has to be deposited in the government account within due date.
- The amount of TDS and the details of transactions have to be reported to the Income Tax Department in the form of a TDS statement within prescribed time period.
- The Deductor has to issue a TDS certificate to the payee.

Based on the TDS certificate issued by the deductor, the payee (taxpayer) can claim credit of TDS in its Return of Income.

In the legacy system, the taxpayers were being given credit of TDS on the basis of manual TDS certificates, issued by the deductor manually, without any cross referencing for verification. With enormous volume of transactional information, the Income Tax Department was, therefore, facing a challenge in giving the credit for TDS on the basis of manual certificates. Some of the other challenges with the manual TDS certificates are as below:-

- The process of verification of TDS certificates was lengthy, time consuming leading to delayed Income Tax Refunds and harassment of the taxpayers.
- There was no mechanism for checking fraudulent tax credit claims.
- The deductors did not pay 'deducted' amounts to the government account and/or did not file TDS statements leading to loss of revenue.
- The taxpayers had to maintain physical certificates and copies for years in order to claim credit.
- The Income tax Returns had to be accompanied by a number of annexures

The above situation burdened the tax payers with high compliance cost. The discretion involved in granting credit for TDS certificates, led to malpractices in processing of Income tax returns and Refunds, causing grievances.



The Business Process Reengineering Study in 2007, conducted by the Income tax Department, identified the following Bottleneck/ Constraints:

- The department did not have technology driven capability to handle large volumes of TDS statements received.
- Limited manpower and resources were stuck in handling routine jobs like issuing intimations, with no time left for taxpayer services and effective enforcement.
- There was no mechanism to reconcile the Tax Deducted with the Tax Credit Claimed in the Income tax Return. The Annual Tax Credit Statement (Form 26AS) was not reliable and had to be overridden by the manual TDS certificates.
- There was no centralized accounting for either the deductors or taxpayers.
- There was no integrated platform for deductors, taxpayers and Field Assessing Officers to interact.
- The time lag between deduction of tax by the deductor and giving its actual credit to the taxpayer was inordinately long. In some cases, the delay was more than 2-3 years. The business relationship had ended by the time the TDS mismatch was discovered. Thus the taxpayer was not in a position to get the reporting of TDS rectified by the deductor.

Project Objectives

In order to address the above challenges, CPC-TDS was conceptualized to undertake end to end bulk operations through a Rule Based Technology enabled system with following objectives:

- Establish bulk operations to administer resource intensive time consuming processes in TDS administration to enable filed formation to focus on enforcement
- An integrated technology driven platform that provides consistent data to all the stakeholders to achieve robust TDS administration, by integration of the three platforms viz. Tax Information Network, the Directorate of Income Tax (Systems) and the Field Officers of the Income Tax Department.
- Address the issues of TDS mismatch and TDS frauds, providing end-to-end visibility of TDS transactions in 26AS to all relevant stakeholders.

U niformity	Uniform interpretation of law & procedures	
S implification	Simplification & standardization of Backend & Frontend processes.	
A ccessibility	Services at the doorstep of taxpayer – any time/anywhere	
G ood tax Governance	Robust reconciliation of tax collected vis-à-vis tax credits claimed.	
E mpowerment	Empowering the taxpayer with information	

- Provide visibility of any correction/modification of data by one stakeholder to the others.
- Resolve Logistic constraints, including issues of shortage of manpower in field offices, unorganized means of issuance of demand intimations, constraints of record management etc.
- Provide a technology platform to the Field Assessing officer to significantly reduce voluminous manual processes

Project Scope Approach and Methodology

The success of a project lay in not only developing a good technology enabled solution, but also in ensuring that the solution is citizen centric and the stakeholders reap benefits from the outcomes.

The project team recognized the importance of regular communication with all the stakeholders to understand their expectations as also to engage them for using its varied features. CPC-TDS based its approach and methodology on the principles of USAGE that involved:

CPC-TDS engages with its stakeholder through various channels viz:

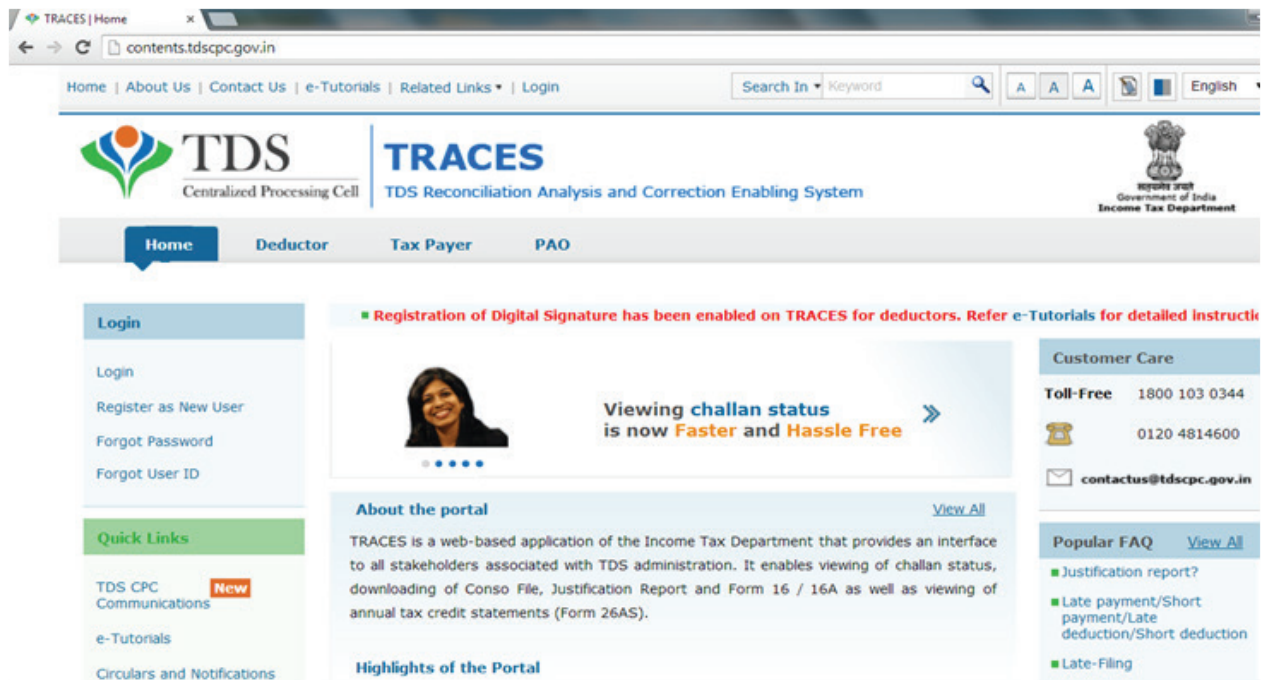
- A dedicated web based Portal www.tdscpc.gov.in for delivery of services. The facility is being used by more than 15 lakh registered deductors.
- An Inbound Call Centre with a toll free number, email services and Document Management system to manage physical letters
- An Online Grievance Module is available for the benefit of deductors, through the CPC-TDS website.
- Proactive dissemination of Information through educational emails for promoting voluntary compliance. (More than 3.5 crore emails have been sent to stakeholders)
- Seminars and Workshops conducted by CPC-TDS and respective TDS charges all over the country, for spreading awareness of the functionalities available through TRACES
- Training provided to departmental officers/officials about the functioning and facilities available through CPC-TDS
- E-tutorials and User Manuals for accessing various functionalities of CPC-TDS have been published on the web portal
- Educational movies and Print Material regarding CPC-TDS has been disseminated at various forums within the department and outside.
- Constant interaction/feedback with the departmental officers/officials working in the TDS wing of the field formations.

Result Achieved/ Value delivered to beneficiaries of the project and other distinctive features/ accomplishments of the project

The operationalization of CPC-TDS has benefited multiple stakeholders of TDS ecosystem by way of an integrated interactive platform for Service Delivery, Impact on effort, time and cost. The robust process flows through CPC-TDS as regards TDS administration that enable end to end reconciliation of tax credits available vis-à-vis tax credits claimed in tax returns is a unique feature in the world. Therefore, with this facility India is a leader in ensuring automated end to end reconciliation of tax credits.

- a) Web Portal TRACES: The primary means of service delivery by the CPC-TDS to the wide spectrum of its stakeholders, is comprehensive web based portal www.tdscpc.gov.in. The online solutions are available to stake holders on anytime, anywhere basis:

- The flagship service of the CPC (TDS) is the 'Annual Tax Credit Statement' in Form 26AS. The Form 26AS is also available through the Net Banking Facility of the banks and the e-filing website of the Income tax department.
- Providing a comprehensive feedback to the stakeholders about the stage of processing, discrepancy, if any as regards data, interpretation etc. and Justification for identifying defaults & raising tax demands
- End to End e-services for identifying gaps, filing corrections, verification of certificates, view of tax credits, filing of grievances and service of intimations etc.



e-enabled services are available to various stakeholders through TRACES:

A. Deductors

The deductors have been provided an elaborate deductor portal on the CPC (TDS) website www.tdscpc.gov.in. Some of the functionalities available for deductors are as given below:-

- Dashboard
- Statement and Challan Status
- View TDS/TCS Credit
- Online PAN Verification
- View Defaults Summary
- Online Corrections
- Downloads
 - o TDS Certificates Form 16/ 16A
 - o TDS Certificates - Form 16B
 - o TCS Certificates - Form 27D
 - o Transaction Based Report (27Q)

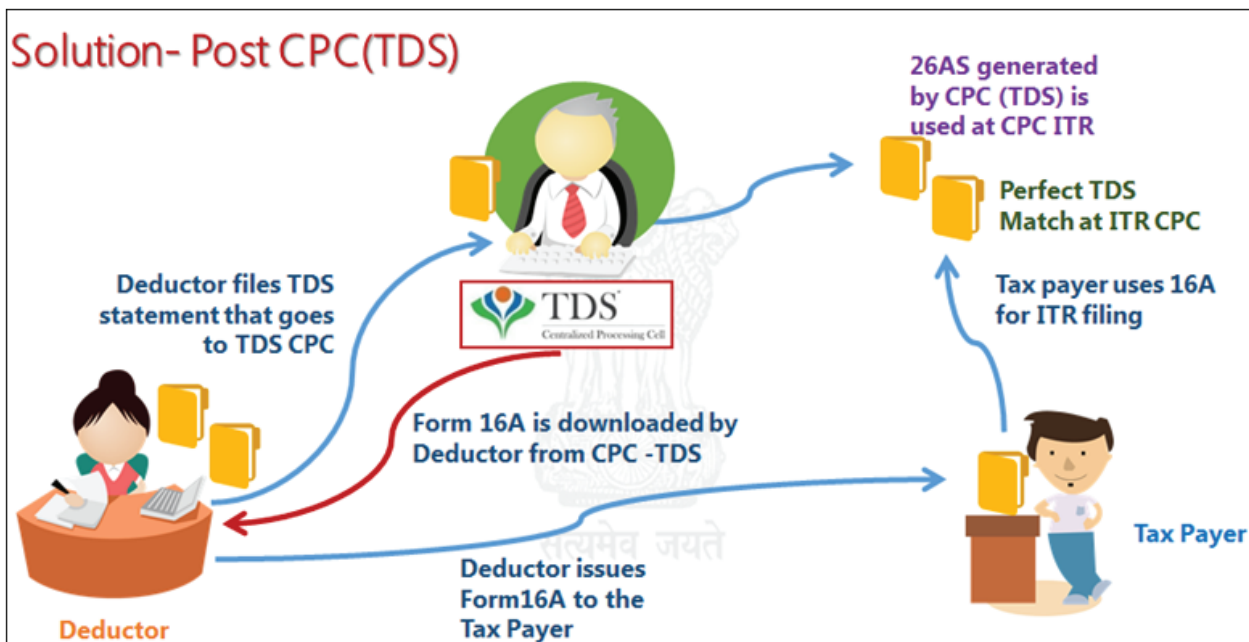
- o Consolidated File
- o Justification Report
- Profile Management
- Aggregated TDS Compliance Report

B. Taxpayers

The taxpayers can register on the CPC(TDS) website for viewing the Annual Tax Credit Statement (Form 26AS). The functionality is also made available through the e-filing website of the Income tax department and the Net Banking facility of various banks. They can download TDS Certificates in Form 16B involving 'Sale of Immovable Property'. The high end taxpayers who have single or multiple 'Tax deducting branches' have online view of the TDS defaults of respective deducting units.

C. Field Assessing Officer of the Income tax Department

- VIEW
 - o View Statement Processing Status
 - o View TAN/TIN details
 - o View OLTAS Challan details
 - o View Intimations/Communications
 - o 15CA View
 - o Justification Report
 - CORRECTION
 - o TAN-to-TAN Challan Correction
 - o PAN-to-TAN Challan Correction
 - o Assessment Year Correction in Challan
 - DEMAND MANAGEMENT
 - o Tag/ Replace Challans
 - o Demand Summary without Justification
 - o Manual upload of Demands
 - Consolidated File download
 - Interactive platform for sharing of quality work by the officers
 - Wide range of MIS Reports
 - Grievance Portal
 - Portal for issuing orders, penalty and prosecution
- b) Issue of Digital TDS Certificates: CPC-TDS now generates TDS certificates from the data reported by the deductors and after matching tax payments. These certificates:**
- o having a reference number, are verifiable online
 - o are unique for a deductor-deductee combination
 - o the authenticity of the certificates can be ascertained online by the interested entity.
 - o the amount depicted in the TDS certificate matches with the amount populated in the Annual Tax Credit Statement and there is no possibility of a mismatch



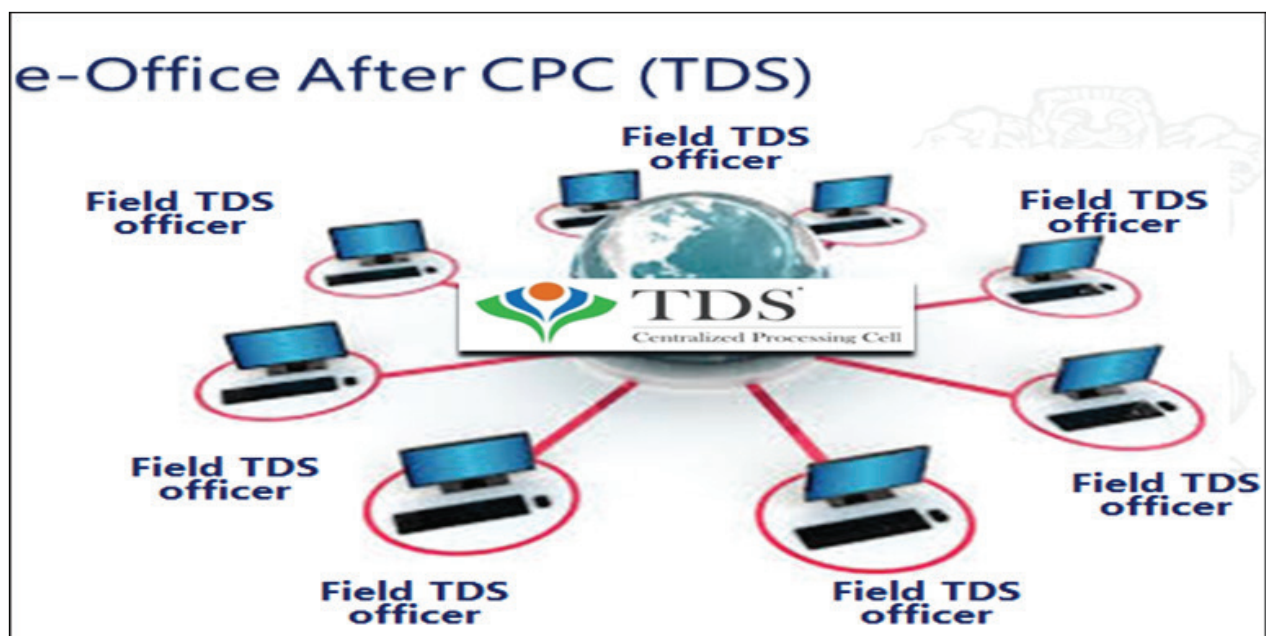
- c) **Online Correction of TDS Statements:** CPC-TDS provides a facility for online correction of TDS statements that facilitates correction of PANs and other attributes of the transactions by promptly filing a correction any time anywhere. Online correction of TDS statements has benefitted the tax payers, as any discrepancy in the data reported in the TDS statements which may have resulted in TDS mismatch gets promptly corrected by the deductors at the time of issuance TDS certificate itself. The correction, for the resolution of TDS defaults, can be carried out at deductors' convenience saving immense cost, time and effort.



d) **E-Office for field formation**

The CPC (TDS) provides an integrated technology driven platform for enabling e-office in the Income Tax Department. Over 500 Officers of the Income Tax Department administering TDS provisions across India connect with CPC (TDS) system through its Intranet services. In addition, a dedicated Helpdesk for assistance to these Officers has been enabled. Following are the key features:

- Complete transparency as stakeholders can track the action taken by other stakeholders e.g. grievance handling
- Online repository of notices and orders
- Platform to share best practices
- Focus on Enforcement actions
- Time barring action related alerts through system

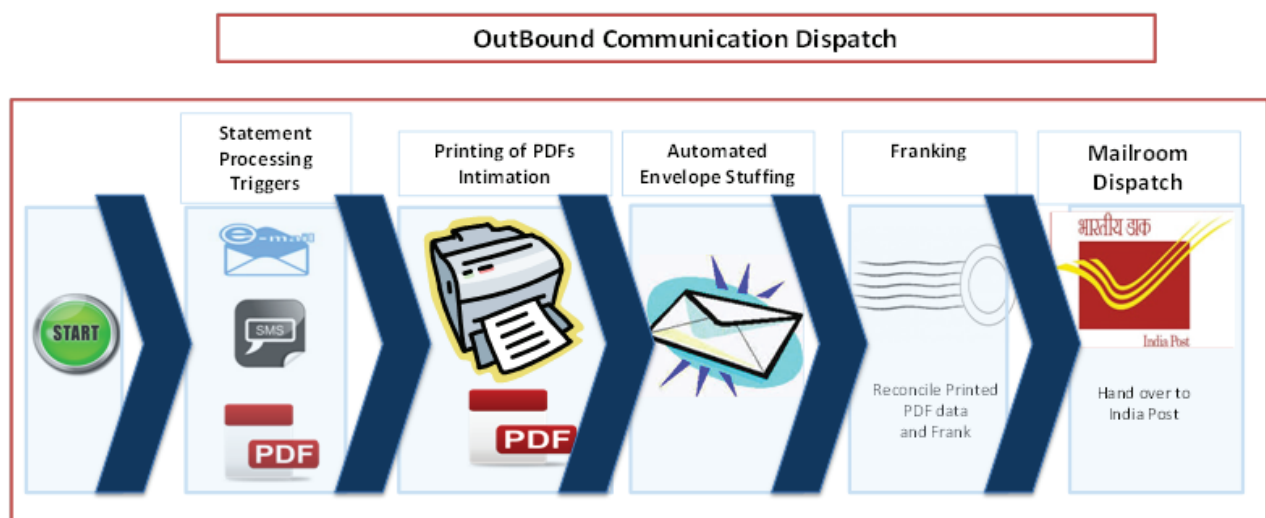


e) Centralized Issue and Dispatch of Intimations through an automated Document Management System

CPC-TDS dispatches intimations in a centralized manner through an automated system, along with through email and in the dashboard of the deductor at TRACES. The digitized record of issuance and service of the Intimations is maintained at CPC (TDS). The intimations that are 'Returned as undelivered' are also tracked and efforts are made to ensure their service at alternate addresses available in the database.

With above service in place, the manpower in the department has been relieved of the task of manually sending out the intimations and can now focus on quality tasks.

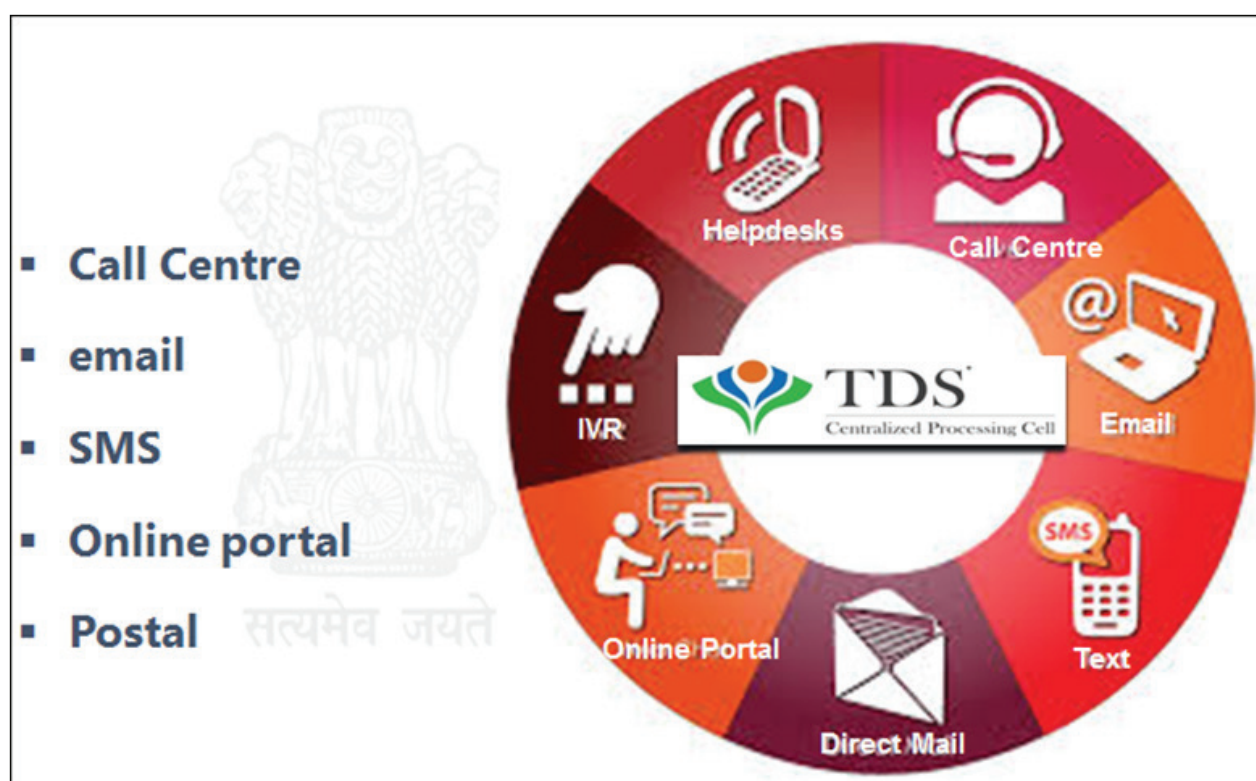
The deductors also benefit as the defaults are intimated within seven days of filing of the TDS statement leading to better compliance. There are better chances of service as address is same as stated in the TDS statement. The schematic diagram of the process that has been put in place, is as follows:



f) Institutionalized mechanisms for Grievance redressal and communication with the stakeholders

The CPC-TDS has set up multiple channels of communication for real time support to all the stakeholders.

- o The stakeholders can also reach CPC-TDS through email, Grievance Portal on the website and by writing a letter.
- o The grievances are handled in a centralized manner and all the stakeholders are given the visibility regarding the grievance by virtue of an integrated system.
- o The CPC-TDS solution has been designed in a manner that the grievance filed by the taxpayer gets reflected on the dashboard of both deductor and deductor's jurisdictional Assessing Officer. The response of any one of the three stakeholders is visible to all three of them for faster resolution of the grievance.
- o Similarly the integrated platform is used to communicate the grievances of the deductors to CPC-TDS and the jurisdictional Assessing officers. The Tax-Payer/Deductor can track the status of grievance resolution online.



Towards Non-intrusive, non-adversarial tax regime

The inception of CPC-TDS marks a paradigm shift in the TDS administration towards achieving a Non-Adversarial, Non-Intrusive Tax administration. The effort of the department is to educate and empower the deductors/taxpayers and not wait for them to commit a mistake leading to an enforcement action. Over 3.50 Crore educational emails on various issues have already been sent by CPC (TDS) to the deductors.

Timely processing of TDS statements coupled with multifold communication channels (Portal, emails and call centre) have facilitated compliance driven ecosystem for the deductors. CPC (TDS)

has leveraged these channels to send specific communications to the target audience (e.g. non-filers, late filers, tax defaulters etc.) with an aim to create “TDS default free” environment and to promote voluntary compliance.

The impact is clearly reflected in the following areas of TDS administration:

- Improvement in filers of TDS Statements within due date
- Improvement in deposit of tax within due date
- Reduction in TDS default cases
- Reduction in quoting of invalid PAN

e-Initiatives in Commercial Taxes

- | | |
|-------------------------------------|--|
| 1. Name of the State / Ministry | Finance Department, West Bengal |
| 2. Name of the owner organization | Directorate of Commercial Taxes, West Bengal |
| 3. Status of owner organization | Directorate |
| 4. Name of the Project | e-Initiative in Commercial Taxes, West Bengal |
| 5. Name of the Nodal Contact Person | Sri Binod Kumar, Commissioner, Commercial Taxes. |
| 6. Contact address: | 14, Beliaghata Road, Kolkata – 700015. |
| 7. Telephone / Fax/ e-mail | Tel: 033-71221003, Fax – 033-2251-5151
e-mail : cct.ctax@nic.in |

8. Project Summary

The project is a part of Mission Mode Project under MMPCT Project under the Department of Revenue, Govt. of India and Finance (Revenue) Department, Govt. of West Bengal. Under this project State of the Art Web, Application and Database Servers (technical specifications given separately) have been installed for providing e-Services to the external stakeholders, who are primarily the taxpayers on the one hand, and on the other, for providing internal services to the officials of the Directorate. The entire software for external and internal processing is developed and maintained in-house by National Informatics Centre which covers the major business processes relating to functional areas of the tax administration. The project primarily deals with capturing all the processes under the WB VAT Act, '03 and Central Sales Tax Act, 1956 besides synchronizing the external process with the internal processes so that there is a seamless integration between the internal and external stakeholders. We have undertaken extensive Business Process Re-engineering (BPR) while moving from manual to electronic mode.

- | | |
|----------------------------------|---|
| 9. Date of launch of the Project | May, 2011 |
| 10. Coverage (Geographical) | Dealers and stakeholders of all states and UTs for interstate trade and CST forms are covered.

Dealers & stakeholders of all 341 blocks of 21(twenty one) districts across the state of West Bengal are covered. |
| 11. Beneficiary of the Project | Registered and unregistered dealers, Common Citizens and all businesses in the State, Tax practitioners, Employees of the Commercial Tax Directorate. |

12. Problem statement or situation before the initiative

Earlier there were a lot of wasted man days for just processing the returns of the dealers and for issuing various Forms and Way bills to the dealers. This resulted in huge loss of time and money for the dealers, as well as, the officials of the Directorate. With the introduction of the IMPACT project, most of these actions are automated and therefore, has released time for the tax administrator to look

into the aspects of actual evasion of tax and thus augment revenue on the one hand and while on the other, the dealer's are saved the regular hassle of visiting the office for getting various services.

The impetus for this initiative came from the government policy of introducing Simplification, Accountability, Responsiveness and Transparency. The idea is to decentralize self compliance and use information technology to prevent evasion and augment revenue. We started using technology to facilitate and support better planning and decision making.

13. Project Objectives

With the change in the Government's role from Government to Governance, where citizens are more and more seen as clients or customers and not as subjects, the West Bengal Commercial Tax Department (WBCTD) too shifted its focus from administering the VAT through Inspector-Raj to providing better and easily accessible service to the taxpayers so as to augment revenue through increased voluntary compliance. Though the computerization of the WBCTD began way back in 1979, but it did not have any mode of delivery of service to the taxpayers or citizens at that time.

The impetus for this initiative came from the government policy of introducing Simplification, Accountability, Responsiveness and Transparency. This has been further facilitated by the Mission Mode Project (MMP) under the National e-Governance Plan (NeGP). The idea is to promote self compliance and use information technology to simplify, accelerate and make it transparent leading to prevent evasion and augment revenue. The Directorate started using technology to facilitate and support better planning and decision making. Earlier there were a lot of wasted man days for just processing the returns of the dealers and for issuing various Forms and Way bills to the dealers. This resulted in huge loss of time and money for the dealers, as well as, the officials of the Directorate.

The overall objective of this project is to standardize the business process thorough e-services. This removes the physical interface between the Directorate and the dealer. It has reduced the cost of compliance to the dealer in money, as well as, time terms. This has also strengthened the revenue administration of the directorate in terms of availability of extensive data analytical tools. Besides, it helps to enhance transparency and efficiency as well as collective and individual responsibility through continuous generation of various Supervisory and Monitoring MIS Reports. By making compliance cheap, easy and hassle free along with making evasion extremely difficult, the incentive for self-compliance is very high.

14. Project scope approach and methodology

The Directorate took each of the functional area of tax administration and after studying the existing process closely, re-engineered them with the basic principle that while the honest tax-payer should not be disturbed and should be provided easily accessible uninterrupted services, the evaders should be properly indentified and made to pay the tax. The basic idea is to reduce cost of compliance and increase the cost of evading the tax. The Directorate took a modular approach because it went with the policy of 'starting small and scaling fast' instead of a 'big bang' approach. As each module was designed, developed and tested, they were just plugged into the service framework. This has also enhanced the replicability of the project. The major or core processes of the WBCTD are Registration including the process of amendment and cancellation, Payment of taxes, fees, etc., submission of Returns, Assessment of the Returns and Refund of excess tax paid. The other enabling or compliance services are application, issue and utilization of Forms, Waybills, Transit Declarations and payment of Sales Tax Deducted at Source.

The project covers 100% ICT-enabled services of Way bills and Transit Declarations, Registration, Returns with DSC, Payment, Profession Tax and 80% Pre-assessment Refund, Returns without DSC, Appeal, Transporter Enrolment, STDS.

Before development stage and also during the implementation stage, consultations were made with the stakeholders like Registered and unregistered dealers, Common Citizens and all businesses in the state, Tax practitioners, Employees of the Commercial Tax Directorate & Chamber of Commerce and Trade Bodies.

For successful implementation of the project the following strategies were adopted:

- (i) The details of base line study done: DPR prepared on baseline study
- (ii) Problems identified: Dealers not having infrastructure – facility given through Facilitation Centre. Dealers with low turnover – facilities through free DSC
- (iii) Roll out/implementation model: Completely owned by Government.
- (iv) Communication and dissemination strategy and approach used: Advertisements, Circulars & Websites.

Technology Platform that was used is as follows:

- (i) Description : Web Services through Java / JREE platform, integration with open source tools such as Jasper Report, Jfree
- (ii) Interoperability SOAP and Restful Web Services
- (iii) Security concerns: Security Audit on OWASP 10 and using SSL layer, connection through DSC and SHA2 encryption
- (iv) Any issue with the technology used: Technology obsolescence.
- (v) Service level Agreements (SLAs) : SLA as per RFP

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

Result Achieved/ Value Delivered to the beneficiary of the project-

- (i) To organization : Revenue augmentation, removal of bottlenecks speedy delivery of services, direct monitoring of services provided
- (ii) To citizen : Easy service availability & delivery
- (iii) Other stakeholders : Information dissemination, service to practitioners

Citizen Centricity and relevance:

Turnaround time reduced to minimum as services are available through service delivery channel accessible to the citizens. Details are given below:

Name of the service	Turn-around time (previously)	Turn-around time (current)
E-REGISTRATION	<p>Turnaround time was very high as applicant needed to make 3-4 no. of visits on the avg. to the Directorate to get Registration.</p> <p>Average time for this service was 60 days.</p>	<p>Applicant does not need to visit to the office for registration.</p> <p>Turnaround time is 2-15 days after complete application filing.</p>
Payment of Tax	<p>Dealer had to pay taxes through challan at the designated banks on each month within banking hours</p> <p>Turnaround time was at least 1 day.</p>	<p>Anytime from anywhere payment can be made by using the net banking facility of the designated banks without extra cost</p> <p>The entire process takes only a few minutes.</p>
Returns	<p>Dealer had to submit the return at the counters/ respective Charge offices of the Directorate quarterly</p> <p>Turnaround time was 1-2 days.</p>	<p>Anytime from anywhere returns can be filed using internet without extra cost.</p> <p>Dealers having no such in- house facility may opt to get the facility from authorized service providers. (Facilitation Centres)</p> <p>The entire process takes only a few minutes.</p>
Waybill	<p>On demand dealer was given blank waybill forms within a day. Dealer had to visit office every time forms were required.</p> <p>Turnaround time was 1-2 days.</p>	<p>Anytime from anywhere e-waybill can be generated using internet without any extra cost for limited Dealers.</p> <p>Automatic Grant of waybill.</p> <p>The entire process takes only a few minutes.</p>
Utilisation Statements of Central Declaration Form	<p>Dealer had to submit Utilisation of Central Declaration Forms statement to the Assessing Officer.</p> <p>Numbers of visits before the assessing authority were at least 4 times annually.</p>	<p>Anywhere Anytime Service proposed for 'e-Submission of Central Declaration Forms Utilisation' through internet.</p> <p>Dealers may opt to get such facility from authorised service providers against nominal fees as fixed by the Government.</p> <p>The entire process takes only a few minutes.</p>

Name of the service	Turn-around time (previously)	Turn-around time (current)
Refund	<p>Dealer had to manually apply for refund to the assessing officer.</p> <p>Refund application processing took 4-6 months and dealer receives refund after long delay and many visits to the office</p> <p>Many times files would get misplaced leading to inordinate delays.</p>	<p>E-filing of Application of refund.</p> <p>Online Processing of refund application and final delivery of refund substantially accelerated. New BPR to ensure refund approval within 30 days</p> <p>Refund amount shall be credited to his account in the bank through ECS.</p>
Profession Tax	Multiple visits to PT offices with plethora of documents.	<p>e-Application for PT Registration and e-Application for PT Enrolment may be introduced.</p> <p>Delivery of service completed instantaneously with auto verification of e-mail id, mobile number and PAN.</p> <p>Applicant gets PT certificate online.</p>
eAppeal	<p>Dealer had to manually apply with all the required documents</p> <p>Multiple visits to the office were required.</p> <p>There was huge loss of time in getting the case completed</p> <p>It took almost 4days to complete the application submission process</p>	<p>The entire application is online</p> <p>The entire process of submission of petition takes a few minutes</p>

User convenience:

(i) Service delivery channels (Web, email, SMS etc.):

Most of the services are available on web, Email and mobile (SMS). Link has been done to provide confirmation and other value added services. Also, service is provided through PDA.

(ii) Completeness of information provided to the users: All Trade Circulars, Notifications are provided in web portal.

(iii) Accessibility (Time Window): 24 X 7 round the year

(iv) Distance required to travel to Access Points: Zero, services are available from the convenience of office/ home computer.

(v) Facility for online/offline download and online submission of forms:

Web application can be made online. Facility of downloading JAR, XML file; completing it offline and upload is available

- (vi) Status tracking: Can be done on the web. Regular suo moto update is also provided through e-mail and / or SMS.

Cost to user:

The service is accessible to the user at free of cost. Users availing the service through dedicated facilitation centres can have access for a nominal fee of Rs. 25, Rs. 35 or Rs. 50 depending on the slab they belong to.

Number of users and services

Number of dealers registered under VAT Act is approximately 2.5 lac.

Number of 100% ICT-enabled services are 9 (nine).

The following table showing ‘hit’ count can be taken as an indicator of the usage that our project has effected:

Year-wise transaction count for “hits” where the project involves web presence. [“Hit” refers to the number of times the Project’s web site has been accessed by intended beneficiaries] [For Apr to Mar 2013-14, 2012-13, 2011-12, 2010-11 subject to the project being operational during this period]

TRANSACTION COUNTS FOR “ HITS”(FROM JAN 2014 TO AUGUST 2014

Month	Unique visitors	Number of visits	Pages	Hits	Bandwidth
Jan 2014	146,819	258,901	6,061,572	12,653,257	283.58 GB
Feb 2014	244,301	514,870	11,601,071	22,310,295	427.92 GB
Mar 2014	245,748	542,006	12,042,988	23,565,527	384.72 GB
Apr 2014	280,212	674,535	15,532,668	32,624,208	635.80 GB
May 2014	268,466	619,168	15,255,077	30,945,488	520.02 GB
Jun 2014	233,882	493,282	11,934,468	23,696,975	387.67 GB
Jul 2014	279,191	641,547	15,340,610	31,186,597	661.07 GB
Aug 2014	185,369	357,536	8,881,017	18,805,380	343.44 GB
Total	1,883,988	4,101,845	96,649,471	195,787,727	3644.22 GB

Sustainability:

- Project is sustained through changes in statute implemented through legislative change
- Complete stoppage of manual process & therefore lots of peer pressure for continuation
- Deeply entrenched re-engineered processes preventing slippage back to manual process
- Capacity building through trainings by IIMs, ATIs and continuous in-house training at HRD
- Reversal to old process not possible due to the quality of services provided and accepted by all the stake holders
- Due to a visible resultant augmentation of revenue the govt. policy mandates a confirmed budgetary allocation for continuance of the project.

Innovation:

- a. Totally based on trust
- b. Confirmation from real time PAN, mobile and email address verification
- c. CST forms Post Return, thus auto verified
- d. Utilisation uploaded can be cross checked by system with TINXSYS
- e. Auto credit of TDS
- f. Payment is auto confirmed as West Bengal is the only state to have around 100% payment via GRIPS

Enhancement of efficiency:

- Revenue buoyancy
- Shift from clerical work to analytical work
- Ready availability of BI and Data Analytics
- Shift from paper file to electronic data
- De jure to De facto Commissioner
- Improved self compliance
- Improved self compliance
- Move to effective governance using ICT

e-Inclusion :

Also caters to the unregistered e-waybill facility for unregistered persons.

Other distinctive features/ accomplishments of the project:

1. Adoption of State of the Art Technology:

Open standards, state-of-the-art servers, secured networking have been used for the project.

2. Setting up of a dedicated help-desk to solve dealers' problem:

A dedicated help-desk is already in place and is available on call all working days and available through email on all days.

3. Setting up of E- grievance Cell to address grievances of the dealers:

An online e-grievance is already in place to address the grievances of the dealers.

Passport Seva Project

Contact Person :	Mr. Muktesh K. Pardeshi
Contact Address:	Joint Secretary(PSP) & Chief Passport Officer Ministry of External Affairs, CPV Division, Patiala House Annexe, Tilak Marg, New Delhi – 110 001.
Tel No.:	+91-11-23387013
Fax No.:	+91-11-23071370
Email ID.:	jscpo@mea.gov.in

Summary

The Passport Seva Project is one of the largest Mission Mode Projects of the Government of India under the National e-Governance Plan. The project has been implemented by the Ministry of External Affairs in Public-Private-Partnership with Tata Consultancy Services as the Service Partner. The project demonstrates how innovative use of Information and Communication Technology (ICT) can transform the way citizens receive services from government institutions. The entire process of citizen service delivery has been automated. Services are delivered through a country-wide networked environment integrating Passport Seva Kendras (PSKs), Passport Offices and external stakeholders involved in the process viz. Police, India Security Press and India Post. A Tier III Data Centre and an active-active Disaster Recovery Centre have been set up with 24X7 operations. The system has built in interoperability to exchange information with other government departments. With 39 Passport Issuance Authorities, 82 state-of-the-art PSKs across the country as on 31st August, 2015 and 13 more PSKs at various stages of progress, the project has expanded the reach of Passport services, ensured service delivery in a transparent manner, in a comfortable environment with greater security, reliability and within defined service levels. The Passport data is also accessible at Immigration Check Posts and at the 183 Indian Missions & Posts abroad. Over 2.9 crore applications have been processed in the system to date. Passport services are rendered to about 50,000 citizens every day in near flawless manner with a high degree of citizen satisfaction. The 24X7 Call Centre supports 17 languages and handles close to 25,000 calls daily. The online portal <http://passportindia.gov.in> provides up-to-date information/ real time status and receives over 20 million hits/day. A mobile app mPassportSeva is also available for the convenience of citizens and receives over 15,000 hits per day.

Coverage – Geographical

The Passport Seva Project (PSP) enables delivery of simple, efficient and transparent processes for delivery of passports to the citizens of India. The project involved creation of a countrywide networked environment – integrating the Passport Seva Kendras and Passport Offices, as well as providing access to a number of external stakeholder's viz. Immigration, India Post, Missions and Police.

- Increased Network and All India Penetration – 82 Passport



Seva Kendras have been set up and operationalised across the country in 68 cities. These Kendras function as extended arms of the 37 Passport Offices.

- Anywhere Anytime Access - As part of the project, a centralized portal (<http://www.passportindia.gov.in>) has been set up which provides comprehensive and latest information on passport services as well as status of an application, thus enabling anytime-anywhere access.
- Call Centre & Helpdesk - A multi-lingual call centre operating in 17 Indian languages enables citizens to obtain passport service related information and receive updates about their passport applications, round the clock, seven days a week by dialling a toll free number. An e-mail based helpdesk also provides information on passport services.



Integration with Missions, Police, India Post and ISP Nashik – The system is also available to 183 Indian Missions and Posts abroad providing them access to real-time passport data. Immigration counters at the checkpoints all over the country access the Passport Seva System to check the validity of passports of citizens travelling from/to the country. The system is also integrated with the state police for physical verification of applicant particulars and antecedents as well as with India Post for delivery of Passports. Interface with the India Security Press (ISP) in Nashik enables the Passport Offices to raise real time requests for blank passport booklets as and when needed.

The Passport Seva Project has further increased the reach of Passport Services to Citizens through various improvement initiatives taken to extend the coverage of the services as under :

- a) Passport Melas: Passport Melas are conducted by Passport Offices from time to time on weekends at the PSKs to meet high demand for passport services in certain areas or a temporary surge.
- b) Passport Seva Camps: Passport Seva Camps are organised on need basis to provide passport services in locations far off from PSKs.
- c) Common Service Centres: PSP has collaborated with CSC e-Governance Services Ltd. to extend the reach of Passport services to rural areas. Citizens can approach a Common Service Centre (CSC) for online filing of application, payment of fees and scheduling of appointment at a nominal charge.
- d) 'mPassport Seva' Mobile Application: The mPassport Seva mobile app enables citizens to access Passport related information on their Smart Phones. mPassport Seva is available on all major platforms namely Android, iOS, Windows and Blackberry.
- e) A Premium optional SMS Service is available to citizens to receive alerts and updates regarding progress of their passport applications and pending actions. This is in addition to systemic free of cost SMS/email intimation.

All these channels effectively ensure that passport related services are available to the citizens of India with convenience and comfort.

Beneficiaries

The key beneficiaries of the project are:

1. The Citizens of India – Applicants for passport & related services
2. Staff & Management of Ministry of External Affairs

3. State Police involved in the Passport Issuance process
4. Indian Missions and Posts abroad
5. Immigration and other Government Departments requiring passport related information

Situation Before the Initiative

The Passport Issuance process, as it existed prior to implementation of the Passport Seva Project required the applicant's physical file to move from desk to desk for processing. The digitization of the application took place post facto for record purposes. The process was lengthy, uncertain, semi-automated, lacking in transparency and error prone. The interface with key stakeholders, such as the Police, was manual and resulted in delays. Each Passport Office had an independent system. There was no real time centralized repository of passport applicants available to passport offices and other beneficiaries of passport related information such as Missions, Posts and Immigration.

Besides, over the last few years, there has been steep increase in demand for passport and related services. The then existing infrastructure, systems and processes were inadequate to meet the growing demand and heightened expectations of the citizens with respect to service delivery. There was also a need to comply with international travel document standards which could not be met in the previous systems.

Thus to augment and improve the delivery of passport services to Indian citizens, a need was felt to overhaul entire passport issuance process and the Ministry of External Affairs (MEA) launched the Passport Seva Project with a Vision

“To deliver all Passport related services to the citizens in a timely, transparent, more accessible, reliable manner & in a comfortable environment through streamlined processes and committed, trained & motivated workforce”

Objectives

With the Passport Seva Project, the Ministry's aim was to:

- Provide better reach and accessibility to Indian citizens seeking passport and related services
- Provide a comfortable environment with best-in-class facilities to applicants
- Make available multiple channels for providing latest information and status to passport applicants
- Bring in more transparency and efficiency with improved, standardized and automated processes
- Provide better interoperability with other departments and government agencies
- Introduce a scalable and extendable model to handle growing demand
- Provide a real time centralized repository of passport applicants accessible to all passport offices, Missions/Posts, immigration and other government departments
- Comply with international travel document standards
- Provide a platform for issuance of e-passports in future
- Have up-to-date information and data at any time for effective decision making

Scope of Services/ Activities Covered

The Passport Seva Project is an end-to-end citizen service delivery project. The project runs in Public-Private-Partnership mode in which the sovereign functions of verification, granting and issuing of passport are performed by the Government staff. Staff from the private service provider check the demographic information, scan and upload the supporting documents, take the applicant's photograph and biometrics and the applicable fees.

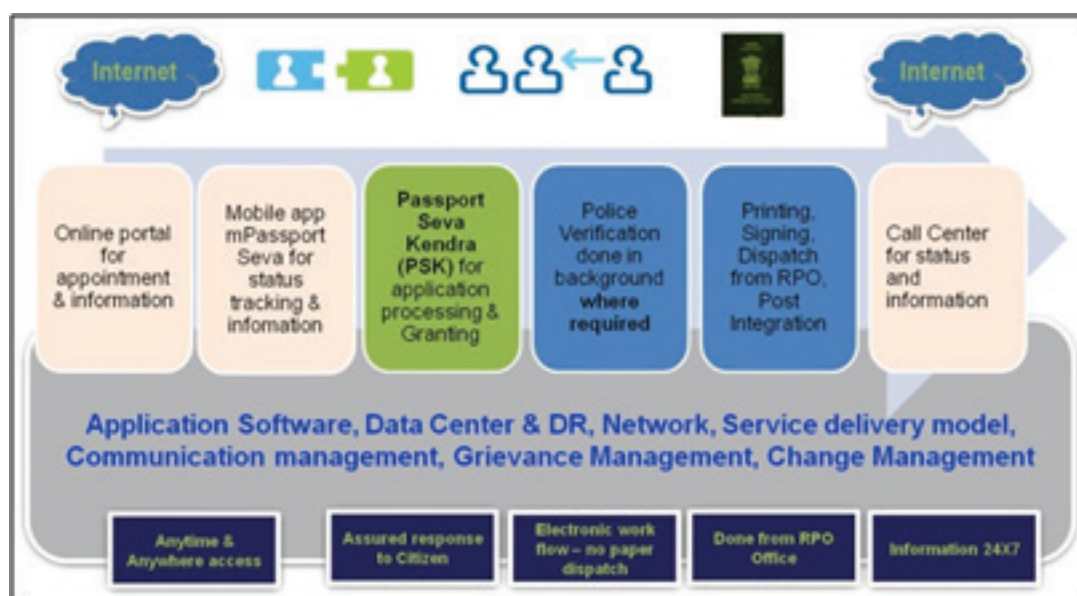
As part of the Passport Seva project study, the passport issuance process was re-engineered with end-to-end automation brought in with an aim to improve efficiency, enhance security and create a unique citizen experience not achieved before.

The key activities under scope of the programme- are:

- Establishment and Maintenance of IT and non IT infrastructure including setting-up of :-
 - o State-of-the-Art Tier III Data Centre and an active-active Disaster Recovery site
 - o PSK infrastructure for all Centres
 - o IT infrastructure at 37 RPOs
 - o Central Passport Print Facility (CPPF)
 - o Network Operations Centre (NOC)
 - o Security Operations Centre (SOC)
 - o Passport Seva Call Centre
 - o Dedicated Development Centre
- Passport Seva Software Application – Requirements Analysis, Design, Development, Maintenance and Support
- Passport Seva Portal (<http://www.passportindia.gov.in>) - Requirements Analysis, Design, Development, Maintenance and Support
- 24*7 monitoring of the entire IT infrastructure from the NOC
- 24*7 real time security monitoring from the SOC
- Citizen Service Delivery from the Passport Seva Kendras (PSKs) and Passport Issuance Authorities
- Data Migration from existing system
- Information Security (Network, Application and Database , Remote authorized user over internet / intranet, Personnel and Physical security)
- 24*7 Call Centre Operations in 17 languages including English, Hindi and 15 regional languages
- Set up and operations of email based helpdesk for managing citizens queries & grievances
- Change Management, Communication Management and Training for staff of Service Provider, RPOs, Police, ISP Nashik and India Post
- Service Level Agreements (SLAs) - Development of procedures, systems and tools for the monitoring and measurement of the same. The project monitors and controls 27 SLAs across parameters measuring external efficiencies, internal efficiencies, external, internal and technical effectiveness, environmental parameters and customer relations. The achievement

and sustenance of these service levels requires a holistic approach to service delivery and optimization across technology, business process and people on a continuous basis.

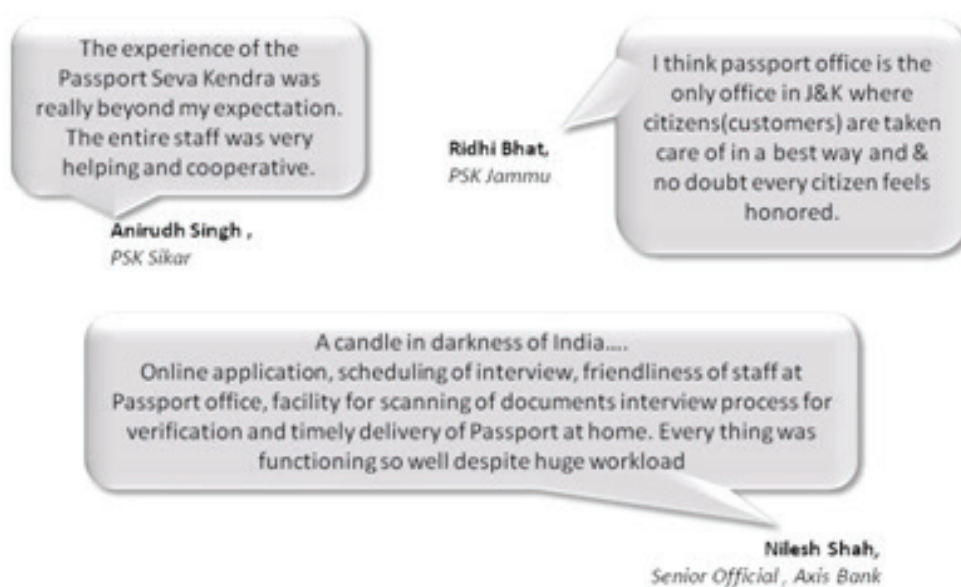
The diagram below depicts the PSP model of citizen engagement:



PSP Model of Citizen Engagement

Results Achieved and Value Delivered - Citizen Centricity and relevance

The Passport Seva Project has transformed the way passport and related services are delivered to Indian citizens. The Passport Seva delivery model has been designed and implemented with a citizen centric approach. Extended reach, multiple citizen touch points, transparency, certainty and simplification in process as well as the comfortable PSK environment, have brought in a sea change in the citizen experience when applying for a passport. Citizens can also provide feedback through multiple channels - feedback forms at the PSKs, email, telephonically through the Call Centre as well as through the Online Portal.



Sample Citizen Feedback

The Passport Seva Kendras provide applicants with a comfortable and air conditioned environment. Amenities in every PSK include photocopying machines, public phone booth, baby care room, newspapers & journals, ATM, internet kiosks and snacks & soft beverage kiosks.



PSK Processing area

The PSK also has the provision of wheel chair, washroom for physically challenged and ramp & lift for easy access to the facility. Helpful staff guide the citizens through the process at the PSK. With more number of service counters and longer service hours, more citizen service hours /day are available.

Cost to User

Further, in the new system, there is no additional cost impact on citizen. The citizen continues to pay the same passport application fee as stipulated by the Government.

With the increase in reach as well as the number of citizen touch points, citizens need to travel shorter distances to avail of passport services. With improved information availability and real time access to application status, the need to travel to passport office has also reduced. The citizen needs to come only once to the PSK to submit the application form, for capture of photograph and biometrics. This reduction in travel has resulted in saving of time as well as fuel.

Further, the new system requires the applicant to submit the application for passport and related services online. This has resulted in saving in paper as paper forms are no longer needed to be printed.

Citizens are now not required to buy physical passport application and are also not required to bring photographs thereby reducing their expenses in applying for a passport.

The Call Centre facility is available to citizens over a toll-free-number thus allowing free access to information for citizens 24x7x365.

Enhanced Efficiency

End to end ICT enablement and standardization of the processes related to the passport services has led to significant improvement in terms of efficiency and transparency.

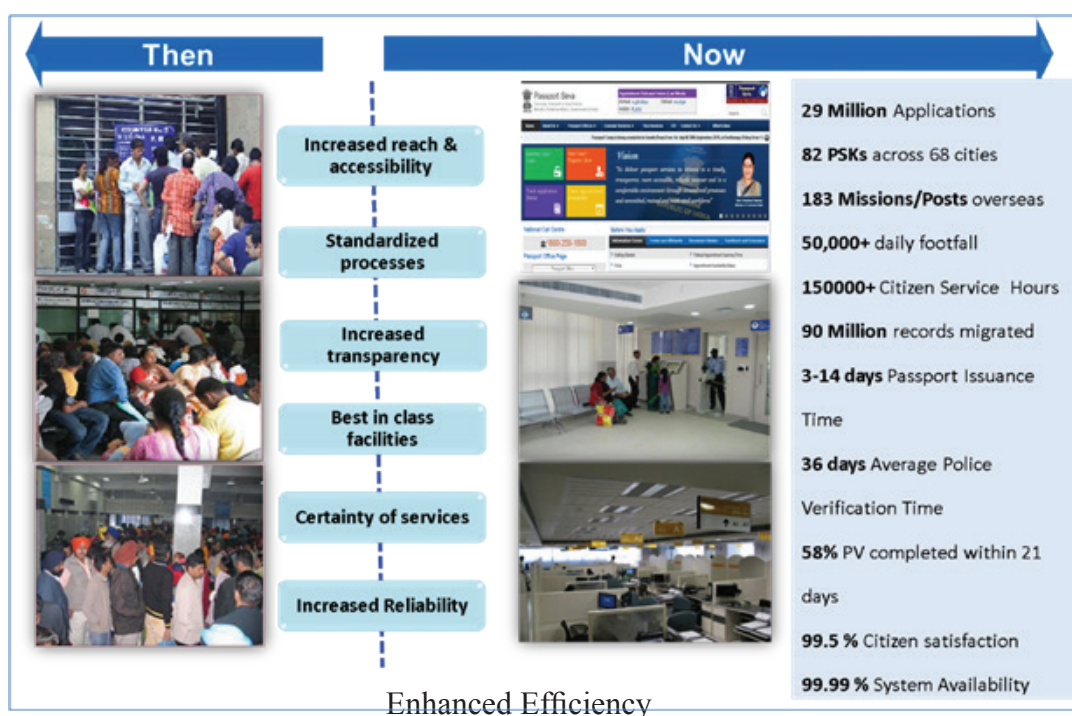
Apart from citizens (the passport applicants) who are the main beneficiaries, the Passport Seva System has also facilitated other users of the system - the officials of CPV Division, MEA, Passport Office Officials, Police, Indian Missions, Immigration and police intelligence departments. The Passport Seva System is a centralized system and hence provides real time online access to all stakeholders from a single source – which was not so with the previous system. This enables quick decision making based on data and information which is current and easily available /accessible. Various MIS reports and dashboards give the officers and staff a clear visibility into various parameters such as pendency across the life-cycle with reasons thereof, staff productivity and spare capacity at PSKs, if any, to service more citizens.

Rationalization of work norms, standardized practices and procedures across all Passport offices, clear accountability of actions tracked via digital signatures and a comprehensive audit trail mechanism has ensured better service to citizens

The real time access to information and decision making has helped enhance the efficiency of the passport offices by bringing in more transparency and control.

An integrated system linking all PSKs, PBOs, Police and India Post have reduced the transit delays due to logistics such as receiving and dispatch of PV forms, upload of PVR etc. Police authorities too have real time access to pendency at the various districts and the exact stage at which an application is pending.

This has improved the overall turnaround time in processing passport applications.



Sustainability

The Passport Seva Project has been designed for sustainability across areas, by adhering to best industry practices and processes.

Technological Sustainability

Passport Seva System is designed to be technically sustainable and adheres to the architectural principles of security, manageability, service orientation, availability, scalability and maintainability.

Organizational Sustainability

All staff engaged on the programme (MEA as well as that of the service provider) have gone through comprehensive training before commencing work on the Passport Issuance System. The training module includes IT aspects, policy and procedures as well as soft skills and crowd management. This has helped them upgrade their skills. Further, the staff are now provided with a better work environment with world-class infrastructure, systems and processes.

Financial Sustainability

Passport Seva Project has been implemented in the Public-Private-Partnership mode under the Build-Own-Operate-Transfer (BOOT) model. It effectively means that the Service Provider (SP) has built, owned, and is operating the entire delivery network required to execute the project from all aspects. SP will transfer the assets to Ministry at the end of project period of 6 years. The SP has leased and built the physical facilities (PSKs, Data Centre etc), developed the software application, deployed its own staff and is operating the centres by taking care of all administrative, operational and financial responsibilities. The service charges are being paid by MEA on the basis of total applications processed and the same are driven by a stringent set of SLAs which are monitored by MEA very closely. From Ministry's perspective, this model is highly sustainable as it is liable to pay a fixed transaction charge only for the number of transactions processed and all costs, whether capital or operational, are being incurred by the SP.

Value Delivered to the beneficiary of the project

The Passport Seva Project has transformed the way passport and related services are delivered to Indian citizens.

Some of the key outputs of the programme contributing to its success are:

- Superior citizen service delivery – Full ICT enablement of services in all domains related to processing and dealing of Passports has resulted in a significant change in both qualitative and quantitative aspects of the passport issuance process from the earlier system. The number of passport processing locations has increased from 39 to 121 as on 31st August, 2015. The number of citizen service hours per day has increased from 1400 to 14000. Applicants are now serviced in a comfortable air conditioned environment at the Passport Seva Kendras with best-in-class infrastructure and amenities. The online portal provides extended reach, ease of use, greater transparency with availability of up-to-date information on passport services and real time status tracking. The Call Centre answers queries round-the-clock in 17 languages. An email based helpdesk is also available to citizens.
- Reduction in processing time – The end-to-end passport issuance process has been re-engineered with complete automation. The digital inclusion of key external stakeholders has resulted in reduction in the overall processing time of a passport application. With the new system, the average issuance time for Normal Passports is 11 days (estimated at 60 days in the old system). This time excludes the time taken for Police Verification.

- Greater accountability and security –The use of biometric authentication as well as the use of digital signatures and audit trail features provide for greater accountability of the staff. The centralized database and the inbuilt demographic data matching algorithm reduce the possibility of issuance of more than one passport to a citizen.
- Social Impact - The project has created an institution with over 3000 staff from TCS as well as the 2000+ staff of the Ministry. TCS has hired more than 2000+ persons from the small towns where PSKs are located. This has improved family earnings, social standing and given status especially to staff from economically weaker section. Various CSR (Corporate Social Responsibility) activities are carried out at the PSKs such as blood donation drives, beach cleaning, food and clothes distribution to orphanages etc.
- Women Empowerment- The project has hired over 45 % women - including women in senior positions. This has had a very positive impact on women empowerment and their earnings.
- Environmental Impact- The online form submission has resulted in paper savings to the tune of 150 million+ sq ft of forest space preservation. Savings in future (calculated upto June 2018) is expected to be to the tune of 300 million+ sq ft of forest space.

Citizens have greatly appreciated the superior service brought in with the new system, the convenience, the ambience, the simplicity of the processes, the transparency brought in along with accountability and have expressed the desire for similar systems across other government departments. Citizen feedback is taken at the Passport Seva Kendra. The Citizen Satisfaction Index across PSKs has consistently been high as evidenced from the feedback.

Awards

The Passport Seva Project has won various awards and citations for its endeavour to provide best-in-class passport services to Indian citizens. Some of these include:

- National Award for e-Governance, GOLD for Outstanding Performance in Citizen Centric Service Delivery(2015)
- ISO 9001:2008, 20000:2011 and 27001:2013 Certifications (2015)
- Web Ratna Awards, PLATINUM ICON for Citizen Centric Service(2015)
- Express Technology Sabha eGovernance Award for Outstanding Performance in Citizen Service Delivery(2014)
- mBillion Award for Mobile Application mPassport Seva(2014)
- Skoch Challenger Award for eGovernance (2014)
- SecureIT Award for Information Security(2014)
- Recognition by Data Council of India(2013)
- Recognition by Economic Times(2013)
- Felicitation by Governance Now as a Big Data Leader (2013)
- eIndia Award for Excellence (2013)
- Promising Innovation Award at Tata Innovista Regional Rounds(2013)
- Computer Society of India - Nihilent Award of Excellence(2012)

Conclusion

Passport Seva has introduced an innovative approach to citizen service delivery, the method of execution as well as in its measurement of success through defined service levels. The project demonstrates the effectiveness of public private partnership for better governance and lives up to its Vision of providing 'Passport related services in a timely, transparent, more accessible, reliable manner and in a comfortable environment through streamlined processes and a committed, trained and motivated workforce'. The success of the programme can be replicated across other public dealing departments across the Government within India and beyond, to transform and enhance the citizen delivery experience.

Kanyashree Online 2.0

S. No	Description	Write-up
1	Name of State	West Bengal
2	Name of Host / Owner Organization	Department of Women Development & Social Welfare & Child Development, Government of West Bengal
3	Status of host / owner organization	Department
4	Name of the Project	Kanyashree Online, the e-Governance Portal of Kanyashree Prakalpa
5	Name of Nodal Contact Person	Ms. Roshni Sen, Secretary, Department of Women Development & Social Welfare & Child Development, Government of West Bengal
6	Contact Address	10 th Floor (East Block), Bikash Bhavan, Salt Lake, Kolkata 700091
7	Telephone/ Fax / Email	(033) 2334-1563 / (033) 2334-1918 / secdsw@gmail.com
8	Project Summary	<p>Designed and implemented by the Department of Women Development and Social Welfare and Child Development, Kanyashree Prakalpa is a Conditional Cash Transfer Scheme that seeks to reverse the high incidence of child marriage and low retention in education of girls between the ages of 13 to 18 years In West Bengal.</p> <p>Kanyashree Prakalpa is innovative for several reasons. Its design is evidence based and simple, and its implementation structure and end-to-end e-governance through its dedicated Portal Kanyashree Online 2.0 promote efficiency, transparency and accountability.</p>
9	Date of launch of Project	01 October 2013
10	Coverage (geographical)	All districts in West Bengal
11	Beneficiary of the project	Adolescent girls between the ages of 13 – 19

12. Problem Statement or Situation before the initiative

Child marriage in West Bengal

Under the Prohibition of Child Marriage Act, 2006 (PCMA), 18 is the legal age of marriage for girls, and 21 for boys in India. Despite several years of this Act being in existence, the early marriage of children continues to be practiced in West Bengal. According to DLHS -3, 2007-08, the state ranked fifth highest in the country when it came to the prevalence of child marriage, with almost every second girl a child bride (54.7%). Although more pervasive in rural areas, statistics revealed that even in non-slum areas of Kolkata, more than a quarter of girls are married before they reach adulthood.

Although DLHS – 4, 2012-13, does show a declining trend in the practice, the numbers are still a cause for concern: 32.1% of girls aged 18 are already married (36.3% in rural areas, 21.3% in urban areas) (All India: 22.1%; Rural; 26.9% Urban 11.0%).

Why be concerned about child marriage?

Child marriage has a hugely negative impact on the education of girls. In West Bengal, attendance of girls in school drops from 85% in the age-group 6-10 years to a mere 33% in the age group 15-17 years (NFHS III, 2005-06). After the implementation of free and universal elementary education in India, progress in enrollment and completion of elementary school has been noticed, however, the transition from elementary to secondary school remains a concern. Secondary education is not free, and many impoverished parents, failing to see the economic rationale for investing in their daughters education, marry them off at this age in the belief that this will enhance the girl's and the family's security. This step however, condemns the girls to a life of financial and social insecurity. Field studies show that most women have to take up some economic activity in later years, and that their lack of qualifications and work experience makes them ill-equipped for the labour market, and therefore susceptible to poverty and exploitation throughout life. As a result, poverty, a factor that fuels child marriage, in turn perpetuates the feminization of poverty.

Apart from allowing them to receive the full benefits of education, child marriage has strong evidential links with maternal and child ill-health and mortality. Child marriages result in early pregnancies, which in turn lead to high maternal and infant deaths, and are also a leading cause for malnutrition among children. Child marriages result in girls becoming mothers at an age when they are not out of childhood themselves - of all teenage girls aged 15 – 19 in West Bengal, 11.2% have already begun child-bearing. (DLHS-4, 2012-13)

Significantly, child betrothal and marriage is a completely gendered practice - and an overwhelmingly large percentage of girls are married at before reaching adulthood - and only a miniscule percentage of boys are subjected to the same fate. However, child marriage is not an isolated problem affecting just young girls - child marriages perpetuate generational cycles of disempowerment. Research shows that the children of young, uneducated mothers are also less likely to attain high levels of education, perpetuating cycles of low literacy and limited livelihood opportunities for future generations.

Limitations of legal prohibition and conventional anti-child marriage campaigns

After the enactment of the PCMA 2006, the Department of Women Development and Social Welfare and Child Development (DWD) implemented anti-child marriage campaigns spreading the message of prevention, and endorsing enforcement of the law and its penal provisions for adults aiding and abetting child marriage,.

However it quickly became evident that legal prohibition and social messaging are largely ineffective in addressing child marriage. For one, India's multiplicity of formal and religious laws complicates the issue of what constitutes the 'appropriate' age of marriage for girls. Secondly, because the practice is ascribed to time-honoured tradition and is justified from a patriarchal perspective as essential for protection of girls from the 'evils of society', eradicating it requires tangible drivers of social change that can transform victims made vulnerable by their age and gender into actors determining their own lives. Kanyashree Prakalpa, a Government of West Bengal initiative launched in October 2013, has been designed as one such transforming factor in the lives of the state's adolescent girls.

13. Project objectives

Kanyashree Prakalpa seeks to improve the status and wellbeing of girls, specifically those from socio-economically disadvantaged families by:

- Incentivizing them to continue in education for a longer period of time, and complete secondary or higher secondary education, or equivalent in technical or vocational streams, thereby giving them a better footing in both the economic and social spheres.
- Disincentivising marriage till at least the age of 18, the legal age of marriage, thereby reducing the risks of early pregnancies, associated risks of maternal and child mortality, and other debilitating health conditions, including those of malnutrition.
- It was also decided that the Scheme should confer more than just monetary support; it should be a means of financial inclusion and a tool of empowerment for adolescent girls. The scheme's benefits are therefore paid directly to bank accounts in the girls' names, leaving the decision of utilization of the money in their hands.
- To reinforce the positive impact of increased education and delayed marriages, the scheme also works to enhance the social power and self-esteem of girls through a targeted behaviour change communication strategy. The communication strategy not only builds awareness of the scheme, but includes adolescent-friendly approaches like events, competitions and Kanyashree clubs, and the endorsement of strong women figures as role models to promote social and psychological empowerment.



Figure 1: Logo of Kanyashree Prakalpa

As more and more girls remain in school, it is envisaged that they will use the opportunity to gain skills and knowledge that will help them become economically independent. Even if girls do get married soon after they turn 18, it is expected that their education and enhanced social and emotional development will give them a better foundation for in their adult lives. And over time, as entire generations of women enter marriages only after they have some degree of economic independence, it is expected that the practice of child marriage is completely eradicated, and women will attain their right to health, education and socio-economic equality.

14. Project Scope, approach and Methodology

Kanyashree's core objectives are simple and focussed: it aims to ensure that girls stay in school and delay their marriages till at least age 18. Kanyashree's approach is also simple: it uses a social safety net mechanism that has shown a high degree of success in transforming the lives of children and adolescents in several countries in the world: Conditional Cash Transfers. The scheme has two cash transfer components:

- The first is a scholarship of Rs. 500/- to be paid annually to the girls in the age group 13 to 18 years for every year that they remained in education, provided they are unmarried at the time. (The amount for annual scholarship has been raised to Rs. 750/- for girls receiving the benefit in the year 2015-2016 onwards)
- The second is a one-time grant of Rs. 25,000/-, to be paid after a girl turns 18, provided that she was engaged in an academic or occupational pursuit and was unmarried on her 18th birthday.

The term 'education' encompasses secondary and higher secondary education, as well as the various vocational, technical and sports courses available for this age group. Given that children from socio-economically disadvantaged families are more vulnerable to child marriage, the scheme is open only to girls from families whose annual income is Rs. 1,20,000/- or less. For girls with special

needs, the income criterion is waived. For girls who are residing in J. J. Homes when they turn 18, both the education as well as income criteria are waived.

Kanyashree Online – the e-governance (Government-to-Citizen) backbone of the scheme

Kanyashree Prakalpa is a model of good governance: its convergent implementation & monitoring platform that uses existing institutional structures, and its e-governance portal – Kanyashree Online (wbkanyashree.gov.in) ensure transparency, efficiency and zero leakage. Key features of Kanyashree Online are:

- Facilitating single-window service delivery:
 - o One of the most distinctive features of the scheme is its focus on accessibility and efficient service delivery. It has single-window delivery mechanism - application forms are available with schools and other educational institutions, and beneficiaries are supported by the school staff in filling up application forms, collecting and collating supporting documents and in liaising with neighborhood banks for the opening of bank accounts.
 - o Eligibility criteria have been kept to a minimum, and certification can be effected by local municipal / panchayat levels. Simplified single page bank account opening forms have been developed in consultation with banks to facilitate opening of zero balance bank accounts, and benefits are remitted through direct bank transfer to beneficiaries' accounts.
 - o All primary data entries on the portal are being done at the institution level (schools, colleges or Vocational Training Centre's/Industrial Training Institutions). In case of unavailability of adequate infrastructure at institution level, the data entry is also being done at the Circle Level Resource Centre's (CLRC) or at the Office of the Block Development Officer (BDO)
- Facilitating transparent, zero-leakage processing of applications
 - o For rapid monitoring and quick disbursal, scrutiny of application forms are conducted electronically through the portal and sanction orders are being generated in the same method.
 - o All sanctioned and rejected application forms are retained for sample verifications with the institutions or in offices of BDOs (for rural areas), Sub Divisional Officers (for urban areas) and Commissioner, Social Welfare (Kolkata).
 - o In line with good governance system, the Kanyashree portal allows single entry system for each beneficiary and is capable of handling duplicate entries to avoid duplicity and data redundancy.

The following diagram illustrates the central role that the Kanyashree Portal plays in the service delivery of the scheme

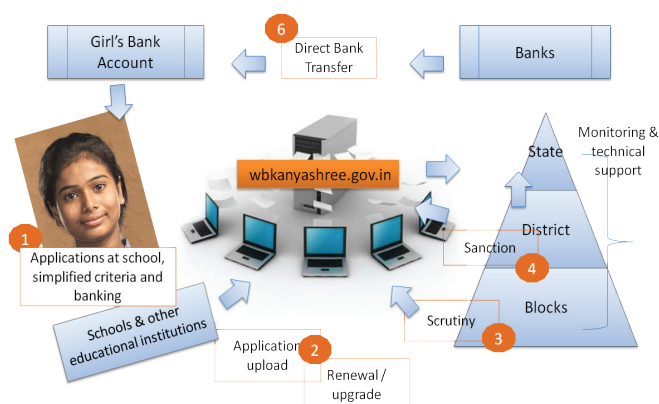


Figure 2: The Enrollment To Sanction Process Facilitated By Kanyashree Online

- In line with good G2C e-governance practices, Kanyashree Online allows for multiple channels of communication between citizens and service providers.
 - o Each beneficiary receives a unique ID and can log into the portal to check the progress of their applications online.
 - o Moreover, beneficiary queries and grievances are handled at several levels:
 - The first line of grievance redressal is at the Institutional level by head of institution / teachers, with escalation to higher levels if necessary.
 - Nodal officers names and contact details (phone and email) are available online
 - At state level queries are handled through dedicated email (support.kanyashree@nic.in) and Help Desk manned by the SPMU, NIC and other state officials.
 - o Every grievance is recorded online, with DPMU receiving SMS alerts for action, and beneficiary receiving SMS alerts on action taken.

The following table provides an encapsulated view of Kanyashree Online's key features

Kanyashree Online 2.0: Key Features	
Accessible, one-window Service Delivery (G2C)	<ul style="list-style-type: none"> • Educational Institutions> single-window delivery mechanism : <ul style="list-style-type: none"> - Application forms (Bi-lingual) are available with schools and other institutions - Supported by the school staff in filling up application forms, collecting and collating supporting documents • Simplified eligibility criteria: <ul style="list-style-type: none"> - Eligibility criteria have been kept to a minimum, - Certification can be effected by local municipal / panchayat levels. • Simplified banking: <ul style="list-style-type: none"> - Simplified single page account opening forms, zero balance bank accounts - Account opening camps held in schools, - Benefits disbursed through Direct Bank Transfer (DBT)
Multiple Communication channels between service provider and citizen (G2C)	<ul style="list-style-type: none"> • Beneficiary updated at each step of the process: <ul style="list-style-type: none"> - Receives SMS alerts on registration / renewal, sanction and fund transfer - Receives unique ID and can track her application online • Beneficiary Queries and grievances are handled at: <ul style="list-style-type: none"> - Mainly at Institutional level by head of institution / teachers, with escalation to higher levels if necessary. - Nodal officers names and contact details (phone and email) are available online - At state level queries are handled through dedicated email (support.kanyashree@nic.in) and Help Desk manned by the SPMU, NIC and other state officials - Every grievance is recorded online, with DPMU receiving SMS alerts for action, and beneficiary receiving SMS alerts on action taken. <p>At least 300 queries throughout the State are addressed on an average on each working day.</p> • Citizen's charter documentation: <ul style="list-style-type: none"> - Implementation Guidelines - Stipulated time of service provision governed under WB notification No. 3570/SW dated 6th November, 2014

Cost-effective, Centralized, Real-time data management (G2C)	<ul style="list-style-type: none"> • Service Delivery Processes <ul style="list-style-type: none"> - Data-entry and primary validation at institutional level, with alternative facilities at CLRC, Block level - Scrutiny and validation (checking of duplication etc), at block level - Sanctioning at district level - Direct bank transfer • Need-based real-time reporting <ul style="list-style-type: none"> - Institutional level: Tracking of progress of application of institution - Block and District level MIS for daily management, scrutiny and sanctioning - State level MIS for strategic management and monitoring.
User Management & Usability	<ul style="list-style-type: none"> • User-friendly, simple data-entry forms, and step-by-step processes • Uses Responsive Web Design (RWD) Approach: can be used optimally over a wide range of (from desktop computers to mobile phones) • Online FAQs and user manuals for procedures
Problem resolution and query handling	<ul style="list-style-type: none"> • Technical Help Desk (phone and email) provided for online users • Dedicated skype facility for video-conferencing
Privacy and Security	<ul style="list-style-type: none"> • User authentication through <ul style="list-style-type: none"> Secured logins and passwords Digital signatures of users at all levels (DMs, ADMs, SDOs, BDOs and Heads of Institutions) • Data security features <ul style="list-style-type: none"> - Photographs of beneficiaries watermarked. - Detailed user-footprint audit trails - All user-computer nodes monitored by NIC and uses 128 bit encryption for all network traffic. - Central hosting of application at NIC iNOC Data Centre with in-built security features like IDS (Intrusion Detection System), multiple level Firewalls. - Audited by STQC. (Standardization Testing and Quality Certification Directorate, GOI)
Technical Features	<ul style="list-style-type: none"> • Uses open-source web technology <ul style="list-style-type: none"> - Coded in php - Data base: PostGresql • Extensible <ul style="list-style-type: none"> - Currently being integrated with PFMS - Can be integrated other state MIS systems - Continually being updated based on user feedback and implementation needs
Quantitative Indicators	<ul style="list-style-type: none"> • Portal services 20 districts, 324 blocks, over 16409 institutions • No. of user levels : 6, No of users = 15K; handles more than 1,000 applications per day. • Development and maintenance cost (for 2 years) = Rs. 36 lakhs (substantially lower than cost for similar applications hosted by other states)

15. Results achieved / Value delivered to beneficiary of the project and other distinctive features / accomplishments of the projects

The Scheme covers vulnerable girls in every district in West Bengal. Currently, girls studying in over 16,400 institutions are enrolled in the programme. Since its inception in October 2013, there

have been 26.02 lakh enrollments under the annual scholarship (with 96.87% sanctioned as on date), and 4.21 lakh enrollments under the one-time grant (with 95.16% sanctioned as on date) . (Figures are sourced from wbkanyashree.gov.in on 4th September 2015)

Figures disaggregated by social group / religion show that the majority of recipients of Kanyashree are from socio-economic backgrounds that are prone to child marriage: Scheduled Castes 23.51%, Scheduled Tribes 5.84%, Other Backward Classes 8.3% and minority communities 24.2%. Recipients from the General Caste comprise 35.51%, and others 2.65%.

A span of 18 months is too short a time to comment on the impact of the scheme, however quarterly rapid assessments conducted by UNICEF in selected districts endorse that the scheme is delivering positive outcomes. The retention has increased in schools in the last year as compared to the previous two years and fewer child marriages have been reported.

Focus group discussions point to a positive response by parents and recipients towards the provisions of the scheme, and a sense of security and encouragement for the future of girls. It was also noted that the scheme has drawn great appreciation and attention amongst parents and girls, as well as school teachers and head of the Institutions, who report changes in level of confidence and there is a growing sense of financial security in their wards.

Reports from the districts speak of innumerable cases of girls, currently sixteen or seventeen, who, because of family circumstances, were on the verge of giving up education during or after completing secondary school. These girls and their parents, mostly daily wagers, seasonal labourers, domestic workers, though were acutely aware that if the girls were to aspire for better lives, they needed education, but were unable to sustain the expenses to keep their daughters in school. The annual scholarship amount and the assurance of Rs. 25,000/- at age 18 have been able to provide lifeline to them. Even relatively better-off families have reported a great sense of comfort in the knowledge that the one-time grant would be their daughters' safety net.

Kanyashree is not perceived by communities as just another scholarship or a grant-in-aid handed out to girls from indigent families. Because of the manner in which the scheme is being portrayed by the government, being a "Kanyashree Girl" has become a matter of pride, of entitlement, and of identity. Being a Kanyashree girl means being part of a larger movement – of girls coming together in clubs, wearing specially designed bangles as badges of honour, being feted by the state on special days. Equally important, being a Kanyashree girl means owning a bank account – the first step to financial inclusion. Being a Kanyashree girl means being able to buy something for one's self from one's own money, or to save for the future. Most of all, being a Kanyashree girl means never having to hear one's parents say "Why are we wasting time and money sending you to school"?

Being implemented through existing institutional structures, with the only additional mechanisms being the e-governance portal and the state and district project management units, the cost of the project has been kept remarkably low. The web portal has been designed and developed by NIC, West Bengal at a development and maintenance cost (for 2 years) = Rs. 36 lakhs, which substantially lower than the cost of similar applications hosted by other states. The total budget provision for Kanyashree 636 crores in the year 2014-15, of which only 4.5 % was expended on administrative costs which were expended on capacity building of stakeholders on operating the Kanyashree Portal, travelling costs, printing of application forms, developing and implementing the communication strategy, cost of data entry and cost of manpower attached to SPMU and 20 DPMUs.

The redressal mechanism incorporated in the portal has simplified the cost that is incurred by the beneficiary in case of rejection or any other issues regarding the scholarship or one-time grant. The

local banks through camp procedure are opened accounts in the school premises, or in prominent public places. Due to e-governance the delay in processing the scholarship and OTG is considerably low. The total number of days taking for approval, sanctioning and releasing the scholarship and OTG ranges from 7 to 19 days.

The huge response from the bottom-up and the commitment of the leadership from the top has made the Kanyashree Prakalpa vibrant and sustainable, and the Government of West Bengal looks at the costs incurred as an investment in the education of adolescent girls. Several years of sustained implementation are expected to bring about a discernible change in the status of the state's girls and women.

Kanyashree has received considerable national and international recognition:

- Receipt of the West Bengal Chief Minister's award for Empowerment of Women, 2014
- Presented as a "Best practice" at the "Girl Summit 2014" organised by the DFID, UK and UNICEF in London.
- Appreciated by the Ministry of Women and Child Development, Government of India, and referred to as a good practice when designing the "Beti Bachao, Beti Padhao" scheme.
- Winner of The Manthan Award for Digital Inclusion for Development (South Asia and Asia Pacific) 2014 under the category E-Women and Empowerment
- Received Silver in National E-governance Award (2014 – 2015) under the category of "Citizen Centric Services" awarded by the Department of Administrative Reforms and Public Grievances
- Shortlisted among the best projects for final evaluation by the United Nations Committee of Experts in Public Administration (2014-2015)
- Skoch Order of Merit for being selected among Top 20 Governance Projects in India for the Skoch SMART Governance Awards (Final Selection for Top 6 Governance Awards on 22nd – 23rd September 2015)

Suraksha Setu - Safe City Surat

S.No	Description	Write-up
1	Name of the State/Ministry	Gujarat. Home Department
2	Name of the host/owner organization	Surat city Police, Gujarat
3	Status of the host/owner organization	Surat city Police, Gujarat
4	Name of the Project	Suraksha Setu - Safe City Surat
5	Name of the Nodal Contact Person	Rakesh Asthaana, IPS Commissioner of Police Surat City, Surat
6	Contact address	Office of the Commissioner of Police, Athwalines, Surat- 395001 Gujarat
7	Telephone/Fax/e-mail	(o) 0261-2244440 Fax : 0261-2244443 (M) +9199784 06259 e-mail : cp-sur@gujarat.gov.in
8	Project summary	<p>Key Features of the Project: The project is designed for surveillance, crime prevention and detection, post incident forensic examination, traffic management and enforcement and for providing disaster management support</p> <p>Cameras : There are 604 IP cameras 2 Mega Pixel resolution including 24 PTZ cameras (360° view) and 575 fixed cameras (Day & Night Vision) installed in 113 strategic locations. These cameras are connected to the Command and Control Center through the dedicated 200 km long underground dark optical fiber network.</p> <p>Command & Control Center: A state of the art, fully air conditioned hall with 280 ft. Video Wall with 9x2 LED Projection Cubes of 67 inches, with 1024x768 resolutions. The Video Wall has the capacity to view 256 cameras at a time. It has 16-workstations, Emergency War Room, Video Management & Incident Management System, camera tampering and health sensors. The data center is equipped with IBM Servers with a storage capacity of 2 Peta Byte (PB) for 30-days. The police wireless communication room and Dial-100 system has been integrated with the Command & Control Center.</p> <p>Enforcement Automation Center: It has access to RTO database for issuing e-challans with photograph of the traffic offenders. Safety and Security: The Data Centre is equipped with rodent repellent, fire alarms, water leak sensors, FM 200 fire suppression system and access control system.</p>

		<p>Other Utilities: The video wall has a Live Map along with a 2D map integrated in the system. The camera can be popped up by just a click on the map. The live feed would start immediately on the video wall just by clicking the camera icon. It would display the location detail of the camera simultaneously. The system enables installation of GPS in police control room (PCR) vans for vehicle tracking for coordinating police responses to Dial-100 calls. The system can also facilitate Integrated Traffic Management System (ITMS) for finding smart solutions to traffic problem in the city. The system can provide disaster management support in case of natural calamities like floods, earth quake, industrial accidents etc. The rescue and evacuation plan can be prepared using video feed. The software has the capabilities for post incident forensic examination.</p> <p>Automatic Number Plate Recognition : (ANPR) technology is being deployed. This system detects the number plate of the vehicle automatically and can even detect vehicles jumping a Red Light traffic signal. (RLVD- Red Light Violation Detection). Speed Detection System can capture speed of the vehicle. is one more feature that is getting deployed. Any vehicle over speeding gets detected in these Cameras and the Registration Number gets recorded in the system for further action.</p> <p>Facial Recognition System : For crime detection there are a few cameras installed at strategic public places – Railway Station / Central Bus Station to capture the face of people. The faces can be matched with Criminal Database for Crime investigation as well as can create an additional database of suspects. Video can be analyzed in a play back mode also whereby it detects the face in the video frame and can match it with the one in the database.</p> <p>Frame by Frame playback of video, abandoned object identification, head counting, loitering identification, intrusion detection and pollution sensors are the other capabilities of the system.</p>
9	Date of launch of project	<p>Tender was issued on 19.03.2012.</p> <p>Work completed on 31.12.2012, in a record time of 4-months.</p> <p>The project was dedicated to the people of Surat City on 18.01.2013 by Shri Narendra Modi, Hon. Chief Minister of Gujarat.</p>
10	Coverage (Geographical)	<p>Surat City has rapidly grown in the last decade and has emerged as 2nd biggest city in Gujarat and the 9th biggest city in India. The city is spread over an area of 326 km having a population of 5.2 million. The city is known for its thriving diamond, textile and petro chemical industry and is the nerve center of economic activity in South Gujarat.</p>
11	Beneficiary of the project	<p>People of Surat</p> <p>Surat City Police</p> <p>Surat Municipal corporation</p>

12	Problem statement or situation before the initiative	<p>Background of the Initiative:</p> <p>Urbanization & Challenges of Law Enforcement:</p> <p>The demographic trends in India are moving towards rapid urbanization and the same is changing the face of the cities. Unique Challenge before Surat City Police:</p> <p>Surat City has rapidly grown in the last decade and has emerged as 2nd biggest city in Gujarat and the 9th biggest city in India. The city is spread over an area of 326 km having a population of 5.2 million. The city is known for its thriving diamond, textile and petro chemical industry and is the nerve center of economic activity in South Gujarat. The city poses unique challenge to the law enforcement agencies for the following reasons:</p> <p>(i) Demographics: The city with a busy port at Hazira-Magdalla, thriving textile industry, vibrant diamond industry, Asia's biggest textile market on the Ring Road and Petro-chemical industry at Hazira attracts huge work force from Saurashtra region of Gujarat and from other States. A whopping 47.38% of the total population is from outside Surat and 46.56% of the population is from outside Gujarat. The presence of huge low income, migrant population and labour class has led to growth of slums and rise in criminal activity.</p> <p>(ii) High Volume of Vehicular Traffic: The city has 2.81 million registered motor vehicles and a large number of vehicles visit/pass through the city for various economic activities. The issues such as poor urban planning, lack of public transport system, dependence of the general population on auto-rickshaw and motor cycles, inadequate man power available with the law enforcement agency make the task of traffic management and enforcement difficult.</p> <p>(iii) Proximity with Mumbai: The city is 285 km away from Mumbai. National Highway No.8, Hazira-Magdalla Port, Western Railway Network and Surat Airport provide excellent link between the two cities. A large number of businessmen from Surat have their investment and establishment in Mumbai. The real estate market in the city has been soaring as it is a preferred urban destination in South Gujarat. Therefore, the underworld and the criminal elements from Mumbai have been trying to fiddle with the real estate, textile and diamond industry in Surat City.</p> <p>(iv) Threats of Terrorism: The city has pockets of mixed population and history of communal clashes. The thriving economy, presence of migrant population, long coast on the west dotted with landing points and the proximity with Mumbai expose the city to the threats of terrorism. There were successful terror attacks in the year 1993 and a large number of bombs ridden with explosives were planted in Varachha-Kapodra areas targeting diamond industry in the year 2008 and unsuccessful attempts were made for causing explosions. These incidents had created fear in the minds of corporates, businessmen and ordinary citizens of the city.</p>
----	--	--

		<p>(v) Rising Crime & Poor Police-People Ratio: The rising population, presence of migrants, growth of slums, increasing socio-economic inequalities, unemployment, lure of quick bucks among youth etc. is leading to rise in crime. The incidents of theft/burglary/robbery, murder, rape, kidnapping, drug trafficking, extortion, human trafficking, crime against children and financial crimes make the citizens of the city feel insecure. The presence of huge migrant population makes it difficult for the law enforcement agencies to prevent and detect such crimes. The police-people ratio is a measure of public safety and United Nations has prescribed 222 policemen per 100,000 populations as the minimum scale. However, the police-people ratio in Surat City is 73 per 100,000 populations as against the national leverage of 137 per 100,000 population. The rising crime and people's expectations put serious pressure on the limited resources of the law enforcement agency.</p> <p>Terror Threat- Need for effective Surveillance System:</p> <p>Unsuccessful attempts by terrorist (Indian Mujahedeen) to execute serial bomb blasts in the year 2008 in Surat and their desire to target the city again for redeeming their 'credibility' compounded by bomb blasts in Zaveri Bazar and other places in Mumbai on 13th July, 2011 wherein apparently Gujarati diamond establishments/markets were targeted, had underlined the importance of effective surveillance system in Surat City. These incidents highlighted the needs for proper mechanisms to protect vital installations, public places, prevent and detect crime, traffic management and enforcement. Shri. Rakesh Asthaana, Commissioner of Police, Surat City during his visit to the diamond market after Mumbai blasts on 15.07.2011 had pointed out during the meeting with the leading diamond businessmen, the need for leveraging public-private partnerships for making use of available technology for law enforcement to create a safe and secure city. This led to the showing of seeds for the Suraksha Setu: Safe City Surat Project.</p> <p><i>I-follow</i>: A movement for Traffic Awareness:</p> <p>A traffic awareness program called <i>I-follow</i> in August, 2011 with the help of Drashtikon-Surat Photography Artisans, Traffic Education Trust, Radio Mirchi 98.3 FM Surat and Youngistan, a Surat based NGO. <i>I-follow</i> with the motto of safety-discipline-awareness had launched an extensive campaign to reach the public through hoardings, banners, posters, pamphlets, distribution of hand bands, painting competition for school/college students, photography competition, street play, seminars and workshops. 126 programs were organized in which over 91,000 people from different sections of the society participated. The idea of closed circuit television (CCTV) camera based surveillance system for better enforcement and traffic management was discussed during <i>I-follow</i> campaigns and the demand for such a system started coming from representatives of industries, eminent citizens and various other stakeholders.</p>
--	--	--

		<p>Police-Public Partnership & Safe City Surat Project: A meeting of M/s. Traffic Education Trust, Surat City was held on 11.10.2011 in which the broad framework of the Safe City Surat Project was discussed. The members had enthusiastically welcomed the idea and had given a go ahead for the project. The police took the lead and a meeting attended by various stakeholders was held on 20th October, 2011 in which in various stakeholders extended their support for the implementation of the CCTV camera based surveillance system. The idea of Safe City Surat Project had taken a formal shape in the said meeting. A public contact program was launched to popularize the idea and more than 45-meetings were held by senior police officers from Sept. 2011 to March, 2012 with the representatives of diamond industry, textile industry, industries based in Hazira Industrial Area, transport association, jewelers, real estate groups etc. The captains of industry, business houses, citizen groups and ordinary people of the city had whole heartedly supported the idea and had offered to provide financial support for implementation the project.</p>
13	Project Objectives	<p>To create a network of closed circuit television (CCTV) camera based surveillance and communication system that can serve as backbone for future expansion.</p> <p>To identify strategic and crime prone areas in the city and install cameras in a phased manner.</p> <p>To establish a Command & Control Center for monitoring, recording and analysis of video footages.</p> <p>To install 2D map and incident management systems for dealing with incidents such as fire accidents, road accidents, robbery etc.</p> <p>To plan optimum utilization of resources and reducing response time of police through GPS based vehicle tracking system for police control room vans (PCR Vans).</p> <p>To create Picture Intelligence Unit (PIU) for effective post incident analysis based on Facial recognition and Vehicle Number plates.</p>
14	Project scope approach and methodology	<p>Unsuccessful attempts by terrorist (Indian Mujahedeen) to execute serial bomb blasts in the year 2008 in Surat and their desire to target the city again for redeeming their 'credibility' compounded by bomb blasts in Zaveri Bazar and other places in Mumbai on 13th July, 2011 wherein apparently Gujarati diamond establishments/markets were targeted, had underlined the importance of effective surveillance system in Surat City. These incidents highlighted the needs for proper mechanisms to protect vital installations, public places, prevent and detect crime, traffic management and enforcement. Shri. Rakesh Asthaana, Commissioner of Police, Surat City during his visit to the diamond market after Mumbai blasts on 15.07.2011 had pointed out during the meeting with the leading diamond businessmen, the need for leveraging public-private partnerships for making use of available technology for law enforcement to create a safe and secure city. This led to the showing of seeds for the Suraksha Setu: Safe City Surat Project.</p>

		<p><i>I-follow</i>: A movement for Traffic Awareness:</p> <p>A traffic awareness program called <i>I-follow</i> in August, 2011 with the help of Drashtikon–Surat Photography Artisans, Traffic Education Trust, Radio Mirchi 98.3 FM Surat and Youngistan, a Surat based NGO. <i>I-follow</i> with the motto of safety-discipline-awareness had launched an extensive campaign to reach the public through hoardings, banners, posters, pamphlets, distribution of hand bands, painting competition for school/college students, photography competition, street play, seminars and workshops. 126 programs were organized in which over 91,000 people from different sections of the society participated. The idea of closed circuit television (CCTV) camera based surveillance system for better enforcement and traffic management was discussed during <i>I-follow</i> campaigns and the demand for such a system started coming from representatives of industries, eminent citizens and various other stakeholders.</p> <p>Police-Public Partnership & Safe City Surat Project: A meeting of M/s. Traffic Education Trust, Surat City was held on 11.10.2011 in which the broad framework of the Safe City Surat Project was discussed. The members had enthusiastically welcomed the idea and had given a go ahead for the project. The police took the lead and a meeting attended by various stakeholders was held on 20th October, 2011 in which in various stakeholders extended their support for the implementation of the CCTV camera based surveillance system. The idea of Safe City Surat Project had taken a formal shape in the said meeting. A public contact program was launched to popularize the idea and more than 45-meetings were held by senior police officers from Sept. 2011 to March, 2012 with the representatives of diamond industry, textile industry, industries based in Hazira Industrial Area, transport association, jewelers, real estate groups etc. The captains of industry, business houses, citizen groups and ordinary people of the city had whole heartedly supported the idea and had offered to provide financial support for implementation the project.</p> <p>Implementation of the Project:</p> <p>The forum of Traffic Education Trust was used for the implementation of the project in public-private-people-partnership (4P) model. A technical committee comprising of Prof. Rakesh Gohil, Head, Department of Computer Science, SVNIT, Surat and 4-other eminent citizens with technical back ground was constituted for the finalization of technical specifications and overseeing the implementation of the project. The technical committee played the role of the consultant in the implementation of the project and no consultancy charges were incurred. Five sub-groups comprising of Police Officers and Members of Traffic Education Trust were constituted for holding a series of meeting with stakeholder and mobilization of funds. The sub-groups had mobilized the funds during meetings held with different stakeholders and citizen groups.</p>
15	Result achieved/value delivered to beneficiary of the project and other distinctive features/ accomplishments of the project	<p>Increased efficiency of outputs/processes and effectiveness of outcomes: The CCTV camera network facilitate efficient surveillance of entry-exit points, public areas, vital installation and important traffic junctions. Substantial number of cases of hit and run, vehicle theft, bag lifting, chain snatching, crimes against auto rickshaw commuters, etc. have been detected based on the video footages. They also serve as excellent piece of evidence in the court of law.</p>

	<p>Enforcement Automation Center has been established, and e-challans along with photograph of the violating vehicle are being issued since April 2013. e-challan system is a transparent, people friendly and non-intrusive traffic enforcement system which takes away police intervention on the street with the people violating traffic rules thereby minimizing the chances of corruption and abuse of power. 5.9 lacs e-challans have been issued.</p> <p>The management of public processions, monitoring of VVIP movements and management of traffic during peak hours has been made effective through camera based surveillance system.</p> <p>Dial-100 System (A toll free number to reach the Police Control Room) and Woman Helpline-1091(A toll free number for the women in distress to reach Police Control Room) have been integrated with the Command & Control Centre.</p> <p>The movement and responses of Police Control Room Vans (PCR Vans) is being coordinated from Command & Control Centre through streamlined wireless communication system. It has improved police response time thereby winning the public confidence.</p> <p>The presence of surveillance cameras in different locations and issuing of e-challan has improved public behavior on street and has created deterrence to the criminal activity.</p> <p>The initiative has given a big boost to the community policing initiative under the Suraksha Setu and has contributed significantly for improving police image.</p> <p>Public participation in policing efforts, makes Police very effective and goes a long way in improving its image. CCTV based Surveillance System, traffic management, and disaster management in Surat city is an excellent example of community participation in policing efforts.</p> <p>Summary : About 27% reduction in Crime rate <u>150 criminal cases solved through Surveillance System</u> Murder – 10 Kidnapping – 13 Theft – 61 Accident – 42 Missing person – 3 Robbery - 3 Traffic E – Challans issued upto June 2015 — <u>5.9 Lacs</u> Traffic E – Challans — Highest realization rate in India.</p>
--	---

Force Deployment Software

Authored by : Arvind Kumar Chaudhary, IAS, Additional CEO, Office of Chief Electorate Officer, Bihar, email : arvindkchy@gmail.com/ceo_bihar@eci.gov.in and Shailesh Kumar Shrivastava, Technical Director, National Informatics Centre, Bihar, email : sk.shrivastava@nic.in

a) Introduction/ Background of the innovation;

Background :

Conduct of free, fair and peaceful election is foundation stone of a strong, vibrant and successful democracy. In the northern/eastern part of the country and particularly Bihar, the elections were previously marred by incidents of violence. The aim of containing muscle power in election led to evolution of an effective management of police force and their neutral deployment (on the basis of randomization) on Polling Stations. Deployment of forces is one of most important ingredient in conduct of peaceful elections. Deployment of Forces for elections purpose in various phases of elections is one of the most difficult task of election process. There have been instances in which deployment of forces do not seem to be in accordance with the transparency guidelines of Election Commission leading to possibility of inappropriate practices. In addition, due to inadequate number of forces in a district, it becomes necessary to move forces from one district to another in different phases of elections to fulfill the required numbers. The movement of forces in each phase range from 3 to 5 thousand per district. Arrangements are required to be done for Advances, Vehicles, Accommodation and Arms etc. in place of deputation. Issuing command letter for deployment and tagging with PCCP (Polling-cum-Collecting Party) or for static deployment at Polling Stations using randomization software and then serving the letter to the polling team is also a difficult task. In addition, as all Home guards are not being used on daily basis by District administration and many stay at remote locations, makes it difficult to inform them timely for election duty purpose. Due to paucity of time and volume of work, it was felt difficult to manage them manually or through OFF-LINE mode.

Introduction :

Force Deployment Software is a workflow based online software which integrates functions of various stake holders such as SP office, District Commandant, Home Guards, Election Office, vehicle cell, reporting cell, command distribution centre, police lines etc. Formation of parties, locating members of parties and assembling party for despatch involves huge task as part of police administration during election. First time in Country



automated software to manage the entire processes related to movement and deployment of forces has been developed. Randomization process helps to randomly depute police personnel to polling stations and PCCP(Patrolling cum Collecting Parties) which brings transparency in the entire process. Help desk has been created across state to assist the forces in locating their parties and collecting command letter. Software helps to collect force details from various field formations, send SMS alert for reporting, monitor total availability of forces against targets, arrivals, reported, command

distribution, allotments, re-allotments in case of casualty, communication plan, vulnerability mapping of polling stations etc. This has drastically reduced the effort of managing forces in extremely limited time between various phases of elections. The software has been enhanced to include duty distribution of Home Guards on other days so that their payment schedules can easily be generated.

Salient Features:

- Online workflow based system to assist Police Administration in deployment of forces for Patrolling Party and on Polling Station.
- Identifying each designated polling staff by a unique serial no i.e. Personal Identification Number (PIN) unique across the State of Bihar.
- Online sharing/movement of Police personnel database for different phases of elections by concerned Police Administrations.
- Monitoring of Force movement/arrival against allotment to the district.
- Deployment of two-tier of random number generation techniques for polling party formation and deployment (booth tagging) with zero bias
- Standardized application for Parliament and Assembly Elections with capability to support local elections to Nagarpalika, Panchayat (Local Bodies Election) etc.
- Support Simultaneous Elections to Parliament and Assembly.
- Multi-layer data security at the level of Database, User & Observer.
- Facility for locking and unlocking the processed data by the Observer.
- Facility of uploading photo to data table from external media and option to download photo from data table to system folder.
- Preparation of Force Identity Card, used during poll duty.
- Generation of Command letters with photograph.
- Automated deployment of police force on election booth for free and fair elections.
- SMS alert/ message to all concerned.
- Helpdesk and Online Search facility for duty of Police Personnel and Home guards.
- GIS Mapping of Election Booth and vulnerability mapping of election booth.

b) How and why was it conceived:

Election activities are time bound process and resource management in terms of man, money and material is crucial for smooth conduct of elections. Force Deployment Software deploys unique innovative ideas to weed out any bias in formation of police parties for their deputations on polling stations. composition and booth allotment. System inbuilt functions along with complex guidelines of Commission make this approach unique thus keeping user informed and satisfied at each and every step of police party formation. Multi-layered randomization technique is core to this innovation. The software has been integrated to inform to the stakeholders through e-mail and SMS regarding various activities during election related processes. Entire internal communication between field formations is through e-mail. SMS integration has been done for both PULL and PUSH service for enquiry as well as reporting / information purposes.

Factors which led to the initiation of the project:

- Non-standardised procedures, ad-hoc approach being followed at different Administrative Units.
- Involvement of large number of Manpower for Management of force deployment
- Non-transparent, slow, inefficient and time-consuming process.
- Duplicity of work and lack of quality of service delivery
- Difficult to maintain secrecy of data and absence of effective data sharing and management.
- Sub-optimal Resource utilization: non-receipt/late receipt of information about forces arrival leading to difficulties in deployment and other management.
- Impersonation of police forces on duty.
- Possibility of bias in duty allotment by mid-level authorities.
- Chances of Errors and discrepancy in processes at district level.
- Physical Tagging Police Party and Magistrates at one place and dispatching them to Polling Stations - a very tedious process.
- Manual sharing of data about receipt of personnel from other districts made it very cumbersome to manage the Party Formation and Tagging due to paucity of time.

The major bottleneck with the existing system was that it was non-transparent, slow, in-efficient and time-consuming process. Locating and tagging police personnel, home-guards and Magistrates at one place and then dispatching them to election booth as party/team, requires entire machinery of police forces completely engaged with the process. Data Entry of forces being used by recipient district is also cumbersome task and due to paucity of time it was resulting in difficulty at times in proper deployment of Forces on Polling Stations.

Constraints faced by the project team in Conceptualization and implementation of the Project:

- Conceptualization of a new process with no such precedence in any State.
- Non-Availability of ICT infrastructure, Technology and culture in the offices of Stakeholders like Police and Home guards.
- Collection of Police personnel Details from Various Police Offices, Thana, Training Centres, CID etc.
- Non-availability of mobile phone numbers of Home Guards.
- Time Constraints between various phases of elections to process in very less time
- Need for Government Process Re-Engineering at various stages of deployment.
- Security considerations in deployment of Forces.
- Non-availability of vulnerability assessment and spatial layers for such practices.

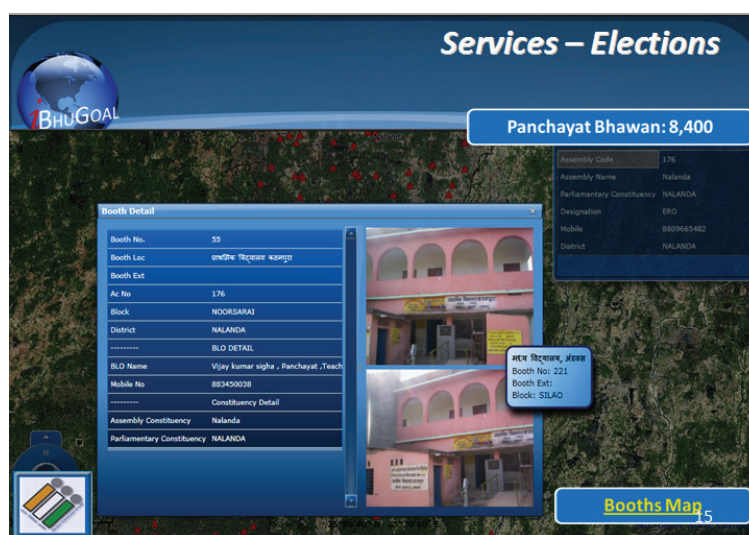
Reasons for its requirements:

- Need for conducting free and fair polls and making transparent deployment of forces across the state in accordance with guidelines of Election Commission of India.
- Optimal use of informed Police and Para-military forces has decreased considerably the occurrences of incidents related to Poll violence in the state.
- Management of forces and tracking movement in different phases from one district to other district.

- Allotment, deployment, booth tagging, Magistrate tagging, Command Letter distribution etc. management across state through an efficient system.
- Time-consuming procedures that result in frustration for users of the system and leading to chaos at SPs office/Police line.
- Management of large scale force movement from different districts of the State.
- Late arrival of forces from other districts/places resulting in chaos in their deployment.
- Need for efficient communication system/Plan to inform to the stakeholders.
- Home guards are not regular visitors to offices and they remain in remote locations.
- To assist para-military forces in their deployment plans for booth buildings.
- No such precedence of deployment process in any State of this scale.

c) Process re-engineering done in order to reform the existing system:

The current system of force deployment has been designed to serve the needs of police administration during elections, which is a complex process and results in chaos during deployment process. There was need for simplification of deployment process and ICT intervention in the entire process. The entire process had to be done in extremely secure manner. It was also necessary to develop a system which generated most of the in-process documents through the system itself. Complexity of the process can easily be understood as

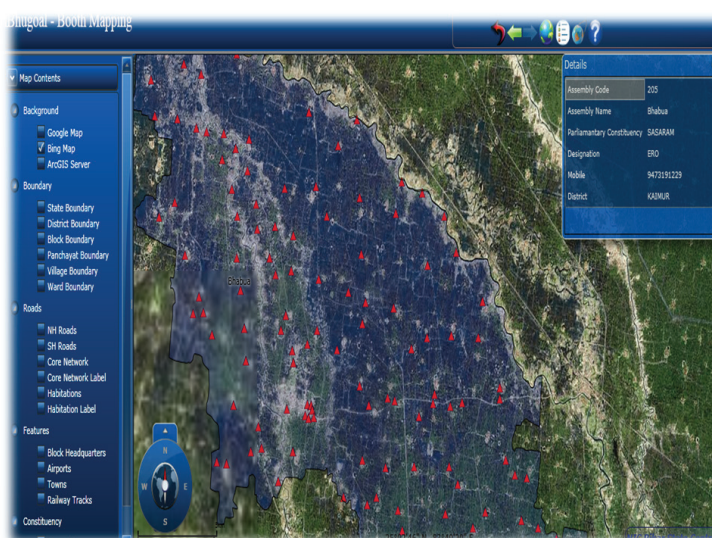


three different members of police party namely magistrate, police and home guards are three different entities and bringing them together so that command can be issued letter and served to them and they can collectively collect arms and ammunition from single place is extremely difficult process. The process of deployment was quite cumbersome and there was need to evolve alternate system of deployment with ICT intervention. Hourly assessment of force arrival, command distribution, vehicle arrangement etc. had to be done on priority basis. Also, the deployment of force needed to be in accordance with the transparency guidelines of Election Commission of India. In addition, due to inadequate number of forces in a district it becomes necessary to move forces from one district to another in different phases of elections for conduct of peaceful election.

The online force deployment software has resulted in drastic reduction in efforts required to manage activities during deployment of forces at district level. Police personnel get information well before time regarding their deputation to the district so that they can easily plan the journey. Travel arrangement, vehicle, stay etc. can be easily planned as dispatch schedule of forces are known in advance. Distribution of command letters, locating other members of parties has become extremely easy. The system automates the process of movement of forces for different phases of elections, reporting of home-guards, deployment of state forces to booths and formation of PCCP (Patrolling cum Collecting Party), reporting from Polling Station, SMS alerts at various stages of deployment. The system is a web-based online software which integrates functions of various stakeholders such as SP Office, Commandant of Home Guards office, Election Office, Vehicle Cell,

Reporting Cell, Command Distribution Centre, Enquiries and Helpdesk etc. Formation of parties, locating members of parties and assembling parties for despatch involves huge task for police administration / district administration during election. First time in Country, automated software to manage the entire processes related to movement and deployment of forces has been developed. Randomization software helps to randomly depute forces to election booth and PCCP, which brings transparency in the entire process. Helpdesk has been created across state

to assist the forces in locating their parties and collecting command letter. Software helps to collect force details from various field formations, send SMS alert for reporting, monitor total availability of forces against targets, arrivals, reported, command distribution, allotments, re-allotments in case of casualty, communication plan, vulnerability mapping of booths etc. This has drastically reduced the effort of managing forces in extremely limited time between various phases of elections.



Challenges faced in implementing Process changes:

- Conceptualization of a new process with no such precedence of using ICT Systems in any other State for deployment of Police Forces on such a large scale.
- Conducting free and fair polls by making deployment of forces in a transparent manner across the state in accordance with guidelines of Election Commission of India.
- Use of informed Police and Para-military forces to decrease Poll related violence.
- Deputation and movement of large number of Police Personnel at various locations received from multiple Districts for different phases of election.
- Deployment Planning, Random Booth-tagging, Physical Party Tagging, Command Letter Distribution and Communication to stakeholders
- Communicating Home Guards for participating in Elections since they are not regular visitors to office and they remain in remote locations.
- Non-availability of vulnerability assessment and spatial layers for such practices.
- Non-Availability of ICT infrastructure, Technology and awareness in departments of Stakeholders like Police and Home guards.
- Time Constraints between phases during election, to process in very less time
- Need for Government Process Re-Engineering at various stages of deployment.

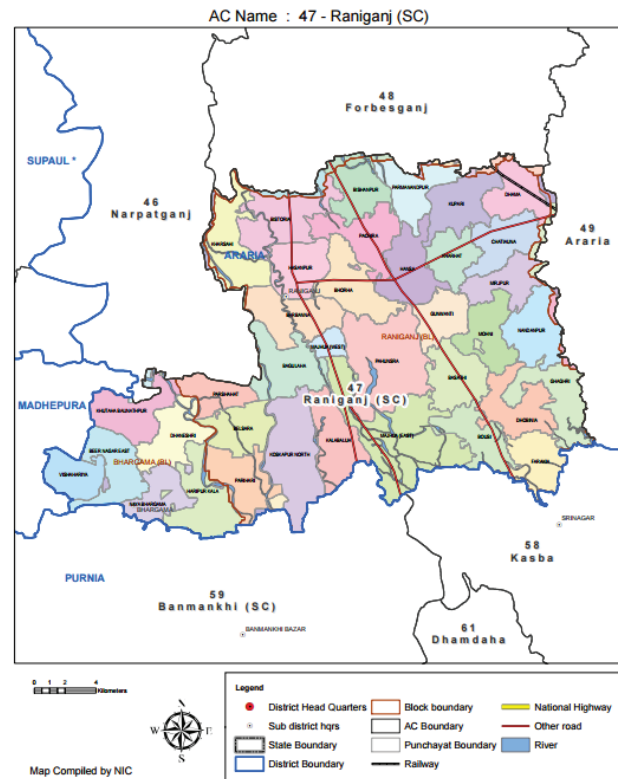
The Lessons learnt from the Process re-engineering exercise include:

- Use of software for enforcement of ECI guidelines.
- Convincing Political parties for transparent processes
- Convincing Observers for software functionality
- Implementing software functionality within very small time period
- Standardization of processes during elections.

- Facilitation of ICT infrastructure for application
- Implementation of software for large number of locations.
- Training large Number of Operators and Stakeholders
- Issuing Command letters to Police Forces
- Using SMS and other ICT tools for effective management of the process.

WEB GIS MODULE

Web GIS module envisages establishment of Bihar State Election Spatial Data Infrastructure for Multi-Layer GIS for planning and e-Governance by taking advantage of existing & available data and ICT infrastructure resources. This is largely meant to visualize MIS data spatially through thematic maps for making quicker and better decisions. This has been introduced to bring dynamism and transparency in the process in order to overcome problem related to planning, development, monitoring & decision-making during election process by Chief Electoral Officer, Observers, DEOs and ROs. District and Block wise maps, AC wise maps, Naxal Affected Areas mapping, Election Phases with timing, Mapping of Polling stations and linking maps with communication plan etc.



Compliance of the Technology adopted with e-Government standards

Most of the reports and data are available in Unicode so that people are able to access the services in local language. Software is most effective in providing complete details about various processes, monitoring day-to-day operations, reporting from each district/block through SMS and transparently posting persons through standard operating procedure established by departments. This increases faith of stakeholders and enforces guidelines of department. Conducting free and fair procedure is a challenge to all stakeholders and ICT driven process help to improve quality of decision making both by functionaries. A high-end database configured to support large number of concurrent users has been established. NIC SMS gateway has been integrated to deliver sms services. The software has been developed on generic principles and has scope for implementation in any Lok Sabha or Vidhansabha constituency or other election process in the state. The software can be replicated in any of the states or in case ECI takes initiative to implement the software across the country. The software has been notified by CEO office, State Election Commission as well as election authority conducting PACS election. Centre for Good Governance, Bihar can take the project to remaining departments. A large number of people currently involved working with software can be trained to operate new software. The new software can be replicated easily.

d) Institutional mechanisms like Orders/Guidelines set up and cost incurred;

The project has been implemented in collaboration with NIC, Bihar State through NICS (National Informatics Centre Services Incorporated), a section 25 company under NIC, Department of

Information Technology, Ministry of Communications & IT. This is to facilitate appropriate provisioning of outsourced services required for the project. However, NIC is single point coordination for project development & execution for the State Govt. In order to facilitate data entry operations, data entry agencies have been hired at district level. However data entry operations are being done at district level with help of Dy. Election Officer and District Informatics Officer. CEO office has also hired a set of programmers and operators to support day-to-day operations. As implementation task is huge of its kind and time bound it is difficult for single agency to manage entire activities across Bihar. A set of Data Entry Operators are also hired at each district level. Similarly data entry operators and nodal officer of home department have been trained for software operations at district level. Entire funding for the project is done through Chief Electorate Officer, Bihar and NIC, Bihar. Project funding has been done at regular interval in terms of Manpower, Hardware resource, Software support etc.

Project management & Monitoring adopted

Following committees have been formed by Election Department, Government of Bihar for monitoring long term objective and progress of the project.

State Level Apex Body-

This has been constituted under chairmanship of Chief Electoral Officer, Bihar with Principal Secretary, Information Technology, Addl. CEOs, ADG(Hq), DIG (Homeguards), State informatics officer, MD, BELTRON as members

State Level Steering Committee-

This has been constituted under chairmanship of Addl. CEO with Nodal Officer, Police Computerisation, DIG(Homeguards), Two Representatives from districts and Election Co-ordinator, NIC, Bihar as members.

District Level Executive Committee-

This has been constituted under chairmanship of District Magistrate of respective district of Govt. of Bihar with Nodal Officers of Police & Homeguards, IT Manager, Two Representatives of Blocks and DIOs/ADIOs of NIC as members.

HIRING Manpower and Formation of Project Team

i. State PROJECT Core Team:

NIC, Bihar and Election Department, Government of Bihar have notified officers as Project Members of Bihar Election team. This also has members from administrative officers, who advise and assist during project implementation. This team is supported by a team of programmers well versed in adopting online web applications and provides technology implementation of the Project. This team works under overall supervision of Chief Electoral Officer cum Principal Secretary, Election Department, Government of Bihar and State Informatics Officer, Bihar. The project team consists of officers nominated by NIC along with hired programmers well versed in application development using technologies such as web applications, GIS applications, Mobile Applications, other multi-channel delivery Systems.

ii. User Department Core team:

In order to support project at department level it is necessary to create and train a group of resource persons who can work at department level and integrate MIS applications with GIS.

User department has formed a cell with hired manpower and domain experts. These people have been trained on using application by Central Core Bihar team. These people not only co-ordinate with Central Bihar team but also interact with field formation for collecting data. In addition the cell can motivate decision makers to use ICT in decision-making process and create an ICT enabled environment for planning and monitoring.

iii. Resource Persons at District level:

In order to support project at district and Block level large chunk of data has to be uploaded from districts at regular interval. Kind of Parameters required for decision-making has to be identified by the district. District officials dealing with data have been trained and equipped both for uploading data, data standardization and also they can use ICT as a tool for decision making. Proper hardware and software infrastructure has been created at field formations for updating data. District Informatics Officers/IT Managers have been trained to use the application and provide technical support to the Project. Both SP's office and Dy. Commandant (Homeguards) technical persons have been trained to operate the software and co-ordinate with field formations.

iv. Workshops on adoption of latest technologies:

Workshops have been conducted for various stakeholders of the project to make them understand about available technologies and best practices. In order to support project at district and Block level, numerous training programmes have been conducted through Master trainers. Currently there is emphasis on using Mobile technology to deliver services and gather data from field formations.

e) Benefits from the innovation and factors responsible for its success;

- Integration of GIS, MIS and Mobile Technologies for providing Multi-Service Delivery Channel.
- Unified database of all Police Personnel has resulted in efficient data sharing and communication to stakeholders.
- Effective monitoring of Deployment Plan to avoid last-minute shortages.
- Informed Administrators and Police Personnel through GIS Maps helped to drastically reduce untoward incidents.
- On-site reporting from different landmarks en route helped in timely decision making.
- Effective utilization of time and manpower between various phases of elections by process re-engineering.
- Integrated System for Deployment Management and Inter-District deputation of Forces and their Movements through an on-line System.

f) Impact assessment done, if any;

The application has resulted in drastic reduction in efforts required to manage activities during deployment of forces at district level. Police personnel get information well in advance regarding their deputation to the district so that they can easily plan the journey. Travel arrangement, vehicle, stay etc. can easily be planned as dispatch schedule of forces are known in advance. Distribution of command, locating members of parties has become extremely easy. Due to paucity of time in management of forces during elections ICT intervention and latest communication tools is extremely useful for police administration. The cost of the project is very less as compared to effort required to manage database during elections. Thus the workflow based integrated system has drastically

simplified the processes and resulted in new paradigm of force management during elections. The feedback received from police departments, observers, and commandants of home guards speaks volumes in terms of time and effort required to carry out task as has been minimized due to this effort. The effort also has resulted in statewide database of constables, hawaldars, police officers, inspectors and home guards. It is being used for various other MIS activities apart from deployment of forces for elections.

Situation after initiative – Impact of Effort

- A set of standard operating procedure was adopted with business process re-engineering keeping in view the ECI guidelines.
- Work flow based integrated system has simplified the processes and resulted in new paradigm of force management during elections.
- Distribution of command letter, locating/tagging various members of parties has become extremely easy. Sharing of Mobile Nos. among party personnel.
- Advance information given to Police Personnel about deputation to various district in different phases of election - so that they can easily plan the journey.
- Travel arrangement, Lodging, Food and Tour advances were easily planned.
- About 80,000 Police Personnel were deployed for smooth conduct of 2014 Parliamentary election in 40 parliamentary constituencies involving 243 Assembly Segments. About 20,00,000 transactions of force deployment managed through the system.
- Stakeholders kept updated using SMS alerts about the events at various stages.
- State level Forces Database for day-to-day deployment related to law and order, calculation of payments to Home Guards and communication to report on duty.

Key Performance Indicators

Volume of transactions processed

Sl. No.	Services	2014-15	2013-14	2012-13
1.	Force Deployment	15,50,000	8,45,000	1,20,000
2.	SMS Support	56,00,000	12,00,000	3,10,000
3.	Helpdesk/Grievances	6,35,000	6,46,000	3,15,000

Current software technology Features

Parameters	Features in the software
1. Platform	SQLSERVER 2008 and .net Platform, C#, AJAX, ARCGIS Server, Silver light, IIS
2. Localization	English and Unicode Support
3. Online/Offline	Online Software
4. Force Randomization	Force Deployment Module has been added for deployment of Forces to booths with on-line facilities
5. SMS Support	SMS Alert and SMS Monitoring facility has been added for monitoring

6. On-line Receipt of Personnel Information	On-line submission of manpower details from different departments have been incorporated
7. Help Desk and KIOSK	Available for Search Facilities
8. GIS Mapping of Election Booth	Available with web interface
10. Mobile App	For Enquiry of Booth and Online Reporting
11. Role Based Software	Roles Created for CEO Office, District Election Office, SP Office, District Home Guards Office, Police Headquarters and DIG, Home Guards Office

Hits to the Web Site

Sl. No.	Services	2014-15	2013-14	2012-13
1.	Force Deployment Software	35,70,000	12,37,000	7,80,000

Technology Perspective and software platform of implementation

H/W and Software Specification	Name of H/W and S/W
1. Servers & Desktop	High End Blade Servers, Local servers, Desktops
2. OS	Windows 2008, Windows 7 & XP
3. DBMS	SQLSERVER 2008
4. Framework	.net Framework 4.0
5. IDE Software	Visual Studio 2010, Java Script
6. Reports	Crystal Reports
7. SMS	NIC SMS Gateway
8. Mobile App	Android based Java Application
9. GIS/GPS Mapping(Spatial Data)	Silver Light, ARC GIS Server
10. Unicode Support	Indic IME, Google API
11. Video Player	Adobe Flash Player

Impact of Initiative after process re-engineering:

Parameters	Before Initiative	After Initiative
Number of Users	Non-Existent	600
Increase in Revenue	-	Part of Mandatory Election Service
Volume Growth in transaction	Non-Existent or in non-standard/manual process	15,50,000
Time taken to process transactions / service delivery	Three days to One Week	Instant

Charges for the provided services	---	Free as Election is part of Mandatory Services
Measures undertaken for Capacity Building	No such training	1500 persons have been trained both at State level and District Level officials

g) Possibilities of replication:

The software has been designed keeping in view current requirement of force deployment process during elections. The software has the scope for implementation across country as the force deployment process is similar in many other states. In addition generic processes have been conceived which make it suitable for adaptation in any of the states. The software is currently running for most of the election processes at various levels in Bihar and it has scope for implementation in every state. Measures have been taken to up-scale the project in case the project requirement increases. There is no architectural constraint as such for implementation in any other state. The software is scalable to support large number of concurrent users and is able to store large data within databases. The software has been developed keeping in view the current requirement of management during Loksabha and Vidhansabha polls. The software has been developed on generic principles and has scope for implementation in any Loksabha or Vidhansabha constituency or other election process in the state. The software can be replicated in any of the states. The software has been notified by CEO, office, State Election Commission as well as election authority conducting PACS election. The software can be easily implemented as it is on-line role based software. Centre for Good Governance, Bihar can take the project to remaining departments. A large number of people currently involved working with software can be trained to operate new software. The new software can be replicated easily.



Force Deployment Team receiving the National Award

h) Way ahead

- Timeline based, pro-active reporting system and alerts generation through system.
- Automated reporting and show-cause generation for offenders.
- Post-poll analysis based on feedback of Police Party and Observers.
- SMS based alert to voters of a particular booth regarding start of election process.
- Preparation of Knowledge base of Incidences, vulnerability assessment for future plans.
- Enhancement in security mechanism of entire ICT infrastructure.

AGRISNET – Farm Crop Management System - Tamilnadu

S.No	Description	Writeup
1	Name of the State or Ministry	Tamilnadu/ Department of Agriculture
2	Name of the host / Owner of the organization	Agricultural Production Commissioner & Secretary to Government, Agriculture Department, Chennai 600009
3	Status of the host/owner organization	Department
4	Name of the Project	AGRISNET – Farm Crop Management Sysetm (FCMS)
5	Name of the Nodal Contact Person	Thiru. P. Venkatachalapathy Assistant Director of Agriculture (Computer) 9444005219
6	Contact Address	Office of the Director of Agriculture Chepauk, Chennai 600005
7	Telephone/Fax	044-28524894 Fax: 044-28551763
8	Project Summary	The project is aiming at narrowing down the yield gap by shifting focus from crop based to farm based. The farm resources are mapped to identify the constraints in production. The factors of production viz., Land, water and Rainfall are analyzed and suitable intervention are given to the farmers. Continuous field level monitoring by the field staff using digital gadgets and interacting with farmers through voice and text advisories. About 73 Lakh farmers are benefitted out of this system and the farm productivity is increased to the extent possible by eliminating the constraints by suitable intervention dynamically.
9	Date of Launch of project	3 rd March 2012
10	Coverage (Geographical)	About 385 Block level offices, 31 District headquarters, 1 state level office, Soil Testing Laboratories, Seed Certification offices in the state have been provided with the Comupter and Accessories. They are connected through TNSWAN and BSNL broad band.

		<p>In the 385 blocks all the 880 Agricultural Extension Centers where the quality inputs are being distributed to the farmers are also provided with computer and accessories with network connectivity. Where the deliver centers are very much located in the remote areas and network connectivity could not be provided also lack of continuous power back up Hand Held Billing Machines with SIM enabled connectivity is provided under CISMS as part of e-governance initiatives.</p> <p>Besides this about 2319 field level functionaries are provided with Tablet PCs for continuous crop health monitoring during the entire cropping period. Both Hand Held Billing Machine and Tablet PCs work offline and data can be uploaded as and when connectivity is established.</p> <p>All the information required by the farmers are delivered through Common Service Centers through the CSC gateway of the state government.</p>
11	Beneficiary of the Project	81.18 Lakh farm holdings in the state are the prime beneficiaries, besides Fertilizer, seed dealers numbering about 12000 Nos. Of course the departmental officials of the Department of Agriculture as a decision support tool
12	Problem statement or situation before the initiative	<p>During 2007 the mode of service delivery was through inter personal contact with the citizen and at the maximum through email at the district level offices.</p> <p>The citizen (Farmers) needs to come over to the Agricultural Extension Centers if they could not meet the field level functionaries at the village when they need.</p> <p>The farmer need to spend whole day to get the information about the input availability (Seed, Bio-Fertilizer, Micro-Nutrition and Plant Protection equipment) maximum Rs.200/- has to be spent for his/her travel, food, etc.,</p> <p>There is no dedicated server for department; it was shared with Electronic Corporation of Tamil Nadu (ELCOT) server. There is no security audit done by department and the downtime of the server is high.</p>

13	Project Objectives	Shifting focus from area based to farm based. Asset Base, soil health individual farms resource availability mapping. Mapping the factors of production viz., Land, water and Rainfall. Assessing the yield gap, providing bouquet of cropping options, identification of constraints, suggesting interventions, input requirement assessment and linking with suppliers, continuous crop health monitoring, providing text and voice advisory through mobile. Establishing effective market linkage.
14	Project Scope and Methodology	<p>The project intends Farm Level Intervention based on factors of production viz., Soil and Water. This could be achieved since the Baseline Asset Mapping is done in 73 lakh farm holdings. Baseline mapping contains personal, contact, Bank, group, Land, Farm Machineries, irrigation source, Farm animals and other allied activities of the farm.</p> <p>Besides Baseline Asset Mapping, soils of these farm holdings tested and results uploaded online and the Soil Health Mapping done in 67 lakhs farm holdings.</p> <p>Tamil Nadu broadly falls under Seven Macro Agro-Climatic Zones. The broad classification is not enough to provide farm specific recommendations to achieve profitability in farming. In Farm Crop Management System these macro agro climatic zones are further sub divided into as many number of smaller Micro Agro-Climatic Zones, as possible. The sub division is basically done based on factors of production - Soil, water and climate. Each village in a district is grouped depending on the Soil type - Clay, Clay Loam, Sandy Loam and Sandy Clay Loam, Water resource available, - Well/Borewell, Tank, Canal and Rainfed, Type of land - Wet, Garden and Rainfed, and Micro Agro Climatic Zone. The Micro Weather parameters are obtained from Automatic Weather Stations (AWS) located at block level to delineate the Micro Agro Climatic Zone. With these factors a Paradigm shift from area based approach to farm based approach is achieved.</p> <p>Grouping of villages is the next step in farm level intervention. Once when the grouping of villages is done they are brought under zonation viz., Zone 1, Zone 2, Zone 3 and so on.</p> <p>Development of Crop Matrix to provide Bouquet of crop plan options. This is more scientific method giving recommendations to the farmers. After zonation of the villages the potential crops that can be taken up to maximize the production in that zone are identified based on the experience of the farmers and the field level functionaries in the form of a Crop Matrix.</p>

		<p>Development of Crop Plan. When the soil status, irrigation source and the crop matrix are available for a particular field, the field level functionaries before the commencement of the season in consultation with the farmers prepare the crop plan for each field they cultivate. This plan is being prepared for three seasons based on the resources of the individual farmer and potentials of the farm to narrow down the yield gap. During the preparation of the crop plan the field level functionaries identify the constraints in the farm that hinders the productivity of crops and suggest the possible interventions that can be dovetailed from various welfare schemes to overcome the constraints. A blue print of the cultivation recommendations viz., The yield gap, Crops proposed to be grown, Variety and method of cultivation, seed requirement, Chemical and bio fertilizer requirement, Micro Nutrient requirement, Weedicides requirement, Crop Loan eligibility, Crop Insurance, etc is being provided to the individual farmers at the start of the season itself. Crop plans to 1.5 Lakh farmers were developed and blue prints given to them.</p> <p>Stake Holders Synergy is yet another aspect of the FCMS wherein the individual farm input requirements are consolidated and notified to the stake holders viz., seed, pesticide and fertilizer dealers besides PACCBs and Nationalized banks for credit provision to the farmers in the immediate following season through SMS and email. This facilitates stocking of quality inputs at the right time, at the right place so that the farmers are deprived.</p> <p>Prime important activity in the FCMS is Continuous Crop Health Monitoring. While the farmer starts cultivating the crop as per the crop plan the field level functionary starts monitoring the crop health. The monitoring is done in four aspects - Recording the schedule visit to the farm, Pest and Disease Monitoring, Bio-metric observation and Harvest and Yield Assessment. While monitoring the crop they use the Tablet PCs pre-loaded with Android application which works offline and subsequently uploaded to the FCMS server. Actual field level photographs are taken and uploaded for getting appropriate advisory from the experts and scientists.</p>
15	Result achieved/value delivered to beneficiary of the project and other distinctive features/ accomplishments of the project	<p>From 3rd March 2012, the incremental innovation evolved in the department. Phase-I web enabled services was initiated, followed by SMS service to the farmers.</p> <p>All communications within the department i.e. 30 District headquarters, 385 Block offices, 154 laboratories and other offices are now only communicate through electronic form only.</p>

		<p>GPS enabled Tablets given to all field level officers to monitor their working location. The 2319 field level officers are continuously monitoring the crop health using Tablet PCs. 3G based SIM Card used in all Tablet PCs .</p> <p>The Block level Assistant Directors are sending Text Messages (So far about 21.83 crore messages sent - scoring first at National Level) on Current Crop status, technologies required, inputs availability, pest and disease situation, market trends and prices for their commodities at the time of harvest, etc., using “kisan portal” (mkisan.gov.in)</p> <p>The Tamil Nadu Agricultural University and the Agricultural Market Intelligence and Business Promotion Cell situated at Trichy are also providing market intelligence to the farmers through text advisories during and after the harvest of the crops. Voice Advisories (so far 3.85 Crores) are also being sent in collaboration with IITM - RTBI, Chennai. This innovation helps department/Citizen to reduce the time and cost.</p> <p>After FCMS, dedicated server procured for the department and installed in State Data Center. Security Audit was done by “M/s. SUMERO Software Solutions Private Limited., Audit Trail mechanism was enabled and daily log is file stored in the server for analysis. The downtime of the server is completely phased off.</p> <p>The citizen can access the information through web portal and KISAN call center. Touch screen Kiosks (125 Touch Screen Kiosks in all extension Centers) are provided for ease of access of information by farmers themselves</p> <p>The same information services are available in the portal in a static form with multiple query options. Number of visit was increased marginally due to innovation of SMS integration and Call Center options. The service is open to all the 73 Lakhs farmers who are enrolled in the project.</p> <p>The total number of visitors = 8,74,000</p>
--	--	--

e-Procurement - An Initiative

Abstract

An e-Procurement system was introduced for all the purchases and procurements in the Gujarat Government departments, Nigams and Societies under the administrative control of the State Government and which are funded by Government of Gujarat. The project caters to procurement needs like services, civil works, material procurement, rate contracts, maintenance contracts and auctions. Roll out of e-Procurement was carried out in a phased manner starting from few works/items for limited Departments to multiple items for many departments in the month of October 2004.

One of the prime objectives of the Gujarat Government is to secure benefit of efficiency by the e-enablement of business process. Purchasing is often the area where the greatest savings can be made within any organization. e-Enabling Purchasing helps to achieve those savings sooner as well as bringing other benefits such as best practice processes and quality management information. E-Procurement project was initiated with the vision of achieving above stated goals. e-Procurement is the process wherein the physical tendering activity is carried out online using the Internet and associated technologies. eProcurement enables the user to introduce ease and efficiency without compromising the required procedures of the department. e-Procurement provides transparency, results in savings of time and money, shortening of procurement cycle, ease of operation to the implementing department and to the bidders/suppliers/vendors. The project initiated in the month of October 2004 and made compulsory for all the government department from January 2007. At present 56 departments through their 168 offices are conducting online tendering and are prime stake holders of the project.

1. Introduction – Project conceptualization

An e-Procurement system introduced for all the purchases and procurements in all the Gujarat Government departments, Nigams and Societies under the administrative control of the State Government and which are funded by Government. Roll out of e-Procurement carried out in a phase manner starting from few works/items for limited Departments to multiple items for many departments.

e-Procurement System introduced for the following transactions:

- a) For purchases and procurement of goods, plants, equipment, machinery, medicines, medical and surgical supplies and stores items, all type of store items, supplies and purchases, food and civil supplies stores items and purchases, printing and stationary items and purchase, all type of vehicles purchases, furniture & fixtures etc.
- b) All type of civil construction and related works
- c) Outsourcing of required services
- d) Auctioning of old plants, equipment, machinery, buildings, vehicles, furniture and fixtures, lands, properties, etc.
- e) All other purchases and work orders.

2. Project Vision, Stakeholders, Objectives and Services

It was envisioned to deliver better services or product to end user with minimal, transparent efforts. This will help all stake holder to help to enrich the experience of providing either product or service.

2.1. Need of an initiative

- a) To establish Transparency in procurement process
- b) To shortening of procurement cycle
- c) To avail competitive price
- d) To enhance confidence of suppliers
- e) To establish flexible and economical bidding process for suppliers

2.2. Project Stakeholders

- a) Internal: All the departments conducting e-Procurement (Buyer Community)
- b) External: All the bidders/suppliers/vendors (Business Community) Targeted beneficiaries Govt. Departments and Business community

3. Process engineering done to reform the existing system

Technology Architecture Change in the legal framework was not required as the project follows defined procurement guideline of the state. As it is seen, minor variations in the format of Newspaper advertisement with the effective reduction in the size of the advertisement were required.

Process re-engineering is basic need for the project. Re-design of the bid submission is the major change as the physical submission of bid now got converted into online data submission for the bidders against set qualifying criteria. Manual bid evaluation method re-engineered so that software evaluated technical and commercial bids. As soon as the bids are opened online at the stipulated date, the system assesses the response submitted by bidders. The comparative data based on the online forms created by department and the set qualification criteria are presented in the form of system-generated bid evaluation statement of all participating bidders. This auto bid evaluation have major impact on the reduction of evaluation cycle. The subjective evaluation efforts reduced with the faster and simpler evaluation process.

3.1. Ownership of application software

It is decided that, (n)Code Solutions will act as an Application Service Provider (ASP) and ownership of Application software remain with ASP. Implementation model was decided following Public Private Partnership (PPP) model. A clear definition of roles & responsibilities are delineated. This is figure out as follows:

- a) ASP is responsible for presentation, demo & dry run to the department, teaching and training to the department.
- b) ASP is responsible for presentation, teaching and training to the bidders/suppliers/vendors
- c) ASP carries out required customization of software module for conducting online tendering.
- d) ASP creates online tenders on behalf of the Department (For first 5 Tenders) to establish proper hand holding.
- e) ASP is responsible for all the Capital Expenditure like H/W, physical security by way of data center, redundancy establishment as well operating expenses like Internet bandwidth.
- f) ASP is responsible for all software up gradation and maintenance.

3.2. Third party audit and compliance & Certification

At a later stage, it was decided to carry out system audit to check system strength & compatibility. These responsibility was entrusted to Indian Institute of Management (IIM), Ahmedabad to study the systems & find out short comings (if any). Afterwards, for certification purpose, Electronics and Quality Development Centre (EQDC), Gandhinagar has been approached.

4. Institutional Mechanism

4.1. Project Management Structure

A pool of 35 full time skilled and trained people deployed to initiate project. In the beginning, it is decided to develop system by using ASP (Active Server Page) and involved 4 senior level people for system development. ASP was the than superior technological language.



Image 4.1 Team deployment for e-procurement project

A high power committee has been constituted to follow up actions.

Table 4.1 Empowered committee of Govt.

Sl.	Designation (the then)	Role
1	Hon'ble Chief Secretary	Chairman
2	Additional Chief Secretary (Finance)	Member
3	Additional Chief Secretary (Health)	Member
4	Principal Secretary (Small Scale Industries)	Member
5	Principal Secretary (Expenditure)	Member
6	Principal Secretary (Expenditure)	Member
7	Principal Secretary (Water Resources)	Member
8	Secretary (Department of Science & Technology)	Member
9	Secretary (Roads and Buildings)\	Member
10	Addl. Commissioner, (Industries and CSPO)	Member Secretary

4.2. Strategy for Pilot to roll out

For Government objective was to have a government wide e-procurement solution covering all the departments and offices across Gujarat. Newer technology, availability of infrastructure in place and criticality as well as complexities of tendering process were initial barriers for buy in of buyers and suppliers. Keeping above stated points into consideration the solution is segregated into pilot phase in the first phase and roll out in the second phase.



Image 4.2 N-Code representative addressing to nodal depts.

Pilot Phase: A pilot option is given to all the department through GR dated 12.10.2004. None of the department were compelled to instead self-initiation to have better buy in of buyer was asked for. In January 2005, Sardar Sarovar Narmada Nigam Ltd. floated their works related tender through online mechanism. Gujarat Water Supply and Sewage board also followed it for works and items like pipeline network. Gujarat informatics Ltd. dealing in hardware and software also floated tenders during pilot phase. Pilot was meant to create awareness in the supplier community also.

Standardization of pattern of procurement templates or even overcoming of limitations of IT infrastructure is also required to be handled during pilot phase. Gradually number of departments increased to 12 numbers including GNFC, GSFC, GMDC, GWIL, GUDC, Irrigation Department, Medical Services, Geology and Mining department and Department of road and building by the month of January 2006 with the total procurement value of Rs. 47.96 lakhs.

Roll-Out: After successful handling of 225 tenders covering 19 different departments and organizations by 31 August 2006, roll out was plan in the way of mandatory e-Procurement to all the departments. Government Resolution issued on 22.11.2006 and all the procurement exceeding a value of Rs. 50 lakhs and above was made compulsory effective from 01.01.2007. Thus 1.25 months' time period given to all the departments to be able to establish required IT infrastructure

and get trained for application of e-Procurement. eProcurement is being implemented in 60 different government departments, Board, Nigams, PSU and municipalities as on 31.08.2007.

4.3. Capacity Building

Capacity building is planned with the decentralized Zonal level support centers in the first phase which will be expanded to District level support centers.

4.4. Change management

Empowered committee is formed under the chairmanship of the Chief Secretary with the representative of different key departments for change management plan at macro level. This includes Add. Chief Secretary (Finance), Add. Chief Secretary (Health), Principal Secretary (Small Scale Industries), Principal Secretary (Expenditure), Principal Secretary (Water Resources), Secretary (Department of Science and Technology), Secretary (R&B) and Addl. Commissioner, Industries and CSPO.

e-Procurement project was allotted with special session for different 'Chintan Shibir' which took place during last one year. This acted as a major supportive for communication plan

4.4.1. Awareness plan was established along with Central Store and Purchase Office (CSPO) and different stakeholders were trained on regular basis with the frequency of two batch/week.



Image 4.4.1: Awareness meeting was held

4.4.2. Periodic presentation were made at the secretarial level monthly meeting

4.4.3. Sub-committee consist of Principal Secretary SSI, Under Secretary Industries, Under Secretary Finance Department, Dy. Commissioner CSPO, Under Secretary Department of Science and Technology, representative of GIL and Executive Director GNFC was formed to take care of micro level issues and technological decisions.

4.4.4. Project owners were identified from within each departments/offices and core groups were formed in the user departments to chalk out the required implementation strategies within the departments.

4.4.5. Training to around 1800 department employee through seminars, user manuals and visual aid media like Movie CD of complete tendering cycle provided. One to one training was given to all core team members. 'Train-the-trainer' method has also been adopted among stakeholders. Open training session is conducted every Saturday for all the stakeholders. This session is facilitated by proper infrastructure in place.

4.4.6. In addition about 3200 vendors have been trained on the proper usage of the online facilities.

5. Benefits from innovation – Achievements

High value purchases of 50 lakhs and above were made mandatory in the beginning. Lower value of Rs. 10 lakhs and above was adopted after sufficient time gap of 5 months in between. Future roll out plan of reducing core procurement value of Rs. 5 lakhs and above in short run and Rs. 1 lakh and above in a long run is also taken as a one of the target for GPR. Addition of new features and facility like ePayment, Catalogue management, vendor management etc. is also taken under planning of GPR.

6. Impact Assessment

After commission, an impact assessment was evaluated and measured with help of monitorable indicators.

- 6.1. Time savings in terms of shortening of purchase cycle achieved by the service users. Average time for decision making like from the day when first tender stage opened (i.e., document fee stage) till price bid stage opening was approximately 30 days. This cycle time reduced to 6.6 days with implementation of project.
- 6.2. Project financial benefits and sustainability are of qualitative as well as quantitative nature. Indicative savings of quantitative nature for this project are 23.5 days savings on man days. Savings of Rs. 48.6 crore against ECV for 300 random sample data. Substantial savings on advertisement cost because of drastic reduction in the size of newspaper advertisement. Qualitative benefits like increased transparency, enhancement of trust of suppliers, wider reach, equal opportunity to all are also available with this project.
- 6.3. Transparency increased as physical interaction of purchaser and supplier is reduced. The information related to all the tenders is available online and it is not selectively produced in some newspapers.
- 6.4. Growth is evident in January 2007. Generally 131 tenders are floated per month through system. While, it is grown to 432 per month in March 2007 and 739 in August 2007. Participation of department increased from 19 departments in January 2007 to 34 departments by March 2007. As on August 2007 number of the departments reached to 61. Offices those are active in e-Procurement and falling under all of these departments also increased from 49 by end of January 2007 to 93 in March 2007 and 199 by August 2007. Thus, total 250 offices are actively involved in one or other stage of the e-Procurement roll out. Department officers directly involved into e-Procurement were 190 by end of January 2007 reached to 345 in March 2007 and 646 by end of August 2007. Supplier participation also increased from 737 at the end of January 2007 to 1394 in March 2007 and 3084 by end of August 2007.

7. Possibilities of replication

An e-procurement initiative is well documented, thus replication with other bodies could be possible up to some extent. Glimpses of the documentation captured a below:

7.1. Lessons learnt

- a) For paradigm change into the system, it is very much essential to have buyers and supplier buy in early stage.
- b) Stakeholder participation during the initial phase of project is very critical.
- c) Change management is sensitive and important issue to be managed for such projects.
- d) Pilot phase plays critical part to understand teething problem and solutions for the same.
- e) Pilot phase also helps to have slow diffusion of change and easy penetration of the new concept.
- f) Training is an essential part of the project roll out. Different mode of training and creation of facilitation point play vital role for smoother pick up of project.

7.2. Critical success factors

- a) Training to Department Users
- b) Training to Bidders/Suppliers/Vendors
- c) Support to Bidders/Suppliers/Vendors
- d) Uptime of the Service
- e) User friendliness of an application
- f) Dynamism of an application for varied procurement requirements
- g) The future roadmap includes covering of all purchases above Rs. 1 lakh through this system.
- h) Payment Gateway, Digitally signed e-Auctions, Reverse auctions, Catalogue management, Vendor management

7.3. Failure factors

- a) Lack of computer awareness – Department
- b) Lack of computer awareness – Bidders/Suppliers/Vendors.
- c) Infrastructure like Computers and Internet connection
- d) Department's willingness for technology adoption
- e) Initial Resistance of Bidders/Suppliers/Vendors
- f) Freezing out function requirement of the department for customization purpose.

8. Way ahead

During the year e-Procurement was identified as a significant administrative reforms project and accordingly its progress was orchestrated throughout the year by significant training and education programs, infrastructure improvements, awareness and creating business process reengineering.

The initiative received following award and recognition:

- a) Government Technology Award (October 2007) - Category : Connected Government Best Practice
- b) CSI-Nihilent e-Governance Awards 2006-07; Computer Society of India (December 2007) - Category : Best e-Governance project - G2B {eProcurement Gujarat}

- c) National awards for e-Governance 2008-09 (January 2009) - Category : Exemplary Horizontal Transfer of ICT- Based Best Practice (Bronze medal)
- d) CSI-Nihilent e-Governance Awards 2011-12; Computer Society of India (December 2012) - Category : Sustainability Award {eProcurement Gujarat}
- e) National awards for e-Governance 2014-15 (January 2015) - Category : Incremental Innovations in Existing Projects (Silver Award)



Image 4.4.1: Award Winning Team

Future plans for readers seeking more information on project:

- 8.1. Increase in the reach and coverage so more and more department offices can float online tenders and more and more suppliers takes part for the online bidding process.
- 8.2. Future roll out plan of reducing core procurement value of Rs. 5 lakhs and above in short run and Rs. 1 lakh and above in a long run.
- 8.3. Addition of new features and facility like e-Payment, Catalogue management, vendor empanelment etc.

Effective Vehicles Database Management

A) Introduction

Governance is the keyword today. Every citizen is aware of their rights and demands the same. One expectation of common man is that when he goes to any government building, it should be clean and with good ambience.

As per NCRB data, as on 1.1.2011, there are 13,984 police stations and 7742 outposts in the entire country. One common thing among all these 20000 odd stations and outposts is that there will be hundreds of vehicles lying outside them with lots of dust and rust on them.

Everybody feels that something must be done about it but nobody likes to do the job of clearing this junkyard from police stations.

This project is addressing this issue of disposal of unclaimed vehicles lying in the police stations with the help of technology.

B) Situation before the Initiative was taken

Unclaimed vehicles with lots of dust and rust on them lying at police stations are a common sight throughout India. These vehicles can be classified into four groups

1. Vehicles involved in Crime and seized by police
2. Vehicles involved in accident cases and seized by police.
3. Stolen vehicles recovered by police from thieves.
4. Vehicles abandoned by thieves or by drunkards.

Many vehicles that are involved in crime and accident are not claimed back by owners because these vehicles do not have legitimate documents to prove their ownership. Often these vehicles are stolen vehicles which are purchased without any documentation and at very cheap rates.

Stolen vehicles that have been recovered by police from thieves also lie in police stations for two reasons. Once the photo of officer who has detected stolen vehicles comes in newspaper he loses pretty much interest in that case thinking that the accused has been arrested and his work has been appreciated. Secondly the procedure to know the owner of vehicle is that one has to send the details of the vehicles to RTO and he in turn will send the RC book details. But often this process takes lots of time and many times the vehicle must have been brought and sold by three to four owners without updating the RC book. So it becomes difficult to track the last owner.

In the year 2013 a survey was done in Mandya District to know how many vehicles have been lying unclaimed in its 30 police stations. The answer was around 1700 vehicles which include maximum motor cycles and then three wheelers, four wheeler and trucks etc. were about 5-10 percent of the total. Approximate value of the vehicles comes around Five Crore Rupees.

This much property is lying across 30 police stations of one district and getting rusted with every passing day. On various occasions public, senior officers and politicians made requests to dispose of the vehicles at police stations as it gives a gloomy look to the police station premises. So all these factors forced us to think about systematic and scientific ways to ensure that the unclaimed vehicles are returned to the legitimate owner and our station premises are made cleaner.

C) Baseline study for the project

First of all, statistics of all the unclaimed vehicles lying in the police stations were collected. The number is a dynamic figure and it keeps changing every month as vehicles keep getting added and released from police stations. In earlier system, disposal of the vehicles was done through RTO by getting the details of the owner and then by contacting the owner. One short cut method of vehicle disposal from the police station is to get permission from the court to auction those unclaimed vehicles and then do auction.

Auction method has some serious drawbacks

1. The legitimate owner of the vehicle does not get his vehicle.
2. The proceed so collected does not gets reflected as property recovery done by the police.

During this study, it was also observed that no systematic and organized effort is done at any police station level to know as to how many vehicles are lying in other police stations and is there any possibility that vehicle stolen in one police station limits may be lying unclaimed in another police station premises.

D) The technology initiative

To address this issue in a systematic way, following things were done

1. The data of unclaimed vehicles lying in all the police stations was collected in a prescribed format. (Registration Number, Engine number, Chassis Number, Make, Model, Color, Crime number if any)
2. Data of all the stolen vehicles of Karnataka state for last 10-15 years was collected.
3. A software was developed with the help of local engineering college to match these two databases. i.e. unclaimed vehicles engines number/chassis number/ registration number were matched with that of stolen vehicles with the help of software. It started giving results in the format that 'XYZ' vehicle was stolen in one police station and it is lying unclaimed in another police station. Then the only job left was to contact the owners and concerned police station and handover the vehicle to them.
4. The next set of problem was that for many vehicles, FIR was not registered, so no question of tracing it with the help of above database. For such vehicles, access was sought of the website vahan.nic.in which is a national portal linked to all the RTO in country. With the help of this portal, we could directly get the address of the owner of RC book. Then they were contacted and vehicles were handed over to them by due procedure.

This exercise was a revelation in itself because many vehicles that were stolen in one of the police station of the Mandya District were lying unclaimed in another police station of the same Mandya District. Many vehicles that were stolen in neighboring districts were also lying unclaimed in police stations of Mandya District. Then systematic efforts have been taken to send the vehicles to the legitimate owner through the concerned police station.

For vehicles traced based on FIR, those were returned through concerned police stations. For the vehicles without FIR, the vehicles were released to the owners with courts permission. For many vehicles, owners said that they have already taken insurance from insurance companies so the vehicles were reported to the concerned insurance companies. Finally for the vehicles for which, the data of owner or insurance company was not available, they were auctioned with the court permission. This way till date, Mandya police has cleared more than 786 vehicles from the police stations.

E) Communication and dissemination strategy used

The strategy was that the SP communicated about this project with all the district officials like DSP, PI and PSI. The team in turn after going back to the police stations spoke with their ASI, HC & PC. So everybody was aware that what exactly the team is doing and why.

F) Technology

This project is powered by free software called Ubuntu 12.04 LTS operating system (LINUX). This is accompanied with following different software and tools:

- 1) HTML5
- 2) PHP3
- 3) MySQL
- 4) JQuery
- 5) CSS3 and JavaScript
- 6) Apache 2 Server
- 7) Designing Tools like inkscape and gimp

Interoperability

The project theme is distributed type of system and this Interoperability is checked by empowering the code in one of the server in Mandya, SP office.

Security concerns

To make the project secured, the team selected LINUX as the platform which has inbuilt firewall and software packages which provide effective security to the data and information stored. Apart from that the project has inbuilt codes and security measures which provides no services and results to anonymous person or unauthenticated persons. This project provides authenticated user id and password for all the police station of the District and using his information, the user in police station can get facilities of this project

Any issue with the technology used

The usability of the software depends on its interface; hence, the project has high graphical user interface which is made using high level languages which is supported by latest browsers only. Before the project was deployed, all the systems in police station were using Mozilla Firefox 4.0 and resulting to miss match in alignment and interface. To overcome this demerit, the project embeds latest version of Firefox 29.0 which the user can download and install locally.

G) Citizen centricity

- i) Citizen has to put in almost zero effort in this work except than being in touch with the SHO of police station where the FIR has been registered.
- ii) Feedback/grievance redressal mechanism can be taken at police station level
- iii) Audit Trails: There is no money transaction involved
- iv) Interactive platform for service delivery: In future the team is planning to make use of “SMS” service for data access and communication

H) Adaptability and scalability

The best feature of this project is that it can be implemented at entire State Level as well as National Level. For a small district like Mandya with a population of about 18 Lakhs, there are about 1700 vehicles lying in police stations having worth of about 5 Crore Rupees. Hence, for Karnataka with 30 districts and four Commissionerates the value of the unclaimed vehicles may be to the tune of 200 Crores. With the population of Six Crores in Karnataka, there are unclaimed vehicles worth about 200 Crores lying in police stations. So for the country of about 120 Crores, the approximate value of unclaimed vehicles lying in Police Station premises all over India may come around 26000 Crores.

As far as implementation of this work at state level is concerned, it can very easily be done by integrating the data matching codes in existing Police IT network of Karnataka Police. For other states where police stations are not connected by intranet, small servers at district level and state level will be sufficient to get this work done in an organized way and in systematic manner.

As far as software is concerned, as of now it has been developed at zero cost with the help of final year engineering students. The same can be shared with other states without any cost. Hardware cost is the only cost that those states need to bear. Hardware requirement will be just a server, a monitor, and a CPU and internet connection at each district level. This work can be definitely replicated at state level and national level with little bit of hard work and will.

Adaptability Analysis

(i) Measures to ensure adaptability and scalability

For ensuring adaptability and scalability at State and National Level, the team needs a standardized formats for data collection, data upgradation and data matching. To begin with, these formats are ready at Mandya District level and are in use. Once they start replicating this project in other districts, any changes can be made depending on the feedback from the field. The software developed at present has already been developed for the entire Karnataka State. Only there was a need for a demo at all district level and start getting data of the unclaimed vehicles lying at their police stations. A system administrator can update data of stolen vehicles in this software to have up to date information for data matching.

(ii) Measures to ensure replicability

To replicate it in other districts, a demonstration to all the SHO is sufficient. The team needs to train a team of a system administrator and two computer operators which can supervise the progress of the work. For training, two days are sufficient.

I) User convenience

1. SMS: It can be used to intimate the owner that his vehicle has been traced and it is lying unclaimed in 'xyz' police station.
2. Completeness of information provided to the users: When the user approaches the police station he will be intimated about the court procedure for release of the vehicle.
3. Accessibility: Police Stations are accessible round the clock.
4. Status tracking will be done by the SHO for the user to know whether the vehicle that was stolen in his jurisdiction has been recovered by any other police station

Appropriateness of context and degree of localization

1. The police stations will get cleaner.
2. Returning of vehicle to the legitimate owner will enhance police image.
3. It will get reflected as property recovery in police records.
4. Sentry and SHO in stations will become more accountable towards unclaimed vehicles lying in the police stations

Hence, this project is very much appropriate in its context in times when people demand more professional approach from government officials. It will be a very big step in improving appearance of Police Station Premises and hence the police image.

Cost effectiveness

This project is very cost effective. The manpower available in District Crime Record Bureau and computer section is sufficient to coordinate and monitor progress of this work. Hence no additional manpower is required. The data collection at police station level can be done by the sentry who is officially guarding all the government property in the police station premises. One computer with internet or intranet connection is sufficient for data handling. Even for the districts that do not have computers in each police station, data can be collected manually and sent to SP office where entries can be made in a computer. Daily entry of arrival and dispatch of the vehicles from the police stations premises is good enough for data generation. This job can be done by sentry. Any vehicle lying in the police station premises for more than one month can be considered as unclaimed because as per new guidelines owner of the vehicle can get their vehicles released from police stations by submitting an indemnity bond. For station level entry of unclaimed vehicle, time required for noting down registration number, engine number, chassis number, make, model, color etc. takes only 15 minutes and uploading the same in the system another fifteen minutes maximum for one vehicle. Stolen vehicle database can be generated real time or can be updated on monthly basis. It will take hardly two hours once in a month. Hence this project has practically zero cost and man hour requirement is also minimal but the output is very big.

Impact on stakeholders

The biggest benefit is that the police station premises have started getting cleaner. The people getting back their vehicles have started appreciating the work of the police department. By returning the vehicles to the legitimate owners' officers are saving those vehicles from getting rusted and wasted.

Value delivered

1. To organization
Number of FIR traced shows the potential as to how many vehicles can be easily returned back to the owners. Once stolen vehicle is returned to the owner, he will be grateful towards the police department. For many vehicles, owners claim insurance and hence these vehicles never come to take back vehicle. Such vehicles can be returned to the insurance companies as they become the legitimate owner of the vehicle. After returning these vehicles, police stations becomes cleaner and hence appear to be more people friendly as compared to earlier gloomy looks.
2. To citizens
Hundreds of owners have got their vehicles and remaining owners will get it soon.

3. Other stakeholders

SHO and senior police officers will become more attentive towards vehicles lying in the police stations. At present the common perception is that vehicles have been like this for years, so why should police change it. But with rising land constraints, systematic disposal of the vehicles is the key to get more empty space in the police station premises.

Sustainability

Technology Used: - It is a simple data matching software hence in any likelihood it should not be a problem.

Security of information shared: Digital encryption is not needed. The project has been designed for the worst case and also for different varieties of input provided by the police station data up gradation staff. The project is simple, secure, portable, scalable, reliable, robust, platform-independent, dynamic and distributed. User privacy is provided by giving standard user name and password. The interface is simple and user with basic computer data entry knowledge could use our project. The system admin has trained all the users of Mandya district police stations to this platform in systematic manner.

Comparative Analysis of earlier Vs new system

Earlier System: -

- a) No attention of sentry and SHO towards unclaimed vehicles.
- b) Taking it for granted that these vehicles will remain there for eternity.
- c) Mischief of removing battery, indicator, tyre etc. happening in police stations.
- d) Legitimate owners remained away from their own vehicles.
- e) No matching of unclaimed vehicles of the police stations with stolen vehicles database of the entire state.

New System: -

- a) Organized way of recording unclaimed vehicles in each police station and maintaining that database.
- b) Organized way of maintaining stolen vehicle database of the entire state and updating it every month.
- c) Organized way of matching these above mentioned two databases to trace unclaimed vehicle to its FIR.
- d) For the vehicles for which FIR cannot be traced, the owner details can be traced by website vahan.nic.in
- e) Sentry and SHO become accountable for each and every vehicle in the police station premises.
- f) Station premises are getting cleaner and legitimate owners are getting back their vehicles.

Change Management:

Proper briefing and communication is very essential for success of this project. First it was explained to officers that what are the benefits of new system and how it will improve police image. Then it was asked to the officers to repeat the same with their police station staff who need to be involved in the data collection and recording work. It needs a bit of hard work to motivate the ground staff.

J) Efficiency enhancement

(i) Volume of transactions processed

Once all the districts start feeding the data, volume of unclaimed vehicles will definitely increase on real time basis. As of now, data of all the stolen vehicles of Karnataka State are about 1, 23,000 vehicles. In terms of present hardware capacity, these data can be very easily handled.

(ii) Coping with transaction volume growth

Once more districts are involved; there are chances that these districts may be asking results in different formats than what is at present. But this kind of requests can easily be accommodated.

iii) Time taken to process transactions

Time taken to process transaction at present is less than five minutes. With more data in the system, it may get extended at the maximum to fifteen minutes

iv) Accuracy of output

Comparison with manual data has been done in order to verify that the output has been completely accurate

J) Accessibility

This project implementation makes PSI accountable to trace the owner and hand over the vehicle to him. The progress of disposal of vehicles can easily be monitored by the district SP's during their crime meeting. Hence implementation of this project in every district makes PSI of the police station to look for the owner of the vehicle than other way round.

Single window resolution

Once this project is implemented, software generates reports in user friendly formats. One single system administrator can send email to all the concerned police stations from where vehicle was stolen and in which police station it is lying unclaimed. Same system administrator can also be given username and password for website vahan.nic.in so that anybody wanting any information about any vehicle can be given without approaching RTO.

Communication by email and SMS

Police stations can be intimated by emails and sms can be sent to the owner that his vehicle which was stolen is lying unclaimed in "xyz" police station so he can also follow up the court procedures personally for getting release of the vehicle done.

Web based tracking

Access to the website vahan.nic.in can be given through each police station also. For example in intranet of Police IT, one can give a link for the above mentioned website so that it can be accessed from police station itself. If that is cumbersome then it can be done at least through District Control Room.

Conclusion and the way forward

This entire work is experience in itself in terms of starting a new initiative with simple excel sheet and then completing the work with the help of software. It is just a single step on a long journey. It needs to be replicated in other districts of Karnataka and India. To make it possible, here are some steps mentioned, that need to be followed

- a) Data Collection: The data collection of unclaimed vehicles is the key step in this work. Right now it is done manually. To improve it, the work of developing a image scanner is in progress so that the scanner can take images of engine number, chassis number and convert it into alpha-numeric combination in excel format so that it can be directly fed into the software.
- b) Correctness of Data: The unclaimed vehicles data is matched with the stolen vehicles data. If the stolen vehicles data is not complete and accurate, it defeats the whole purpose. Hence collection of stolen vehicle data and checking its accuracy is second step.
- c) RTO database: At present vahan.nic.in is used for the purpose but its completeness has never been checked. It needs to be done so that complete database access can be done.
- d) Insurance database: Insurance Information Bureau has database of vehicle insurance. They can be made part of the project so that we get one more source of data of vehicle ownership.
- e) Advanced scanner: An advanced scanner can be developed that can tell whether the engine number or chassis number is tampered or not. To make it happen, one needs access to database of automobile manufacturers.
- f) Retrieval of tampered chassis and engine numbers: Once we know that a vehicle is tampered, chemical treatment can be used to retrieve the original number. If that is not possible, then it can be declared to be fit for auctioning.

All above mentioned points need coordination of so many agencies like RTO, FSL, engineering colleges etc and their cooperation. The development of scanners and creation of databases is one time activity which can serve the police department for very long time and also it can be helpful in detection of other offences also. Most important of all this endeavor at national level can result in returning of lakhs of vehicles to their legitimate owners and insurance companies. We can prevent loss of this national wealth and make police stations cleaner. This is real win win situation for all. Let's do it.....

Project Team Leader :
Bhushan Gulabrao Borase, IPS,
Superintendent of Police,
Mandya District,
Karnataka.
Mob: 09480804801
Mail: spmdy@ksp.gov.in
oneindianbhushan@gmail.com

e-Panchayat

Shifting the service delivery and centre of all activities from Block headquarters to 147 Panchayat Headquarters is the theme of project. “e- Panchayat” is a humble intervention aimed at simplifying lives of 58000 families in militancy affected hilly district Reasi which falls in south of Sopian and Kulgam districts, and having a tough inaccessible terrain it has remained a hot bed of militancy till recently therefore inflicting underdevelopment upon this region. Gulabgarh and Mahore regions in this region have remained worst affected areas during insurgency and as recently as in 2010 the situation in the region has remained very sensitive. The intended benefits of various centrally sponsored schemes did not percolate to this area and even at present the BPL population of district remains at a high 33%; adding to this is a 30% nomadic population of Gujjars and Bakkerwals who migrate to higher reaches every six months. With poor literacy rate of 58% the district faces a host of developmental challenges.

With these issues in backdrop, e-Panchayat was designed as a project to lessen the burden on shoulders of rural masses, making MGNREGA more profitable and economical, simplifying the procedure, reducing the mandays involved in onlining of works and reducing the queues of works at Block level. The Block Headquarters level facilities were taken to the Panchayat level and even at doorsteps for better and timely service delivery and reducing the delays involved in onlining the project at block level.

The project has been in place for more than a year now and the distance has been reduced from more than average 50KM on foot to 5-6KM and time of travel/walking reduced from many days to half a day. This has also changed the lives of many thousand families as explained in specific points below.

Coverage : There are 172 Service Delivery Points in district for all activities related to MGNREGA and also providing one- stop-shop solution for all Centrally Sponsored Schemes.

Demography : Entire district having population of 3.15 Lakhs (2011 Census) and Project Population – 2014 at 3.35 Lakh has been covered which included 28% Nomadic Population and 32% BPL population

Villages/Panchayats covered: All 259 Revenue Villages and 147 Panchayats of district have been covered under the Project.

Category of Stakeholders Covered: 58,000 MGNREGA Job Card holders have been covered under the project. Apart from primary coverage of MGNREGA Job Card holders the project machinery is also utilized for strengthening of monitoring mechanism of Centrally Sponsored Schemes, Coordination during disaster like situations/mishaps and also during course of Elections.

Number of delivery centers Locations: Project implemented at 147 Panchayat Headquarters, 4 Block Headquarters and 12 Panchayat Cluster Headquarters. All 147 Panchayats have been interlinked and also linked with Cluster and Block Level through online connectivity and IT strengthening. An area spread over 2250 SqKM has been covered.

District level- Number of Blocks covered: Geographical Coverage: An area spread over 2250 SqKM has been covered. This is comprised of 3 Sub-Divisions, 9 Tehsils and 12 Community Development Blocks (including 8 newly created blocks). The area is located along Pir Panchal hills having very hostile and tough terrain.

Demographic spread (percentage of population covered) 58,000 families in district. Project covers only MGNREGA Job Card holders

2. Situation Before the Initiative (Bottlenecks, Challenges, constraints etc with specific details as to what triggered the Organization to conceptualize this project): The department, so far, was working on a Manual System which involved the following:-

1. Registration of families at Block Headquarters (BHQ)
2. Issue/verification of Job Cards through online system at BHQ.
3. Accounts Verification and Freezing of 16 digit accounts at BHQ.
4. Collection of Demand at block Head Quarter.
5. On-lining of Demand at block Head Quarter.
6. Generation of e-Muster Rolls at B.H.Q.
7. Printing and issue of e-Muster Roll to field staff at BHQ.
8. Execution of works and filling up of Muster Rolls.
9. Generation of wage lists at BHQ.

The entire process was completed at block level and every panchayat had to move to block office for onlining of MGNREGA works and onlining of muster rolls. It involved undue delays due to over occupation of block offices, travelling time and money spent by officials and Job Card holders.

3. Scope of Services Covered :The entire MGNREGA process of job demanded, job provided, muster roll generated and works documentation has been made online instead of earlier manual process. This has provided end-to-end IT enabled services at Panchayat level instead of Block Headquarters as per previous practice there by reducing expenditure, time and manpower. The entire workflow process has been made electronic.

Electronic Service Delivery: Jobs are generated online and muster rolls are filled online. Payment of wages is made within 2-3 days directly to the account instead of previous manual process which used to take 20-25 days given the long distance to be covered and hostile terrain.

Workflow/approval process: Before the project the entire on-lining was done at Block HQ and wage labourers, VLWs, staff had to walk 5-100KM to reach block Hq now it is done online at Panchayat level.

4. Stakeholder Consultation: District Development Commissioner and Assistant Commissioner Development convened meetings to 147 Sarpanchs and 1015 Panchs at 4 block headquarters and discussed about the issues and challenges to be simplified through the project e-Panchayat. The difficulties faced by the village Panchayat and extremely uneconomic and unproductive MGNREGA implementation was district was decided to be revamped. The following consultations, trainings and capacity building workshops were also conducted:

- I) Consultation meetings with Sarpanchs and Panchs, Village Level workers, Progressive Farmers, MGNREGA Job Card holders
- II) Feedback meetings with staff
- III) Training of VLWs and Grameen Rozgar Sewaks
- IV) Consultations with village heads and committees

5. Innovations : Reasi district sharing its border with Kulgam and Shopian districts in north has remained a hot bed of terrorist / insurgent activities till recently and even at present the prevailing security situation is very sensitive. Given this background complexed with extremely hostile terrain and Mahore, Gulabgarh and Arnas sub-regions of the district the development

process has remained extremely dismal in last two and half decades. MGNREGA had come as a ray of hope for rural development in these areas however given the huge distance between Block Headquarters and Panchayat Headquarters the scheme turned out to be unproductive and uneconomic for poor rural masses who had to walk all the way to block for onlining of muster rolls and demand generation. With various Panchayats queued up at Block Hq it would take 2-3 extra days for completion of onlinng and demand generation which is pre-requisite under MGNREGA. To resolve this issue and provide this service at doorsteps IT facilities available at block level were provided at Panchayat level and 147 GRS were recruited and trained for implementation of project and facilitating around 58,000 job card holders in the remote areas of district.

The department, so far, was working on a Manual System which involved the following:-

1. Registration of families at Block Headquarters (BHQ)
2. Issue/verification of Job Cards through online system at BHQ.
3. Accounts Verification and Freezing of 16 digit accounts at BHQ.
4. Collection of Demand at block Head Quarter.
5. On-lining of Demand at block Head Quarter.
6. Generation of e-Muster Rolls at B.H.Q.
7. Printing and issue of e-Muster Roll to field staff at BHQ.
8. Execution of works and filling up of Muster Rolls.
- 9.. Generation of wage lists at BHQ.

Upto 2012-13 the entire exercise was done manually and after completion of works and work files, the information was uploaded on MIS only at BHQ by single hand, that is, MIS Operator. The field staff of the department had to collect the demand manually from all the panchayats which was later on passed on to the block for on-lining. Since 25,000 to 30,000 job cards holders demand works and the work load at Block Head Quarter was found to be very high as a result of which a single MIS Operator could not cope up with the quantum of work and therefore generation of E-Muster Rolls and on-lining of other information was delayed which resulted into poor pace of work due to the fact that works are to be taken up only after generation of works on the web site and generation of e- Muster Rolls.

Further, during 2013-14 the Ministry introduced concept of e-Muster Rolls for which the steps involved area as under were taken at Panchayat level under project e-Panchayat:-

1. Registration of families.
2. Issue/verification of Job Cards.
3. Accounts Verification and Freezing of 16 digit accounts.
4. Collection of Demand at block Head Quarter (Done at Panchayat Hq under e-Panchayat).
5. On lining of Demand at block Head Quarter (Done at Panchayat Hq under e-Panchayat).
6. Generation of e-Muster Rolls.
7. Printing and issue of e-Muster Roll to field staff.
8. Execution of works and filling up of Muster Rolls.
9. Generation of wage lists.

Since in every block the demand was collected manually and then the concerned field staff had to walk a distance of 5 to 100 kms to reach block HQ and then he had to make the demand online with the help of single Computer Operator engaged under the scheme and then after generating e- Muster Roll the concerned field staff had to, again, walk a distance of 5 to 100 kms to reach his panchayat HQ for actually starting the work and after 14 days he had to make one more round of the Block HQ along with the attendance of labourers e-Muster Roll for wage list generation and release of payments. The whole exercise becomes more difficult and complicated due to tough, hilly and mountainous terrain of the district with very low road connectivity. Lot of time of the field staff was being wasted in travelling from Panchayat HQ to Block HQ and vice-versa to complete the requisite formalities for implementation of the schemes.

The Issue: In view of hardships faced by field staff and wastage of time in travelling the delays in release of payments became a main cause of concern and also in tough hilly terrain of remote areas in the district this flagship programme MGNREGA started losing ground. The time consuming process of on lining at block headquarters would take months together for all the panchayats of block which overshadowed the real benefit under this scheme.

The Intervention: The on lining of labour demands was found as a major issue in the department for generation of e-Muster Rolls for which the District e-Governance Society and Department of Rural Development and Panchayati Raj decided to make dedicated efforts in making panchayats online with respect to MGNREGA implementation by providing small Tablet Computers along with internet connectivity at Panchayat level so as to ensure that demand generation, on lining and e-Muster Rolls are done at Panchayat level instead of travelling all the way to Block Hq. Adding to this, were e-Zones formed of cluster of 10-12 Panchayats where all facilities available at Block Hq were made available. Three V-Sat Hubs were also created for areas not having mobile connectivity in Gulabharh area.

Pilot Project and success: The project was experimented in 30 panchayats of block Arnas, Pouni and Reasi in first instance and it was reported by the Block Development Officers that the field staffs as well as the common job seekers have been facilitated to larger extent by issue of small tablet computers with internet connectivity. Now the demand generation and on- lining started at Panchayat Hq and e-Muster Rolls also started being generated at Panchayat level and uploaded. These Tablet Computers have made the field staff especially the Gram Rozgar Sevaks (GRS) well equipped in implementation of MGNREGA programme and the demands for works is now being collected at panchayat level/ or work site level with the help of tablet PCs by the GRS who are using it for generation of work code, making of online attendance, verification of job cards and their updating on the website, freezing up of 16 digit accounts, and generation of e-Muster Rolls and wage lists.

This lengthy exercise, till now, was completed at block headquarters entirely and now under Project e-Panchayat with introduction of internet equipped Tablet Computers at Panchayat level 90% of MIS is completed at respective panchayat HQ and the MIS operator at Block level is left with only 10% of the remaining job of MIS, which mostly involved tabulation and collation of data. Thereafter the Project was expanded to 101 Panchayats in Phase-II and all 147 Panchayats covered in Phase-III which has successfully completed one year of implementation in June 2014.

“E-Zone for Cluster of Panchayats: In order to facilitate the field staff and PRIs and concerned NREGA workers the blocks have been further divided into smaller zones, called “E-Zones”, where Computers, Dongles and Printers are installed to reduce the walking distance to save a lot of time which was earlier spent in travelling. These zonal offices are meant for a cluster of panchayats and provide all facilities under one roof. To facilitate the people and field staff a large number of

Computer centres are being set up across the district. To begin with 12 such Computer centres have been established in the current year.

Unified Connectivity System: Besides this initiative V-Sats at BHQ Mahore and Arnas of Gulabgarh were installed to give better internet connectivity were made functional by end of December 2013. It is pertinent to mention here that connectivity in remote blocks of Mahore and Arnas is dismal and negligible with the BSNL unable to provide connectivity and lack of private players providing these services. This also leads to delayed communication between offices due to the geographical barriers adding to poor connectivity. The V-Sat hubs are established as common communication points for all the departments/offices located at Arnas/Mahore with those at the district headquarters. The routine transmission of documents takes weeks together and with establishment of this system has worked to reduce it to few minutes and will also help to retain a soft copy of each document/report for all the times to come. Primarily these V-Sat hubs are planned and established for e- Panchayat project for transmission of data from block headquarters and provide better/faster connectivity.

Analysis of improvement after e-Panchayat intervention: The estimated distance has been reduced as follows upon the decentralising on- lining system and panchayat cluster zones:-

Sl.No.	Block	Distance from HQ		Zone	Panchayats included	Distance after formulation of zone	
		Min.	Max.			Min.	Max.
1	Reasi	3 km	70 km	1. Dhirti	Sool, Taren Myari, Dhirti, Sira Kotla	2 km	7 km
				2. Dadura	Panthal, Dadura, Bhagta, Manoon	2 km	6 km
				3. CFC Katra	Arli Hansali, Kunddrorian, Kotli Manotrian, Latori Dhanori, Hutt, Aghar Jitto, Garan	2 km	8 km
				4. Dera Baba Banda	Dera Baba Banda, Panassa, Kanjali,	2 km	5 km
				5. Bamag	Ser Sundwan, Lamsora, Sujandhar, Harotekote	2 km	12 km
				6. Sari	Danga Kote, Devigarh, Sari	2 km	20 km
2.	Pouni	2 km	50 km	1. Kheral	Lower Talwara, Upper Talwara, Jerri, Kheral, Kolsar	2 km	10 km
				2. Pouni	Saloon, Kundkanyari, Pouni, Kana, Kheralaid, Bharak, Gajote	2 km	10 km
				3. Ransoo	Porakotla, Sangar, Allya, Dehote	2 km	10 km
				4. Laiter	Bhambla, Laiter, Dadua, Dhab Khalsa, Kothian	2 km	8 km

3.	Arnas	2 km	85 km	1. Judda	Dhanour, Khanikote, Dugga, Judda-A & B	0 km	45 km
				2. Salal	Salal Kote, Salal Kotli, Bidda	0 km	11 km
				3. Gari	Jij-A, Jij-B, Narkote, Chakalwalla, Gari	0 km	30 km
				4. Pannasa	Bandhar, Panasa, Thalkote, Thub	0 km	15 km
				5. Thuroo	Kanthi-A, Thiloo, Thuroo-A1, Thuroo-A2, Thuroo-B	0 km	19 km
4.	Mahore	0 km	90 km	1. Chaklass	Chaklass, Budhan-A, Budhan-B, Lancha, Sildhar, Jamslan-A, Jamslan-B	0 km	12 km
				2. Mahore	Mahore-A, Mahore-B, Mahore-C, Mahore-D, Sajroo-A, Sajroo-B, Mulass	0 km	15 km
				3. Sarah Lower	Sarah Lower, Sarah Upper, Bathoie-A, Bathoie-B, Bathoie-C	0 km	15 km
				4. Shadole	Shadole, Lar, Gulabgarh, Neosi, Dewal-A, Dewal-B, Baransal	0 km	25 km
				5. Chasote-B	Larah, Badder, Chasote-A, Chasote-B, Bagodass, Arbais	0 km	50 km
				6. Channa-B	Channa-A, Channa-B, Dubri, Hasote-A, Shikari, Hasote-B, Tuli upper-A, Tuli upper-A Tuli lower-A, Tuli Lower-B	0 km	10 km
				7. Chassana-A	Chassana-A, Chassana-B, Bagankote, Mangikote, Banna-A, Banna-B	0 km	12 km
				8. Majrakund	Majarakund, Kunderdan-A, Kunderdan-B	0 km	12 km
				9. Shergari	Shergari, Mamankote, Sarssote, Malikote, Thalkote	0 km	10 km

On-Spot Photograph Uploading: In addition to above it is to mention here that the Pre-Execution, Post-Execution and During-Execution photographs are to be uploaded on the web site of MGNREGA as per the guidelines of the schemes but due to lack of internet connectivity and hilly terrain this has not been done till planning and implementation of this project in the district but after issue of tablet computers it has now become possible for the field staff to directly upload the photographs against the works from site itself as Tablet PC's are equipped with the cameras. Previously the photographs were to be clicked through digital camera and taken to block level for uploading which could not succeed and due to various technical problems and lack of infrastructure these photographs remained pending due to which a clear picture of field works was not received by the MoRD thus affecting the budget allocation as well.

6. Strategy Adopted (i) The details of base line study done, The problems faced by the panchayats and the resultant delay in onlining of works resulted in low performance of the district and consequent decreased allocation of funds as both are linked. The problems of panchayats were studied and interactions organized across the district. Alternatives were analyzed and decentralization of on lining process and service delivery through IT infrastructure was finalized.

(ii) Problems identified:

1. Distance traveled
2. Time involved
3. Extra centralization
4. Extra costs involved
5. Resultant delays in works' execution

7. Citizen Centricity & Relevance (i) Impact on effort, time and cost incurred by user,

The project provides direct and visible benefits to more than 58,000 Job Card holders in the district as is evident from saved time and money as well reducing the hassles involved in manual process. The scheme has touched every household in the district willing to demand work under MGNREGA. There is no user cost.

(ii) Feedback/grievance redressal mechanism, The scheme is available at Panchayat level and grievances can be discussed by Village Panchayat with the Panchayat Secretary / GRS /VLW. The monitoring cell in ACD Office maintains a grievance redressal cell.

(iii) Audit Trails, Social audit of the scheme has been done for all Panchayats and it has been found to be time saving and most economical intervention. In all the Panchayats the cost of onlining has been reduced to zero against the earlier scheme involving many days' travel and expenditure incurred.

(iv) Interactive platform for service delivery, At Village Panchayat level the trained GRS are working as cutting edge team for service delivery at work site instead of earlier facility at Block Hq level.

8. Adaptability and Scalability User-Accessibility: The front end users have been trained under the elaborate IT training programme and the beneficiary NREGA Job Card holders made aware about the paradigm shift through IT intervention with onlining of records done at Panchayat level.

Transparency: The entire NREGA implementation is pilferage free and accountable through transparent time bound system put in place. The records are available at Panchayat Ghars in respective areas and also displayed for public awareness

Single-Window: All the services related to NREGA are provided under single window system as one stop shop solution.

NREGASoft software is being used for the project in the district as approved by the Ministry of Rural Development, GoI.

9. **Accessibility / User-Accessibility:** The front end users have been trained under the elaborate IT training programme and the beneficiary NREGA Job Card holders made aware about the paradigm shift through IT intervention with onlining of records done at Panchayat level.

Transparency: The entire NREGA implementation is pilferage free and accountable through transparent time bound system put in place. The records are available at Panchayat Ghars in respective areas and also displayed for public awareness

Single-Window: All the services related to NREGA are provided under single window system as one stop shop solution

10. **Sustainability:** Sustainability of the project can be assessed on various fronts. Firstly, the IT equipment and infrastructure has been procured on permanent basis by the District e-Governance Society and provided to Panchayats. A provision has been kept for earmarking 1.5% of capital outlay of Annual District Plan for IT related activities which will be utilized for maintenance and upgradation of the project as and when required, apart from other activities. The staff has been engaged under administrative expenses of MGNREGA initially for a period of two years with a renewable contract and provision has been kept in the District Plan for providing the wage component under IT activities outlay thereafter. The village panchayats have been made custodian of the IT infrastructure after complete training of officials and PRIs. The project in itself is an example of sustainability and shall depend on self-funding through district plan and panchayat budget as an annual plan.
11. **Cost effectiveness:** The Project has visibly reduced the cost by approximately 90% through a frame shift in onlning on NREGA works from Block Hq to Panchayats. One-time investment of Rs 20,000-25,000 and maintenance @3- 4%/annum is inbuilt part of project. It is pertinent to mention here that approximate man days for the job have been reduced from average 4-5 days to 0-1 day.
12. **Number of users and services**(Give details about frequency of services used in last 01 year, number of visitors, number of unique visitors, number of users etc. #) The scheme caters to 58,918 MGNREGA Job Card holders across 147 Panchayats in district Reasi.

In one year 4399 works taken up under the project and completed; an expenditure of Rs 34.60 Cr registered online.
13. **Benefits Accrued / Impact assessment**

- I) Percentage on MIS increased from existing annual average of 50% to 100%: The benefits of Project e-Panchayat launched in district Reasi can be gauged on many fronts which are visible on ground but before an analysis of benefits it is pertinent to present the picture of quantum jump in the percentage of works put on MIS which is linked to online monitoring and further funding under MGNREGA:-

S.No.	Year	Availability	Expenditure	% of MIS	Remarks
1	2008-09	529.68	336.38	NIL	
2	2009-10	647.15	645.51	1%	
3	2010-11	1029.86	1029.43	3%	
4	2011-12	4918.616	3629.29	5%	
5	2012-13	4843.01	4842.04	99.90%	Uploaded in April-July 2013 by present ACD
6	2013-14	1841.572	1204.26	100%	Time-bound MIS ensured

As is evident from the table above the MIS reached the level of 100% after the successful implementation of e-Panchayats projects. During pilot launch in 30 Panchayats the MIS % went substantially upwards and with the coverage of all Panchayats in 2013 the MIS % was pegged at 100% as a testimony of increased efficiency in the system in this remote district. More than 7900 works under MGNREGA were made online at Panchayat level instead of going for the cumbersome process of on-lining at block level.

- II) Service Cost: The entire service delivery is free of cost. There is no cost involved as far as recipients of service or field officials are concerned. The service delivery points provide service to the wage labourers, supervisors, VLWS etc without any costs as the entire project had been sponsored by the District e-Governance Society and Rural Development Department.
- III) Travel Distance: As indicated in details against point 3 above the travel distance, which is mostly on foot in hilly region, has been reduced substantially.
- IV) Travel Cost: Since in most of the panchayats the distance covered is a mix of walking and travel by public transport so the cost of travel has been calculated by monetizing the man-days involved and expenditure incurred on means of travel.
- V) Green e-Governance: The project can be well termed as 95% Green e-Governance project as the use of paper has been reduced by more than 95%, means of travel and transportation eliminated and the entire project is environment friendly with no wastes generated.
- The e-Waste is minimal and as per the Project shelf life no e-waste will be generated till 5 years. Even after that the disposal is 100% environment friendly by way of replacement.
- VI) Capacity Building: 144 GRS were specifically recruited for this project and imparted a month long training before launch of the project at pilot level. The details of personnel / non-officials trained for the project implementation is as follows:

S.No	Category of Officials / Non-Officials	Number
1.	Grameen Rozgar Sewaks of e-Panchayat Project	147
2.	Sarpanches	145
3.	Panches	319
4.	Village Level Workers, Panchayat Secretaries, BDOs	324
	Total	935

14. Result Achieved/ Value Delivered to the beneficiary of the project (i) To organization
 1. Transparency established in working of department, delivery of services and guaranteed time-bound service.
 2. Chances of corruption reduced to zero.
 3. Strengthened network of trained officials and PRIs as a permanent team /human resource for all developmental schemes.
 4. Expenditure reduced
 5. Time saved
 6. Better results
- (ii) **To citizen**
 1. Travel distance reduced to minimum: At panchayat level instead of block hq.
 2. Cost reduced to zero.
 3. Time saving
 4. Ease of transaction : accounts and muster rolls
- (iii) **Other stakeholders**
 15. Extent to which the Objective of the Project is fulfilled-(benefit to the target audience i.e.G2G, G2C, G2B, G2E or any other, size and category of population/stakeholder benefited etc): The project objective has been fulfilled for both G2C and G2G target groups, services and sectors.
 16. Comparative Analysis of earlier Vs new system with respect to the BPR, Change Management, Outcome/benefit, Change in legal system, rules and regulations Detailed comparison with respect to the following points has already been explained against various points above:-
 1. Travel distance reduction
 2. Cost reduction
 3. Time reduction
 4. Efficiency of system
 5. Enhancement in percentage of service delivery /onlining
 17. Other distinctive features/ accomplishments of the project:
 1. Man-Wild Animal Conflict bypassed: More than 26 critical areas of identified man-wild animal conflict have been bypassed as the people do not have to walk across these critical zones to reach the block headquarters since the services are being provided at the Panchayat headquarters instead of Block Hq ; and Panchayats being almost coterminous with Revenue Villages.
 2. Life Saving Project: Earlier the people had to cross gorges, rivulets and difficult areas to reach block Hq however with this project the services are made available at village level. However, 70 bridges have been constructed in a short span of 8 months as a part of another project in these difficult areas; but the difficult terrain and these areas have been bypassed. Every year more than 20-30 people would die in such incidents.

3. Undoing the losses inflicted by terrorism: The Mahore and Arnas regions have remained hot bed of militancy for more than decade and a half thereby leading to chronic underdevelopment in the region and population in some pockets remaining with more than 70% BPL component. This project has generated a hope among the youth and associated them with the development process owing to the simplification of development process and quick results which have strengthened the credibility of administration.
4. e-Project Team as backbone of Development, Disaster Management and Conduct of Elections: The vital human resource and infrastructure in the district put in place under this project has been of tremendous importance during disaster management and conduct of elections. The Election Commission of India has also appreciated the extraordinary work done by the field team for conduct of elections in a transparent manner with greater participation.

Chhattisgarh Geographic Information System

Sl. No.	Description	Write-up
1	Name of the State / Ministry	Electronics & IT Department, Chhattisgarh
2	Name of the host / owner organisation	Chhattisgarh infotech & biotech Promotion Society (CHiPS)
3	Status of the host / owner organisation	Registered society under Electronics & IT Department, Govt. of Chhattisgarh
4	Name of the Project	Chhattisgarh Geographic Information System
5	Name of the Nodal Contact Person	Mr. Saurabh Kumar, IAS, CEO
6	Contact address	Office of CHiPS, State Data Centre Building, Civil Lines, Raipur, Chhattisgarh
7	Telephone/Fax/e-mail	Phone : 0771-4014158, Fax : 0771-4066205, email : ceochips@nic.in
8	Project Summary	<p>The newly formed State of Chhattisgarh is endowed with natural resources like forest, mineral resources, flora and fauna, wide range of crops and cropping patterns, and rich cultural diversity. The Chhattisgarh State is divided in 27 districts with 149 tehsils and 20379 revenue villages.</p> <p>The multiplicity of natural resources, their uses has competing and conflicts interests that may arise between the various stakeholders makes compulsory to enable planning at multiple levels. Government of Chhattisgarh through its nodal agency, Chhattisgarh InfoTech & biotech Promotion Society (CHiPS), an autonomous organization under the Department of Information Technology, in consultation with Department of Panchyat and Rural Development (P&RD), and Department of Land Revenue (LRD), has generated Natural Resources Database (NRD), Infrastructure Resource Database and Cadastral Database for the State of Chhattisgarh on various scale from 1:50000 scale for natural resource, 1:4000 for rural cadastral maps to 1:1000 for urban amenities using IRS LISS-III/IV and CARTOSAT data made available by NRSA(ISRO). These databases of Natural Resources (NRD), Socio-economics, Infrastructure and other collateral information has helped in project planning, implementation and impact assessment. The land parcel layer in this vector data base has been integrated with the tenancy records of B-1 and Khasra. The delivery of these maps and land records has been made possible in the state for the first time. The secured printing of maps and handling of vector required for capturing mutation data has been done for the first time in the country. Project broadly included –</p>

		<ol style="list-style-type: none"> 1. Generate various thematic maps of natural resources on 1:50,000 scale using remote sensing & collateral data. 2. Establishment of district level database in GIS environment. 3. Identify the potentials and limitations of land and water resources and understand the priorities of the people. 4. Integrate various thematic information and socio-economic for the generation of the action plans. 5. Generate a comprehensive plan for (i) Water resources development and (ii) Land resources development. 6. Generate Micro-watershed wise site-specific and area-specific action plans for easy implementation by local bodies. 7. Online information access to gram panchayats anywhere-anytime. 8. Facilitate participation of the local people (farmers, gram sevaks) into the planning process through periodic interactions. 9. Design a mechanism for periodic monitoring and impact assessment.
9	Date of launch of project	01/07/2012
10	Coverage (Geographical)	<p>The coverage of the project included all districts, blocks, panchayats and every village in the state. The data was prepared to include all Departments, Boards, and Government organisations in the state.</p> <p>Some of the major user departments includes the Forest Department, using the system for demarcating forest boundaries, estimation of forest density, details of vegetation, firewood, timber etc., the Revenue Department for digitization of land maps and online mutation of land records, the Election Office for demarcating Gram Panchayat boundaries, Janpad-Panchayat boundaries, Vidhan-Sabha boundaries, representation and analysis of census data and habitat, polling trends, tracking of polling party movement and ballot box movement. Department of Water Resources is using these for watershed mapping, water table mapping, demarcation of catchment areas and submergence areas, ground water simulation including site characterization, model development, post processing, calibration and visualization.</p>

	<p>The Chhattisgarh State Electricity and Power Companies in the state is using these for installation of HV lines in remote districts of Bastar, Dantewada, Narayanpur, Sukma etc. for effective planning of HV lines, and the Mining Department for demarcation of mining lease boundaries and identification of potential exploration / mining lease areas.</p> <p>The State provide these GIS data and render maps online to all Government departments / agencies and NGO's for identifying areas for improvement, thereby, increasing the productivity and scientific planning in the State. A GIS Application Centre is also being set-up. A comprehensive Geographical Atlas of the state on various layers has been prepared using GIS.</p> <p>Some of the major applications developed during last 1-2 years include:</p> <ul style="list-style-type: none"> • The demarcation of Lakheli – Belar corridor for Chhattisgarh State Electricity Board (CSEB) based on 10 various parameters for 400 KV transmission line of 1000 kms was accomplished in 10 mandays which otherwise could have taken 1-2 year • Public Works Department of CG State - GIS Based Web Application of the for layers - Road Data Creation, Updation, Quality Analysis of data such as National Highway, State Highway, District Roads and Village Roads Division – wise of Chhattisgarh State • Public Works Department, Mahasamund District - Requirement of Khasra Map for the construction of Mahasamund Bypass road-NH no.353 and Analysis and Mapping of NH no.353 • Education: Rajiv Gandhi Shiksha Mission - Plotting and Mapping of school GPS points of villages of Chhattisgarh. Work done on Primary, Upper Primary, Secondary and Upper Secondary Schools with buffer created around school points of 1km, 3km, 5km and 7kms for future planning as per better perspective for education to be achieved. • CSEB-CSPTCL - GIS Based Web Application for Plotting and Mapping of Transmission lines and Substation GPS points for State • Delhi Metro Railway Corridor - Gevra Pendra- road Railway Corridor ,Land parcel map of railway corridor zone ,Generated buffer around railway corridor. • Chief Electoral Officer for Chhattisgarh - Plotting and Mapping of all polling booths of 90 Vidhansabha and 11 Loksabha with poll booths and their poll boundaries with road connectivity and natural boundaries of Chhattisgarh State for recent Vidhan Sabha and Lok Sabha elections. • Powergrid - Plotting and Optimal routing lines mapping of Transmission lines and Substation GPS points and GIS Based Web Application
--	---

11	Beneficiary of the Project	Police & Paramilitary forces, State Govt. Departments, Boards, Societies, Private Firms and Citizens.		
12	Problem statement or situation before the initiative	Parameter	Pre Project	Post Project
		Mode of accessibility (email, sms, web etc.)	Manual	Electronic, on web interface.
		Impact (time for service delivery, audit trails etc)	Earlier survey inputs being manual, data collection and report generation was cost prohibitive for different departments.	Instantaneous availability of data, and delivered in day’s time
		User Convenience (accessibility, ease of transaction)	Very cumbersome- some time compilation and analysis use to take years, resulting in Project delay	Very easy to fetch geospatial data products
		Privacy and Security policy adopted	Manual security- susceptible to loss and damages by natural calamity and negligence by individual	Highly level of privacy and security available as part of secured government data in state data center
		Local Language Interface	NA	English/Hindi
		Cost Effectiveness	Cost prohibitive	Negligible recurring cost.
13	Problem / Objectives	The purpose of the project is to optimize and sustain outputs from primary systems to meet the growing demands of rising population and developmental planning which needs an integrated approach. This helps in optimal management and judicious utilization of natural resources while improving living conditions of the people. The practical approach adopted in planning activities directed at preservation, conservation, development and management of natural resources of the region for the benefit of people has been operated within the framework of physical and biological attributes, socio-economic conditions and institutional constraints.		

		<p>While the physical and biological attributes comprises of baseline data on geology, hydrology, soil, land use / land cover, climate, demography, flora and fauna, the socio-economic condition comprises of information on basic needs of people, input output relationship, marketing and transportation arrangements, developmental incentives and facilities, such as technologies, equipments, labour, material, energy, power etc. To accomplish the mission GIS with more than 37 layers have been generated and distributed to concerned departments like Panchayat and rural development, Revenue, Water Resources, Election, Industries etc. which is being used in the planning process.</p> <p>Using satellite data, natural resource mapping has been carried out on 1:50,000 scales based on satellite imageries and digital processing. The objective of GIS included inter-alia Road Information System, Georeferencing of villages (cadastral maps), integration of thematic information and socio-economic data for the generation of action plans, generation of comprehensive plan for water and land resources development and generation of watershed wise site-specific and area-specific action plans for easy implementation by local bodies. Some of the important layers included geomorphology, lithology, transport, soil slope, drainage, watershed, forest etc.</p> <p>This valuable repository of information is being used by various Departments for their planning. Some of the usage milestones achieved are:</p> <ul style="list-style-type: none"> • Prioritization of watersheds and water resources development plans of priority watersheds. • Rural road connectivity to villages through the forest. • Identification for suitable sites for horticulture and vegetable crops in Mahasamund Districts. • Identification for suitable sites for developing PURA (Providing Urban amenities in Rural Areas). • Forest Management Information System (FMIS). • Hydrology Project of Chhattisgarh State. • Election Commission GIS for delimitation of constituencies. • Identification for suitable areas for sitting industries in the state, Chhattisgarh State Industrial Development Corporation (CSIDC). • Optimal routing of High Power Transmission Lines, Chhattisgarh State Electricity Board.
--	--	--

		<ul style="list-style-type: none">Developmental Planning of major towns and New Raipur City of Chhattisgarh State, Department of Town and country Planning, Raipur.Road Information System for PWDEducation - GIS based web Portal for the schools of all categories to display GIS data and overlaying satellite imagery, Bing Maps, Relief Features, Street maps on Digitized GIS data.																																																						
14	Project scope approach and methodology	<p>CHiPS used scanner for vectorisation of available Survey of India, topo-sheets which have good accuracy and it was then attached with raster and other attribute data. CHiPS also approached NRSA and other ISRO agencies for digital GIS dataset. For better accuracy and geo-referenced data (data with latitude longitude information) state took help from RRSSC (Regional Remote Sensing Services Centres) of ISRO (Department of Space) GOI Nagpur Centre. However this involved a major cost component of space imageries of different resolution. Multiple technological options (mentioned in table below) were evaluated and after careful analysis and comparison with foreign satellite imageries and Indian satellite such as IRS outputs available were selected.</p> <table><tr><th>S. No.</th><th>Parameter</th><th>Toposheet Maps</th><th>Aerial Photography</th><th>Satellite Data</th><th>GPS Survey/ Total-station</th></tr><tr><td>1</td><td>Source</td><td>1:25,000 1:50,000</td><td>1:4000 TO 1:25000</td><td>PAN,LISS-III, IKONOS, QUICKBIRD, CARTOSAT,</td><td>NAVSTAR, GLONASS</td></tr><tr><td>2</td><td>Availability</td><td>Less</td><td>Need fresh acquisition</td><td>Excellent</td><td>Unreliable</td></tr><tr><td>3</td><td>Sub Parcel Information</td><td>Nil</td><td>Excellent</td><td>Very Good</td><td>Nil</td></tr><tr><td>4</td><td>Geometric Fidelity</td><td>0.5 mill m. 12.5meters</td><td>Around 1 Meter.</td><td>18-20Meters</td><td>3-5 Meters, 1-2 Meters</td></tr><tr><td>5</td><td>Through Put (Timeliness)</td><td>Fast</td><td>Very Slow</td><td>Fast</td><td>Slow</td></tr><tr><td>6</td><td>Economics per village</td><td>Rs.4000/-</td><td>Rs.35,000/-</td><td>Rs.5000/-</td><td>Rs.15000/-</td></tr><tr><td>7</td><td>Trained Manpower</td><td>More</td><td>Very less availability</td><td>Very Good</td><td>Good</td></tr><tr><td>8</td><td>Compatibility With Others Systems</td><td>Good</td><td>Excellent</td><td>Excellent</td><td>Nil</td></tr></table>	S. No.	Parameter	Toposheet Maps	Aerial Photography	Satellite Data	GPS Survey/ Total-station	1	Source	1:25,000 1:50,000	1:4000 TO 1:25000	PAN,LISS-III, IKONOS, QUICKBIRD, CARTOSAT,	NAVSTAR, GLONASS	2	Availability	Less	Need fresh acquisition	Excellent	Unreliable	3	Sub Parcel Information	Nil	Excellent	Very Good	Nil	4	Geometric Fidelity	0.5 mill m. 12.5meters	Around 1 Meter.	18-20Meters	3-5 Meters, 1-2 Meters	5	Through Put (Timeliness)	Fast	Very Slow	Fast	Slow	6	Economics per village	Rs.4000/-	Rs.35,000/-	Rs.5000/-	Rs.15000/-	7	Trained Manpower	More	Very less availability	Very Good	Good	8	Compatibility With Others Systems	Good	Excellent	Excellent	Nil
S. No.	Parameter	Toposheet Maps	Aerial Photography	Satellite Data	GPS Survey/ Total-station																																																			
1	Source	1:25,000 1:50,000	1:4000 TO 1:25000	PAN,LISS-III, IKONOS, QUICKBIRD, CARTOSAT,	NAVSTAR, GLONASS																																																			
2	Availability	Less	Need fresh acquisition	Excellent	Unreliable																																																			
3	Sub Parcel Information	Nil	Excellent	Very Good	Nil																																																			
4	Geometric Fidelity	0.5 mill m. 12.5meters	Around 1 Meter.	18-20Meters	3-5 Meters, 1-2 Meters																																																			
5	Through Put (Timeliness)	Fast	Very Slow	Fast	Slow																																																			
6	Economics per village	Rs.4000/-	Rs.35,000/-	Rs.5000/-	Rs.15000/-																																																			
7	Trained Manpower	More	Very less availability	Very Good	Good																																																			
8	Compatibility With Others Systems	Good	Excellent	Excellent	Nil																																																			

		<p>The panchromatic and LIS-III / LIS-IV or other recent images fused together gave resolution of less than 2 to 5 mtr, and sub 1 mtr at a later stage.</p> <p>Basic datasets for the first time in the country to this magnitude created under this project includes-</p> <p>Natural Resources Database for the state of Chhattisgarh: Generation of thematic layers on 1:50,000 scale as per NRIS standards for the entire state viz. Drainage and Watershed, Surface Water body, Slope and Aspect, Soils, Mineral Resources, Land use/Land cover, Wasteland map, Transport Network, Settlement Location and Village Boundary, Rainfall and Climate (Data from IMD), Socio Economic Data Base as per NRIS, Census data and other socio economic data. The digital database generated was as per the standards confirming NRIS codification and also confirming to standard GIS format. The layers of lithology, structure, geomorphology and groundwater potential were also integrated with the database and made available to Drinking Water Mission.</p> <p>Development of Spatial Database for Road and railway Network of Chhattisgarh State: Digitisation of road map provided by PWD/RES, Updation of road network from high resolution IRS satellite data on 1:50,000 scale and feature extraction from satellite image for new roads, on 1:50,000 scale. Validation of database in association with PWD/RES and the digital database generated in standard GIS format;</p> <p>Geo-referencing of Village maps: Input maps were taken from land record department, and scanning, digitisation and registration of cadastral maps, submission of check plots for quality check to LRD, geo-referencing of cadastral maps, submission of sheet-wise plots on 1:4000 scale, generation of tehsil-wise/revenue circle-wise mosaic of cadastral maps. This was subsequently overlaid on Satellite data indented covering the entire study area from National Data Centre, NRSA, Hyderabad. Geo-referencing of satellite data, Generation of enhanced colour composites using IRS PAN & LISS-III data was done to identify geographic details upto parcel level.</p> <p>Digital database for all Districts on 1:50,000 scale which includes themes on watershed (hydrologic boundary), drainage, road network, settlements, and administrative boundaries upto tehsil level, slope map, land use / land cover map and soil map on 1:250,000 scale was also done.</p>
--	--	--

		<p>Approach to Geometric Accuracy: To achieve geometric accuracy, multiple rounds of quality checks & clean of data for following data set in geo-referenced form is done to achieve a sub one meter accuracy.</p> <table border="1"> <tr> <td>1</td><td>Tiling Of Village Maps</td><td>2 – 3 MTS.</td></tr> <tr> <td>2</td><td>Rectification Of Reference Maps</td><td>6 MTS.</td></tr> <tr> <td>3</td><td>Rectification Of Pan Data</td><td>6 MTS.</td></tr> <tr> <td>4</td><td>Raster To Vector Conversion</td><td>1 MT.</td></tr> <tr> <td>5</td><td>Geo referencing Of Village Map</td><td>2 - 3 MT.</td></tr> <tr> <td></td><td>Total Maximum Error Budget – 18 – 20 Mts.</td><td></td></tr> </table>	1	Tiling Of Village Maps	2 – 3 MTS.	2	Rectification Of Reference Maps	6 MTS.	3	Rectification Of Pan Data	6 MTS.	4	Raster To Vector Conversion	1 MT.	5	Geo referencing Of Village Map	2 - 3 MT.		Total Maximum Error Budget – 18 – 20 Mts.	
1	Tiling Of Village Maps	2 – 3 MTS.																		
2	Rectification Of Reference Maps	6 MTS.																		
3	Rectification Of Pan Data	6 MTS.																		
4	Raster To Vector Conversion	1 MT.																		
5	Geo referencing Of Village Map	2 - 3 MT.																		
	Total Maximum Error Budget – 18 – 20 Mts.																			
15	Result achieved/value delivered to beneficiary of the project and other distinctive features/ accomplishments of the project	<p>The geographical area covered under the Project includes the entire state. Some of the major applications developed under this Project are:</p> <p>PWD (Public Works Department) – For this Application Road Data Creation, Updation, Quality Analysis has done on geographical platform . Further, Geoprocessing Analysis done on data created for roads such as National Highway, State Highway, District Roads and Village Roads. This GIS Based Web Application of the above mentioned layers is developed using ArcGIS Enterprise Server on Silverlite Platform.</p> <p>RGSM (Rajiv Gandhi Shiksha Mission) – Geographical data has been prepared of all the schools such as Primary, Upper Primary, Secondary and Higher Secondary Schools. Geoprocessing Analysis done considering the guidelines of the government of CG STATE. Application development is in process using ArcGIS Server Platform.</p> <p>PHQ (Police Department) - GIS based web Portal for the Police Headquarter is developed to display GIS data (37 layers), overlaying satellite imagery, Bing Maps, Relief Features and Street maps on Digitized GIS data. Police is using the network analysis Tools like Spatial Analysis, Network Analysis and 3-D Analysis tools of the Application for its intelligence and combing operation in most difficult terrain and quick operational decision making.</p> <p>CSEB (Chhattisgarh State Electricity Board) Companies – The data plotting and mapping done of transmission lines on GIS Platforms (such as 135kv, 220kv and 400kv transmission lines, Station and Sub-Station) is done. This is now being used for fault location and new power evacuation planning purpose. Optimal routing of High Power Transmission Lines, for Chhattisgarh State Electricity Board (CSEB) was accomplished within a record time of two weeks when ‘Naxal’ disrupted supply by bombing the towers and killed maintenance personal.</p>																		

		This complicated survey normally would have taken two years and result were achieved in 15 days.
		<p>Value delivered</p> <ul style="list-style-type: none"> • Used in Developmental planning of major towns like Naya Raipur of Chhattisgarh State, by Town and Country Planning, Raipur. • Online system developed for delivery of information based on these GIS layers to the various stakeholders, including users in different departments and citizens directly interfacing for Land Records Management. • Prioritization of watersheds and 'water resources development plan' for priority watersheds for the Department of Panchayat and Rural Development, Government of Chhattisgarh. • Identification of suitable sites for horticulture, floriculture and vegetable crops for different Districts in the state. • Forestry Management Information System (FMIS), for Forest Department, Government of Chhattisgarh was created for forest departments in the state to monitor forest fire, vegetation growth, forest density etc. • Election Commission GIS for delimitation of constituencies, for Chhattisgarh State Election Commission, polling parties' management, logistics movement during election. • Identification of suitable areas for locating industries in the state, for Chhattisgarh State Industrial Development Corporation (CSIDC) was done which normally would have take minimum Rs. 2Cr of expenditure and more than a year to execute was accomplished with in a fortnight. • Used to plan Rural Road connectivity to villages through the forest. • Used to prepare Hydrology Project of Chhattisgarh State for Water Resources Department, Govt. of Chhattisgarh which has details action plan for irrigation. <p>Increased Efficiency of processes and effectiveness of outcome Time and cost efficiency improvement is achieved while delivering the various set of services. Most of the survey and planning work initiatives requires substantive investments both in terms of time and resources in terms of manpower and funds. The data set and application created by the state is helping saving of huge funds and man-hours earlier required.</p>

		<p>Chhattisgarh GIS project complies with ISO 27001:2005 and ISO 20000 certified for hosting. For ensuring proper security to the data and applications UTM, NIPS (Network Intrusion Prevention System), HIPS (Host Based Intrusion Prevention System) and server level antivirus are present. In UTM, Firewall, Gateway Level Antivirus, WEB Filtering, SSL/SSH inspection are integrated. In case a remote connectivity is requires as VPN, the access are through SSL/IPSEC.</p> <p>Entire system architecture is designed as scalable both in terms of hardware and application users' perspective. For e.g. Land records keep getting modified due to buying, selling and acquisition. Manual methods for updating land records and providing updated records to citizens take considerable time and the buyer and seller are required to make multiple trips to various government offices to have a copy of land record or to have any corrections in his land record. GIS based Application has been developed to include components of (1) textual information on tenancy records (2) vector data of cadastral maps (3) documental records of historical data (4) instance capturing which includes registration of land, mutation and other activity are also to be taken up shortly. This application made management of Land record more efficient and user friendly.</p> <p>Localization language support to both Hindi and English are available.</p> <p>The Software used (Arc GIS Server 10.0 & Desktop 10.0, ERDAS Imagine 10.0, Map Server (Oracle Spatial, Oracle Map Viewer), Web Server Tom Cat, and Arc View 3.1, Data base-Arc SDE, MS SQL Server 2008) are all configured to cater high concurrency and provision for scalability. The Hardware - Blade Servers are used for expandability requirements and can serve to multiple workstation loads parallel for different state departments.</p> <p>a) Sustainability and Adaptability</p> <p>i. Financial</p> <p>CHiPS generated resources of around Rs. 20 crores, funded from the Gram Panchayats through the 'Basic plan', 'Jawahar Gram Samrudhi Yojna' and other resources of Panchyat amounted to Rs. 10,000 per village.</p> <p>The Project is now working on self-sustaining model where map-rendering and value addition work to user organization is taken up at nominal cost for maintenance and up-keeping of the system.</p>
--	--	--

		<p>ii. Technology</p> <p>Project is headed by CEO CHiPS. Routine reviews, updations, making available the information sought and handholding of the project is taken care by an internal team of four GIS professionals in CHiPS.</p> <p>Individual layers of the system database, thematic layers for various Government Department are now maintained by the respective users of the department after intensive training. Front end maintenance and other handholding work is being done by CHiPS officials and if any data base related problem occurs the team of RRSSC and CHiPS officials resolve the queries.</p> <p>iii. Business Continuity/ Disaster Recovery Center</p> <p>The entire data set is hosted at State Data Centre of Government of Chhattisgarh and the disaster recovery and continuity is being planned at GOI Data Centre at New Delhi. In addition to this, one complete set of the entire database is kept with ISRO at its RRSSC Nagpur.</p> <p>iv. New Models of service delivery (details about public/ private/ NGO/ academic linkages/citizens)</p> <p>Services using these data sets are available in multiple formats depending upon the availability of infrastructure:</p> <ul style="list-style-type: none"> • For panchayat level usage the stand alone PC level application has been made using open source tools sufficing their planning requirements. • For updating datasets like land record a client server application has been developed with the help of NIC and this is installed at all block offices to be accessed by stake holders. • For majority of the planning and decision making purpose the data can be accessed online with proper security and authentication. • ATLAS – Chhattisgarh Reference ATLAS has been prepared for public domain in English. These printed outputs are made available to researchers, students, university libraries including common citizen. Hindi version is in process of development and will be launched sooner. <p>Project milestones: Project has achieved following milestones</p> <ol style="list-style-type: none"> More than 54000 sheets pertaining to 20000+ villages were digitalized. All of these digitized sheets were then geo-referenced in two years. Generation of 37 thematic layers from ISRO data.
--	--	---

		<p>iv) Development of desktop based application for remote area like 'Naksha', 'Gyan'.</p> <p>v) Legal amendments/ government circulars released (Copy attached).</p> <p>vi) Panchayat & rural development is using the GIS data for watershed development planning with the help of this comprehensive data from last 9 years.</p> <p>vii) Industry Department is identifying most feasible site for new industry by layer superimposition.</p>
--	--	--

Remote Sensing and Geographical Information System in Sericulture Development

CENTRAL SILK BOARD, MINISTRY OF TEXTILES, GOVT. OF INDIA, CSB COMPLEX,
B T M LAY OUT, MADIWALA

Bangalore, Karnataka, India, 560 068

Sl. No.	Description	Write-up
1	Name of the state/Ministry	Ministry of Textiles, Govt of India
2	Name of the host/owner organization	Central Silk Board
3.	Status of the host organization	Statutory Body under Ministry of Textiles, Govt of India
4	Name of the Project	Applications of Remote Sensing (RS) and Geographical Information System (GIS) in Sericulture Development
5.	Name of the Nodal officer contact person	Dr.H.Nagesh Prabhu, IFS, Member Secretary, Central Silk Board
6	Contact address	Central Silk Board, Ministry of Textiles, Govt of India, BTM layout, Madivala, Bangalore- 560068
7	Telephone/fax/mail	Phone:91-80-26282699, Fax:91-80-26681511
8	Date of launch of the project	January,2009
9	Coverage (Geographical)	Space technology has been used to identify potential areas for sericulture expansion in 108 districts spread over in 24 states.
10	Beneficiary of the project	Farmers, Department of sericulture and NGO,s

Project Summary

Sericulture is a source of livelihood and provides gainful employment in the rural areas, especially for the women. The Central Silk Board (CSB), Ministry of Textiles has placed greater emphasis on improving the productivity at all stages of silk production to ensure higher returns to the stakeholders. Realizing that the space technology in the past has provided valuable inputs to the sericulture development, CSB has requested the Department of Space (DOS) to suggest appropriate inputs for expansion of sericulture activities particularly in the non-traditional sericulture states with a special emphasis on NE states.

North Eastern Space Applications Centre (NESAC) took the lead on behalf of DOS and came up with the project proposal titled Applications of Remote Sensing and GIS in Sericulture Development, which has three major components: i) Identification of potential areas on 1: 50,000 scale of mapping for development of silkworm host plants covering selected districts in all 8 North Eastern States in addition to Andhra Pradesh, Bihar, Chhattisgarh, Himachal Pradesh, Jammu and Kashmir, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Tamil Nadu, Uttarakhand, Uttar Pradesh and West Bengal. ii) Appraisal survey of a few selected areas / districts (as per the choice of CSB), and iii) development of a network of Sericulture Information Linkage and Knowledge Systems (SILKS) in about 50 intensive sericulture-practicing districts in the country. Out of 108 districts, 41 districts were selected from 8 NE states including Sikkim covering a total geographical area of 9, 35,195 sq km. Among the NE states, Nagaland is found to

have maximum suitable areas (21.9% of total geographical area) that can be brought under Mulberry Sericulture. This is followed by Meghalaya (15.8%) and Sikkim (15.7%). Due to limitation of physiographic conditions and climate, Arunachal Pradesh is having very limited areas (17242 Ha in selected 7 districts) that can be brought under sericulture activities.

SILKS (Sericulture Information Linkages and Knowledge System) web portal developed as a part of the project has been put in the public domain under the domain name <http://silks.csb.gov.in>. SILKS is a single window, ICT-based information and advisory services system for the farmers, sericulture extension workers, administrators and planners working in the field of sericulture development. The portal is now made available in 12 languages. It has 13 major non-spatial modules and 4 spatial modules, which are grouped into three categories, namely Planning Services, Other Services and Natural Resources Management. The available modules under Planning Services are Silkworm Food Plant's Production Technologies, Techniques of Rearing Silkworm, Diseases and Pest Management of Silkworm Food Plants, Improved Varieties of Silkworm Food Plants, Species of Silkworm, Processing of Cocoons, Infrastructure and Equipments and Allied Sectors and Occupations. Within a short span of about one year, the portal has been able to make significant impact particularly in North Eastern region and a number of sericulture expansion activities have been initiated based on the outcome of the study.

Introduction

Sericulture is both an art and science of raising silkworms for silk production. Being a rural based industry, the production and weaving of silk are largely carried out by relatively weaker sections of the society and this aspect of sericulture has made it popular and sustainable in countries like China and India. Indian silk has enthralled fashion watchers and all categories of consumers across the world with its vast repertoire of motifs, techniques and brilliant hues. India's traditional and culture bound domestic market and an amazing diversity of silk garments that reflect 'geographic specificity' has helped the country to achieve a leading position in silk industry. Central Silk Board being mandated to take sericulture expansion across the country is always on the lookout for using cost cutting techniques and effective methods of communicating the advantages of sericulture to all the people across the country. In the past, Central Silk Board (CSB) and Indian Space Research Organization (ISRO) in collaboration with the concerned States Sericulture/Textiles Departments applied the technology of remote sensing (RS) and geographical information system (GIS) for mulberry acreage estimation, assessment of garden condition and for finding suitable areas for introducing sericulture in the non-traditional States. ISRO and CSB had carried out another large area project, called National Survey of Potential and Actual Area under Sericulture through Remote Sensing (SPAARS), in which large scale application of the RS and GIS technologies were tried. Realizing that the space technology in the past has provided valuable inputs to the sericulture development, CSB has requested the Department of Space (DOS) to suggest appropriate inputs for expansion of sericulture activities particularly in the non-traditional sericulture states with a special emphasis on NE states. North Eastern Space Applications Centre (NESAC) took the lead on behalf of DOS and came up with the project titled 'Applications of Remote Sensing and GIS in Sericulture Development',

Problem Statement

Sericulture is one of the important sectors of economy in India and plays an important role in programmes of poverty alleviation. Compared to agricultural crops, sericulture provides more employment all round the year and fetches higher income for rural farm families. Sericulture allows commercialization and diversification of farm enterprises. It is also an environmental friendly farm

activity because the silkworm food plants like mulberry, som, etc are perennial crops protecting the soil from erosion.

Indian sericulture is an age old practice, producing all four types of natural silk namely Mulberry, Tasar, Eri and Muga. Non-mulberry sericulture, also known as forest sericulture (Vanya) mainly consists of tropical and temperate Tasar, Eri and Muga. Nearly 95 percent of the global production of non-mulberry silks is from Tasar. This sector of sericulture provides livelihood for large number of indigenous and tribal communities.

Sericulture production is still limited to a few pockets in our country and there was sharp decline in mulberry area in some states (Andhra Pradesh, Tamil Nadu) during mid 1990s. The current production (about 28 thousands tones) is not adequate to meet the demand for silk in the country. There is tremendous scope for improving the production and quality of silk through improved method of information collection, processing and dissemination, in addition to use of biotechnology.

There is also urgent need for diversification of agriculture, to protect the soils from degradation, to raise surplus income in the hands of farmers and to attain ecological/economic security of the traditionally wheat-rice ecosystem of our country. It is in this context, sericulture has to be seen as an alternative to agriculture. Developments in the geospatial technologies have allowed us in the past to mount many applications of relevance to sericulture development at grass-root level. Hence, a project on Applications of Remote Sensing and GIS in Sericulture Development been taken up for implementation during the XI Five Year Plan period. Adoption of sericulture as an alternative to agriculture is possible under suitable agro-climatic conditions all over India and especially NER. But the potential varies from place to place and needs scientific evaluation of an area before venturing into the practice. It is here that the satellite technology has an important role to play.

Project Objectives

Because of the coarse mapping scale i.e, 1: 250000 adopted in the earlier Project “SPAARS” the derived information could not meet the requirement for district and block/taluka level planning. Hence, a project on Applications of Remote Sensing and GIS in Sericulture Development was taken up for implementation during the XI Five Year Plan period with a major objective to identify additional potential areas for development of silkworm food plants for 108 priority districts from 24 states at 1: 50000 scale. The main objectives of the project are given below.

- i) To map and identify the potential areas for development of silkworm food plants for mulberry and non-mulberry sericulture in the non-traditional States on 1: 50,000 scale,
- ii) To carry out an appraisal survey to evaluate the progress of sericulture development for a few selected areas from the four sericulture zones, and
- iii) To develop and implement a network of (SILKS) in 50 sericulture intensive districts. Later on it was decided to cover around 60 additional districts for development of SILKS.

The study areas covered under three major components of the project are as given below.

Phase I: 41 districts covering all 8 states in north eastern region NER including Sikkim.

Phase II: 43 districts covering 11 other non-traditional states viz., Bihar, Chhattisgarh, Himachal Pradesh, Jharkhand, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Uttarakhand, and Uttar

Pradesh.

Phase III: 22 districts in 5 traditional states viz. Andhra Pradesh, Jammu and Kashmir, Karnataka, Tamil Nadu and west Bengal.

Sericulture Information Linkages and Knowledge System (SILKS) for 106 districts where potential area mapping has been done, were covered under the component.

Project scopes and Methodology

The methodology for identification of potential areas for sericulture development involved evaluation of land and water resources requirements for growing silkworm food plants as well as rearing of silk worms.

The assessment of suitability of land for sericulture was done matching the land qualities with the requirements of the silkworm food plants (FAO, 1976; Sys, 1985, Sys et al, 1993) and silkworm rearing. It needed interpretation and integration of soils, climatic parameters, vegetation and other aspects of land, like wastelands and slope using GIS. The mapping was done on 1:50,000 scale adopting a 28 fold classification system. This was done under the technical guidance of National Remote Sensing Centre (NRSC) for the Ministry of Rural Development, Govt. of India. The cultivatable wasteland categories have been evaluated for introducing sericulture in the new areas with regards to other parameters separately for physiographic and climate parameters.

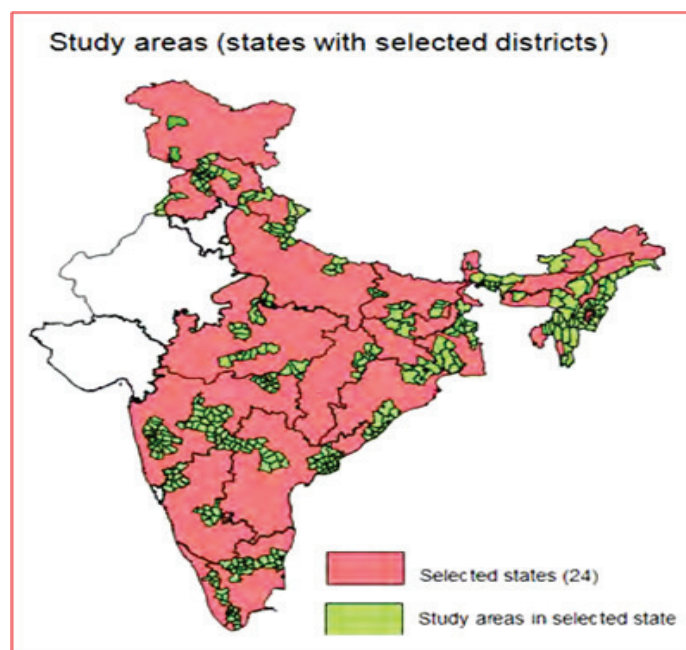
SILKS a single window decision support system to provide all the sericulture related information for all the selected 108 districts was designed and developed under RDBMS environment in such a way that required information can be retrieved from a set of related modules or information can be accessed from an individual module independently. The SILKS spatial modules has inbuilt web GIS tools for displaying and querying of spatial data. The portal has been developed using open source software packages. The UMN Mapserver is used as a GIS engine, PostgreSQL/PostGIS as an object oriented relational database management system (ORDBMS) and GeoServer for creating OGC web services. An open source web application tool built on top of MapScript using the PHP programming language has been used for development of interactive user interface. The SILKS allows effective dissemination, sharing and management of spatial information, which can be used as an effective decision making tool for sericulture planning and development. The non-spatial modules were created using web tools such as HTML, CSS, Java Scripts etc.

Results Achieved

a) Mapping of potential areas of Sericulture

The mapping summarizes the state-wise observations of potential areas of Sericulture development in 24 selected districts. The significant results are summarized as below:

Out of 108 districts, 41 districts were selected from 8 NE states including Sikkim covering a total geographical



area of 9, 35,195 sq km. Among the NE states, Nagaland is found to have maximum suitable areas (21.9% of total geographical area) that can be brought under Mulberry Sericulture, followed by Meghalaya (15.8%) and Sikkim (15.7%). Due to limitation of physiographic conditions and climate, Arunachal Pradesh is having very limited area (17242 Ha in selected 7 districts) that can be brought under sericulture activities.

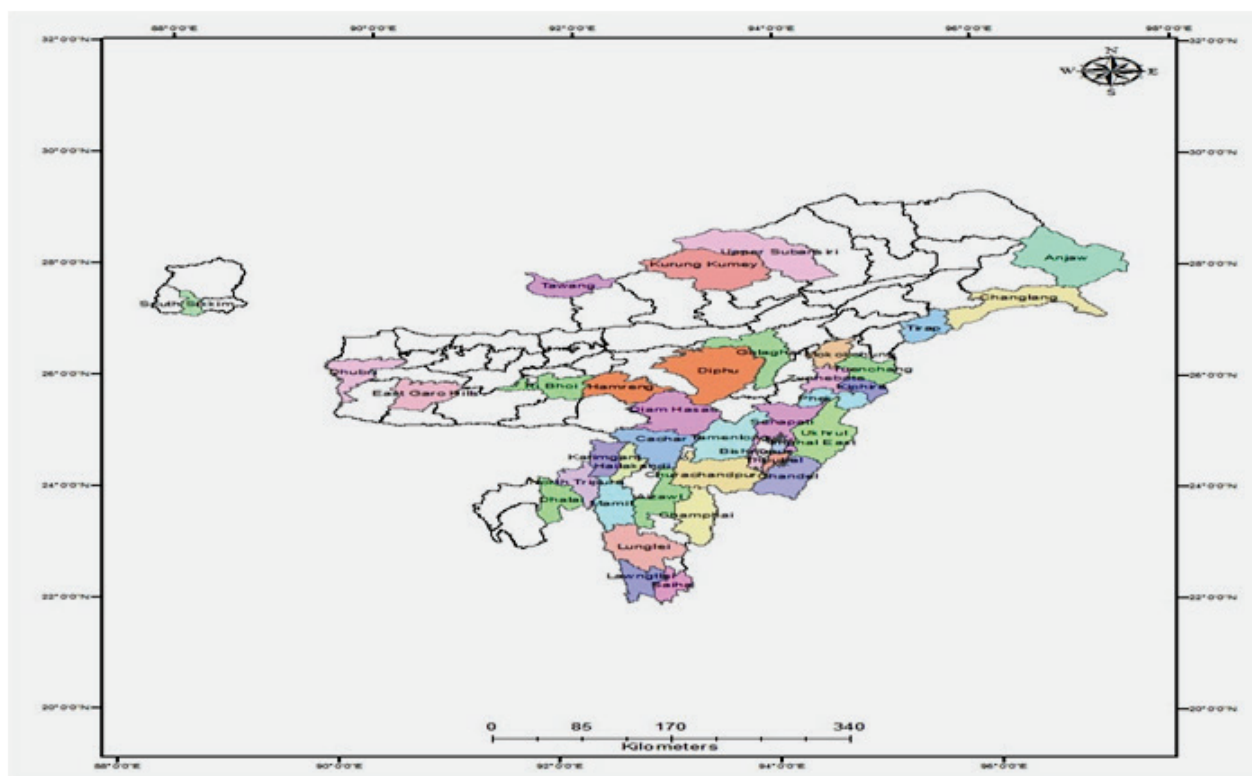


Fig 1: Coverage map of NE with the project

Table 1 Additional area suitable for Mulberry host plants in NE states:

States	No of selected districts	TGA	Highly suitable	Moderately suitable	Marginally suitable	Total	% of TGA
Arunachal Pradesh	7	36981	13	1908	15321	17242	0.47
Assam	9	32713	1169	76893	232377	310439	9.49
Manipur	9	22327	-	-	67675	67675	3.03
Meghalaya	2	5051	13928	32381	33425	79733	15.79
Mizoram	6	18278	85598	73495	17567	176660	9.67
Nagaland	5	10910	-	-	239306	239306	21.93
Sikkim	1	750	-	827	5095	5922	7.90
Tripura	2	4423	219	17388	14745	32352	7.31

Among non-traditional sericulture states, Bihar has been found to have the highest % of area suitable for mulberry sericulture, which is about 11% of total geographical areas in the selected 3 districts, followed by Madhya Pradesh (10.2%) and Himachal Pradesh (9.7%). Among Traditional Sericulture states, Karnataka is found to have as high as 51% of total geographical areas suitable for mulberry sericulture. The reason for getting a very higher percent of suitable areas is that for the state of Karnataka suitable areas include land use categories like crop and fallow areas in addition

to cultivable wastelands as suggested by the State Sericulture Department. Similarly for the state of Andhra Pradesh, suitable areas include fallow land areas in addition to cultivable wasteland areas, which has resulted in relatively higher percent of areas (16%) suitable for mulberry sericulture. The state of Punjab has been found to be least suitable for Mulberry sericulture with only 521 Ha of areas delineated as marginally suitable in the selected two districts. Other two states which have been found to be less suitable for Mulberry sericulture are Uttarakhand (0.05%) and Chhattisgarh (0.6%), but Uttarakhand has about 595 ha of area under highly suitable categories in the selected 5 districts. For non-mulberry sericulture, Bihar and West Bengal have significant suitable areas for Eri and West Bengal and Uttarakhand have significant suitable areas for Muga. For tropical tasar, Orissa has the highest percent of suitable areas (25% of TGA) in the selected 4 districts followed by Jharkhand (21.2% of TGA) in the selected district.

States	No of selected districts	TGA	Highly suitable	Moderately suitable	Marginally suitable	Total	% of TGA
Andhra Pradesh*	4	37518	2366	10339	6641	19346	0.52
Bihar	3	8934	-	59916	41458	101374	11.35
Chhattisgarh	2	22060	-	3162	9994	13156	0.60
Himachal Pradesh	4	15607	13755	96073	42254	152082	9.74
Jammu and Kashmir	2	2108	2551	6154	11299	20003	9.49
Jharkhand	3	8742	-	7651	11531	19182	2.19
Karnataka	4	33878	-	11877	379932	391809	11.56
Kerala	2	9411	9914	21970	14803	46686	4.96
Madhya Pradesh	6	35132	1136	77208	279563	357907	10.19
Maharashtra	7	72520	-	6441	76401	82843	1.14
Orissa	4	25986	238	7976	88217	96431	3.71
Punjab	2	4568	-	-	521	521	0.11
Tamil Nadu	4	24133	95325	59449	10446	165220	6.85
Uttar Pradesh	6	23886	584	8135	16382	25101	1.05
Uttarakhand	5	24990	595	300	263	1158	0.05
West Bengal	9	50438	38038	54272	24571	116882	2.32

b) Development of SILKS system

SILKS is a single window decision support system delivered as an outcome of the project to provide all the sericulture related information for all the selected 108 districts. Development of SILKS decision support system involved i) requirements analysis at planning phase, ii) system and software design, iii) implementation, iv) system testing, v) operation and maintenance and vi) information dissemination network.

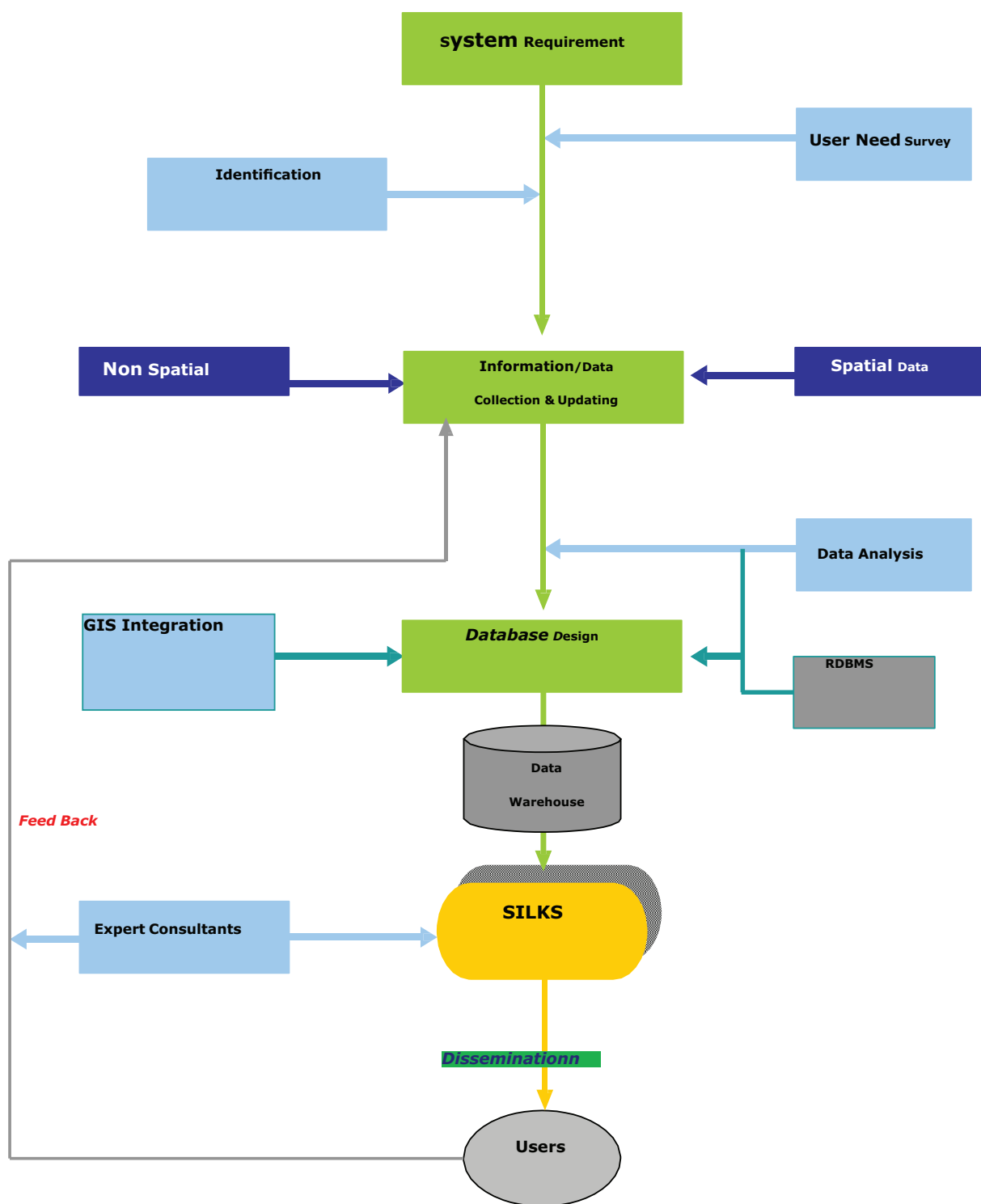
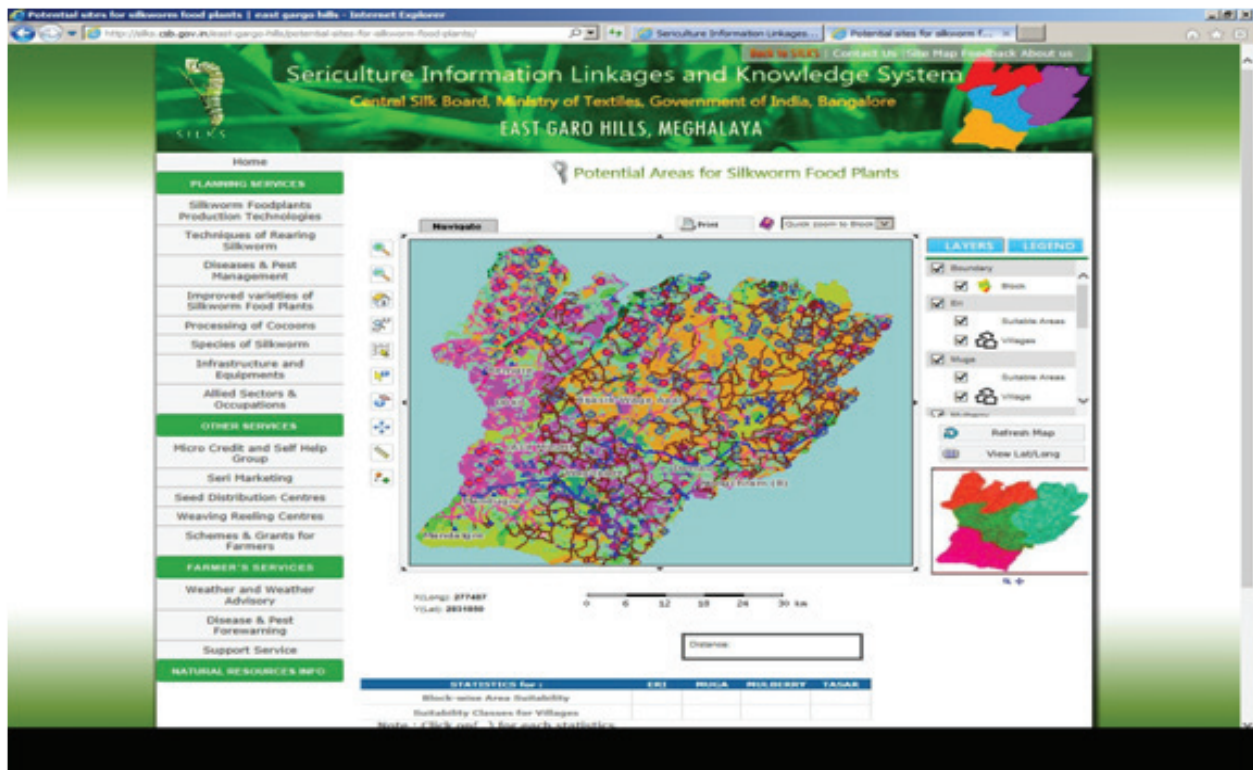


Fig 2: SILKS- Web-based Portal

Features of SILKS

There are various navigation tools for map navigation and control such as zoom in, zoom out, zoom to full extent, selective zoom, re-center tool, pan, distance measuring and print map tools. Features on the map can be identified using Map Identify tool. Distance measuring tool of map also have been included as part of spatial map analysis tool. Results of map query or area of interest can be printed out along with detail legend using Print tool. The size, font type and map output can be customized using this tool. The map can be produced in various file formats such as PNG, JPEG, GIF or PDF. Region specific zoom is made possible using Quick Zoom tool.



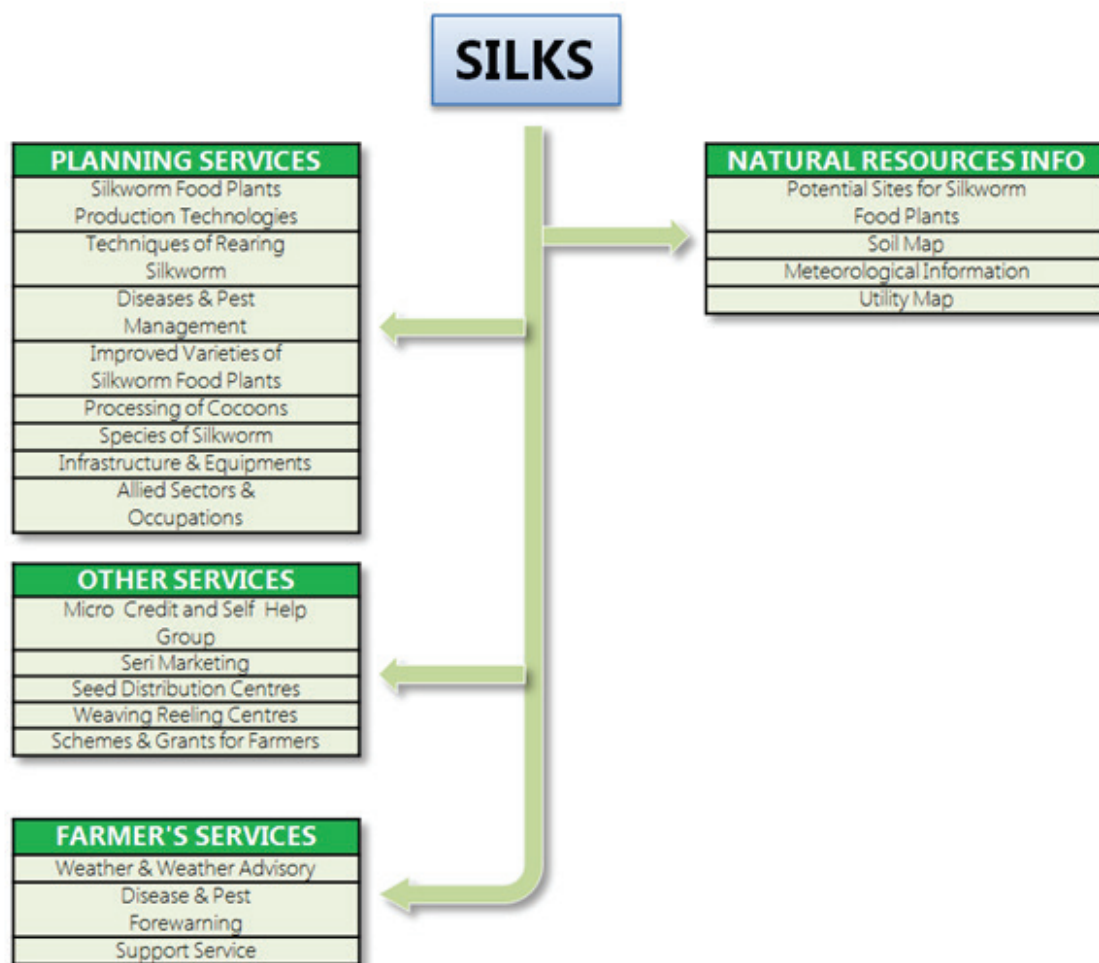


Fig 4: Features of SILKS web- portal Appliation

Information modules

The SILKS has been developed for all the 108 districts covered under the project. It has 13 major non-spatial modules and 4 spatial modules, which are grouped into three categories, namely Planning Services, Other Services and Natural Resources Management. The available modules under Planning Services are Silkworm Food Plants Production Technologies, Techniques of Rearing Silkworm, Diseases and Pest Management of Silkworm



Fig 5: District level dissemination in Nagaland

Food Plants, Improved Varieties of Silkworm Food Plants, Species of Silkworm, Processing of Cocoons, Infrastructure and Equipments and Allied Sectors and Occupations. The Other Service has modules like Micro Credit and Self Help Group, Seri Marketing, Seed Distribution Centres, Weaving Reeling Centres and Schemes & Grants for Farmer.

Farmer Services

An exclusive service pack for providing farmer useful information has been introduced which focus on day to day and timely needed information's bundled in one pack and shared in major local languages in a phased manner. Being most valuable inputs to farmers, the contents are constantly updated with relevant inputs from all connected.

Weather and Weather advisory Module

As weather plays a major role in the success of sericulture crops, sharing of weather forecasts in advance and providing weather forecast based sericulture advisory service will help farmers to take such precautionary steps in reducing the crop losses and minimizing losses in inputs that is wasted due to weather vagaries. At present, weather bulletins are hyperlinked to district AGROMET advisory services provided by IMD, Pune on pilot basis – initially for districts of Andhra Pradesh which shall be extended to all the districts after an MOU. Sericulture farmers registering for above service will be alerted through SMSs through IMD dissemination services. It is proposed to provide exclusive sericulture advisory through a Project mode in collaboration with IMD.

Disease and Pest Forewarning

Farmers will be shared with diseases and pests information including timely tips / warnings and advises specific to the district through R&D team of CSB and State Research Institutes. Diseases and Pest calendar and control measures in local language will also be made available through this module.

Support Service

This module is a bundle of useful information required for day to day and periodic needs of sericulturists packed in four sub-modules which includes backward and forward linkage needs such as Planting material, silkworm seed, critical inputs, marketing information, support schemes, stakeholders details, district sericulture activity progresses and so on - mainly hyperlinked to state and district specific website as also information updated from time to time by District Sericulture Officers / R&D Unit I/cs and linked.

User Perspective

The beneficiaries include sericulture extension officials, farmers / sericulturists at the grass-root level Self-Help Groups, financial institutions like Banks and Co-operative Societies, State Sericulture Directorates, Regional Offices and Central Research Laboratories / Institutes of Central Silk Board (CSB).



Fig 6: AWARENESS CAMPAIGN

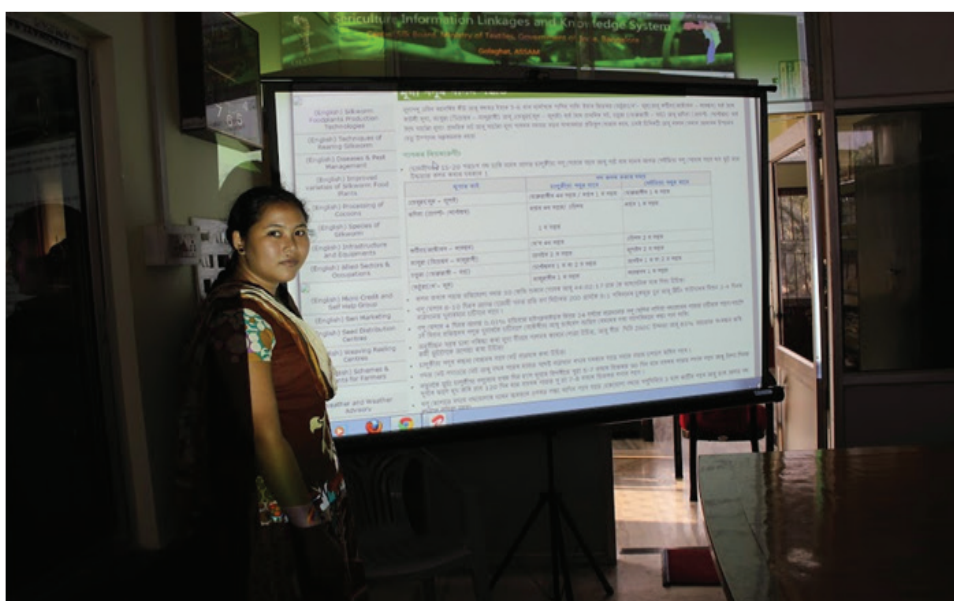


Fig 7 : Capacity building programme for sericulture functionaries under the project

Impact

The project has benefited 41 North Eastern Districts with useful data on waste land suitability maps for sericulture in addition to SILKS information.

10879 acres of additional area covered under sericulture plantation took place since 2013 in North Eastern states and 8983 farmers took up plantation. Thus sericulture has emerged as a powerful tool for livelihood in the project area.

Within a short span of about one year, the portal has been able to make significant impact particularly in North Eastern region and a number of sericulture expansion activities have been initiated based on the outcome of the study. The suitability studies made in 108 districts need to be upscale to other targeted districts as per the request of state sericulture departments as a new project intervention with fine tuning on technology parameters and latest satellite imageries.

References

FAO, 1976. A Framework for Land Evaluation. Soil Bulletin, 32. Food and Agriculture Organization. United Nations. Rome, Italy.

Sys, C., Ranst, V., Debaveye, J. and Beernaert, F. 1993. Land Evaluation Part III, Crop requirements. Agricultural publication No. 7, ITC Ghent.

Sys, C. 1985. Land Evaluation Part I, II III. State Univ. Ghent Pub., Belgium.

National Awards on e-Governance



Receiving the e-Governance Award from Hon'ble Chief Minister of Gujarat on 30th January, 2015

Award Category

VI-Innovative use of GIS Technology in e-Governance

SILVER award

State Highway Development Project, Karnataka

1. Name of the State/ Ministry:

- Karnataka State.
- Ministry of Public Works, Ports & Inland Water Transport Department

2. Name of the host/ owner organization:

- Project Implementation Unit, State Highway Development Project(PIU- SHDP)

3. Status of the host/ owner organization

- Project implementation unit under Public Works, Ports & Inland Water Transport Department, Government of Karnataka.

4. Name of the Project :

- State Highway Development Project

5. Name of the Nodal Contact Person :

- Sri B.K Rajendra
Chief Engineer
PIU-SHDP

6. Contact address :

- Office of The Chief Project Officer
- Project Implementation Unit
- State Highway Development Project
- Ground Floor, PWD Annexe Building
- K.R Circle, Bengaluru-560001

7. Telephone/ Fax/ e- mail:

- Telephone : 080 – 22224106
- Fax : 080-22224107
- Email: cepiushdp@gmail.com
- Website:www.shdpkar.in

8. Project Summary:

The Government of Karnataka under the aegis of Project Implementation Unit, State Highway Development Project (PIU-SHDP), Public Works, Ports and Inland Water Transport Department is taking up improvements and Upgradation of State Highways as a part of Improvements to Core Road Network in the State of Karnataka

Government of Karnataka has identified 24,225Km as Core Road Network(CRN) in the State. Approval has been accorded to take up 7469 km length of road at a cost of Rs.2937.9 crore by the Empower committee. SHDP is responsible for developing 7469Km CRN in a span of two years.

Breif Summary:

Total Number of Packages	136 Packages (Phase 1 – 66 packages, Phase 2 – 70 packages)
Total KM of Road works	7469 Km (Phase 1 – 3724 Km, Phase 2 -3745 Km)
Cost of Project in INR	2937.9 Crores (Phase 1 – 1439 Crores, Phase 2 - 1498.9 Crores)
Dedicated SHDP Staff	Engineers – 32, Accounts – 8, Admin – 7
Number of Circle's & PMC's	9
Number Contractors	Around 50

9. Date of launch of Project:

- 12-05-2011

10. Coverage (Geographical):

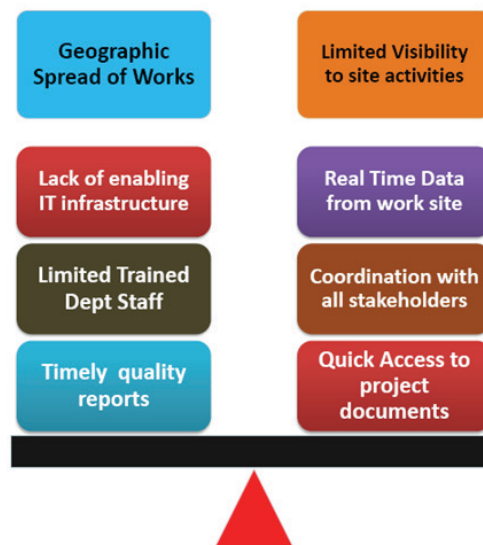
- Core Road network spread all over Karnataka State

11. Beneficiary of the Project:

Road Infrastructure play a vital role in the economic progress and growth of the State. Infrastructure Project impacts the distribution of economic activity and development across the regions and while in this process there will be lot of direct and indirect beneficiaries. To be specific it is the citizens of State in general and vehicle users using core road network in particular and all the business establishments (private and public), government bodies.

12. Problem statement or situation before the initiative:

Initial Challenges faced by PIU-SHDP



- Monitoring the overall progress of the project that is spread across the State of Karnataka.
- Coordinating with different stakeholders of the project i.e. Construction Agency, Project Management Consultants, DPR Consultants, Engineers from the department of Public Works in various divisional levels and SHDP Engineers.
- To centrally manage all the project related documents making it easily accessible to all the stakeholders of the project.
- Collecting day to day project related information from Site i.e. Physical Progress, Financial Progress, Quality Results, Photos, Request For Inspection (RFI) (MEASUREMENT).
- Better quality reporting to enable quick decision making.

13. Project Objectives:

- Main Objective was to improve and upgrade the selected State Highways that are spread across the state of Karnataka with in a span of 11 months.
- Building of Road Infrastructure which makes the wheels of economy move in this process, the Nation is benefited i.e G2G, G2C, G2B, Citizens of the state, business establishments (Public and Private) and the Government.
- Development of Road Infrastructure which reduces the travel time (Time is Money), Reduction in fuel consumption, reduction in accidents ensuring safety to the road users.
- Good Roads which ensures connectivity between states, districts, villages etc. This contribute to economic, social and cultural development of any country. Road connectivity helps people to get access to facilities like Schools, Hospitals, Government offices, Agri- Markets etc.
- Road Infrastructure Projects which infuse lot of money into the system which create huge Business opportunities and turn Job opportunities. Employment increases the purchasing power of people in turn increase in consumption of products. This results in higher industrial production leading to good employment opportunities. This cycle will again infuse money into the system. So there is direct and indirect beneficiaries from these projects.

14. Project scope approach and methodology:

The State Highway Development Projects (SHDP) under Chief Project Officer had setup an in-house committee consisting of Chief Engineer, Superintendent Engineer, Executive Engineer and Assistant Executive Engineers to look out for a suitable solution to address the anticipated challenges. After critically evaluating the available solution in the market, a Web Based Project Monitoring System was matching all the requirements.

To know more about the software functionalities and its user experience a pilot implementation was planned. After the successful pilot implementation of Project Monitoring System (PMS), internal committee decided to go for full- fledged implementation of the Web Based Project Monitoring System (PMS) for the project.

The implementation process started with stationing of PMS team at the PIU-SHDP office. Couple of meetings were arranged with SHDP Engineers by the PMS team to develop a road map for the process of implementation.

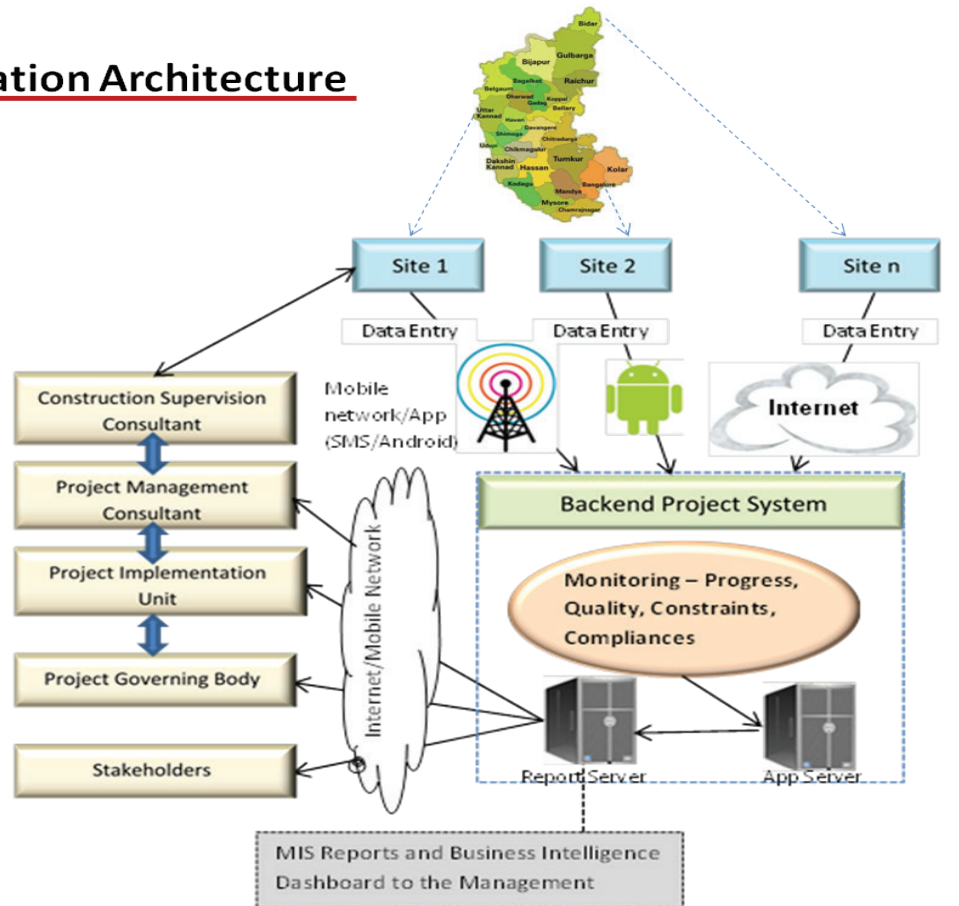
PMS implementation has two stages:

- System Initialization
- Day to Day Entries

First stage: To initialize the system with all the core details of the project like Project Description, Scope of work, Bill of Quantities, Construction Program etc.

Second stage: To monitor day to day activities at site like Entering Measurements Updating of Physical Progress, Quality Test Results and Work Photos. These data's are to be entered into the PMS by respective PMCs.

Information Architecture



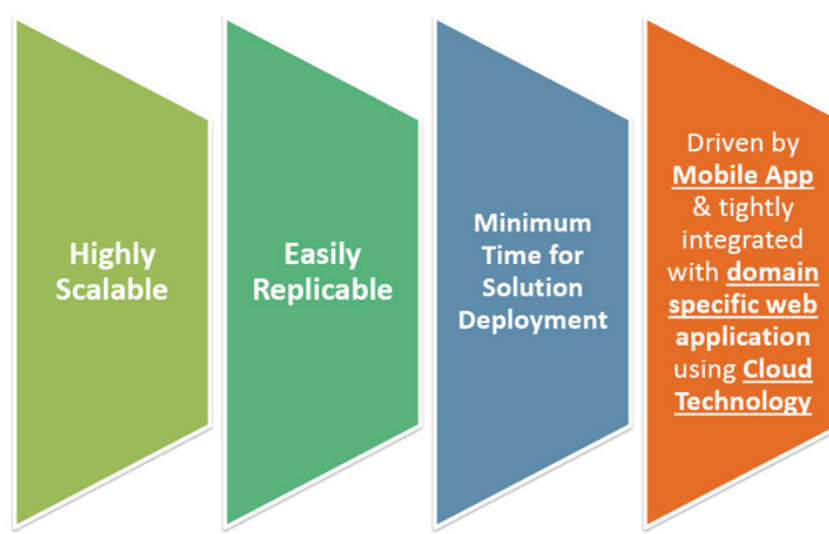
15. Result achieved/ value delivered to beneficiary of the Project and other distinctive features/ accomplishments of the Project

i) Result achieved/ value delivered to beneficiary of the Project

- PIU- SHDP is able to monitor various aspects of this huge time bound project in a very efficient way.
- All project related documents right from Sanctioned Estimate to award of contract and all contract related documents from Notice Inviting Tender to Agreement is centrally stored which are accessible to all the stake holders of the project.
- PIU- SHDP can coordinate, communicate and share information with all the stakeholders of the project in real time.
- Streamline and automate core processes of monitoring at PIU- SHDP.
- Project Management Consultant at circle level are able to manage and report the site information in a very efficient way by using PMS.
- Information dissemination is very effective across the hierarchy. i.e. from the office of the Minister for Public Works, GoK to the site engineer.

In Phase- 1 of SHDP there were 66 Packages the engineers felt that it is very important to have a centralized repository of all the project related documents. Since, Government Department need to send reports and documents to other related departments from time to time for approval and clearances information sharing would help get all the required information and also help other stakeholders of the project in getting the information which reduces the time spent on collecting and sharing data resulting in speedy decision making process.

This requirement was put forth to PMS team. As per the requirement, a Web Based Application was developed for this project and it is called Project Communication Center (PCC). It is a Web based software, which provided a common platform for all the members of the project to communicate and share project related details.



ii) Other distinctive features/ accomplishments of the Project

- Use of mobile applications to capture real time data from the work site.
- PMS is a web based application, user could enter and consume data on move.
- Smart Client - Internet /Mobile connectivity never seemed to be a challenge for capturing data from site. Since this application allows the user to enter the data into application even if there is no network/ mobile connectivity and as soon as the user comes into the coverage area, automatically the data entered by the user gets pushed to the PMS server.
- All the project related data can be centrally managed, data disseminated, deficiencies monitored and progress is achieved quickly so that all the stakeholders have access to it.
- Mobile application provides the exact location where the user has taken the photograph.

(S.C Jayachandra)
Chief Project officer
PIU-SHDP
Bangalore

SMS Based Failed Distribution Transformer Information & Mgmt. Sytem

1. **Name of the State/ Ministry (owner of the project): -**
Madhya Pradesh Madhya Kshetra Vidyut Vitaran Company limited, Bhopal, Madhya Pradesh
2. **Name of the host/owner organization: -**
Madhya Pradesh Madhya Kshetra Vidyut Vitaran Company limited, Bhopal, Madhya Pradesh
3. **Status of the host/owner organization: -**
Govt of MP Undertaking
4. **Name of the Project: -**
“SMS Based Failed Distribution Transformer Information and Management System”
5. **Name of the Nodal Contact person: -**
 1. Shri Vivek Kumar Porwal (IAS)- Managing Director
 2. Shri Anand Kumar Shrivastava- General manager
 3. Shri Ajoy Jha- Manager
6. **Contact Address: -**
 1. MPMKVVCL, Nishtha Parisar, Govindpura, Bhopal
 2. Power Distribution Training Centre , MPMKVVCL, Bhopal
 3. Regional Office, MPMKVVCL, Bhopal
7. **Telephone/ Fax/ e-mail: -** 9425811710/ 0755-2589821/vivekias@gmail.com
9406902479/ 0755-2589821/ anandpdtc@gmail.com
9406902021/ 0755-2589821/ ajoyjha2003@gmail.com
8. **Project summary: -**

Madhya Pradesh Madhya Kshetra Vidyut Vitaran Company Ltd Bhopal, is a power distribution Company, catering to the needs of consumers in 16 Districts of Madhya Pradesh. Supply of electricity is ensured by stepping down the high tension voltage to 440 volts through distribution transformers (DTRs).

Traditionally, the information regarding failure of DTRs reaches the concerning authority very late, especially in rural areas as a result timely action was not possible. The replacement of DTR was also delayed due to prolonged procedure that involved following steps-

 - i. Receiving the complaint.
 - ii. Spot inspection.
 - iii. Preparation and sanction of estimates.
 - iv. Requisition of good DTR for replacement from the store.
 - v. Release order from competent authority.
 - vi. Withdrawal of DTR from Area Stores.
 - vii. Actual replacement.

Only after completion of above steps, the replacement of DTR was possible. This traditional procedure largely accounted for public unrest. In order to improve the response time for replacement of failed DTR's, the system of SMS based failed distribution transformer information and management system has been developed.

The project has been conceived by the use of modern means of communication, process reengineering, comprehensive monitoring using ICT interface, and minimal manual intervention. During the entire procedure, the consumer is informed about the action taken.

The project has benefitted the Company, in terms of:

- i. Greater revenue realization through reduced breakdown period.
- ii. Improved efficiency.
- iii. Streamlining the process work flow.
- iv. Improved quality of services
- v. Greater satisfaction to the consumer

9. Date of launch of the Project: - 11th August 2012

10. Coverage (Geographical): -

The MPMKVCL is one of the three power distribution Company of the Madhya Pradesh. The jurisdiction of the Company in the 16 districts of the State only with a consumer base of 36 Lac consumers of different categories. The proposed project has been implemented in the entire jurisdiction of the Company.

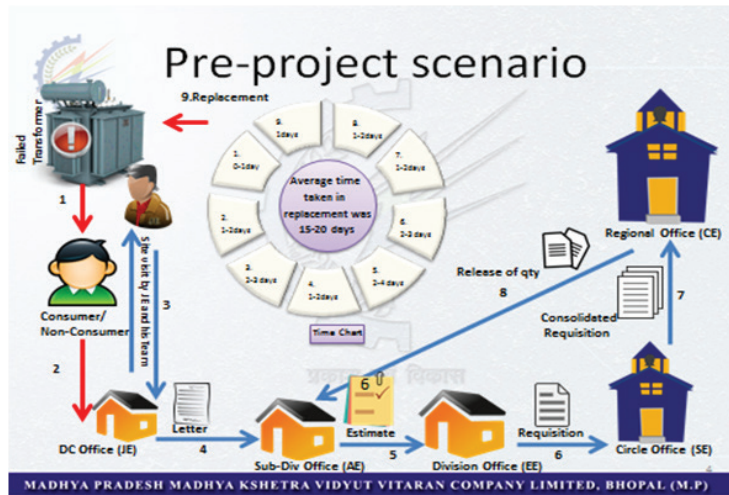
11. Beneficiary of the Project: -

Service is reachable to all 36 Lakh consumers of the Company spread in the 16 districts of the State.

12. Problem Statement or situation before the initiative: -

Traditionally, the information regarding failure of DTRs reaches the concerning authority very late, especially in rural areas as a result timely action was not possible. The replacement of DTR was also delayed due to prolonged procedure that involved following steps-

- i. Receiving the complaint.
- ii. Spot inspection.
- iii. Preparation and sanction of estimates.
- iv. Requisition of good DTR for replacement from the store.
- v. Release order from competent authority.
- vi. Withdrawal of DTR from Area Stores.
- vii. Actual replacement.



13. Project Objectives: -

The project has been conceived to reduce the time span between failure of Distribution

Transformer and its replacement by the use of modern means of communication, process reengineering, comprehensive monitoring using ICT interface, and minimal manual intervention.

14. Project scope approach and methodology: -

The idea behind selection of technology was two fold –

1. Availability of technology with common citizen irrespective of their social and economic status, now a days mobile is within the reach of citizen even in rural areas. Therefore mobile based solution has been proposed.
2. Simplicity of the solution with minimal inputs which can be used by every citizen.

The following processes have been identified for re-engineering–

- Receiving information through SMS regarding transformer failure.
- Immediate reporting after inspection through SMS.
- Preparation of Estimate through ERP.
- Sanction of estimate through ERP.
- The process of Release of Transformer by CGM discontinued.
- Instantaneous issuance of good transformer from area store.
- Timely replacement.

A 10 digit unique code has been assigned to each distribution transformer for distinct identification of transformer location. The standardized codification technique has been applied to ascertain the location ID allocated to a particular Distribution Transformer location. The 10 digit location ID contains segments for Circle, Division and Distribution Centre which determines the hierarchy of the concerned offices. The location ID is prominently painted at the support structure of the transformer. The details of all concerned officers like Astt. Manager, Manager, DGM were collected and mapped with each of the transformer. A dedicated SIM has been earmarked (9039110022) for receiving SMS from citizens and to communicate complaint status updates to all stakeholders.

As the entire system is based on Short Message Service (SMS) of mobile phones therefore, to facilitate citizens designated SIM number 9039110022 is also painted on the support structure. For various updates on complaint status, Company officials use different predefined key words depending upon the type of update desired. Some of the keywords are listed as below-

Key word template	Description of Complaint status update
<ComplaintID>/WC	The complaint reported is false. (Wrong Complaint)
<ComplaintID>/CR	The transformer has been checked and supply has been restored after minor repair. (Complaint Resolved)
<ComplaintID>/XB	The transformer reported is failed and is Beyond guaranty period.
<ComplaintID>/XW	The transformer reported is failed and is Within guaranty period.
<ComplaintID>/XE	The transformer reported is Eligible for replacement.
<ComplaintID>/XR	The transformer reported has been Replaced.

In turn system confirms execution of complaint status update through predefined message templates containing variables to accommodate context specific complaint details.

In case of transformer failure, any citizen can lodge complaint mentioning 10 digit transformer code painted at support structure of the corresponding transformer by sending SMS to 9039110022. For a particular distribution transformer with a certain location ID only one complaint can exist in the system at a time. If more citizens register complaint for the same DTR only first valid complaint will be registered and given unique complaint ID and rest of the complainants will be informed 'the complaint already exists for this DTR' along with complaint ID.

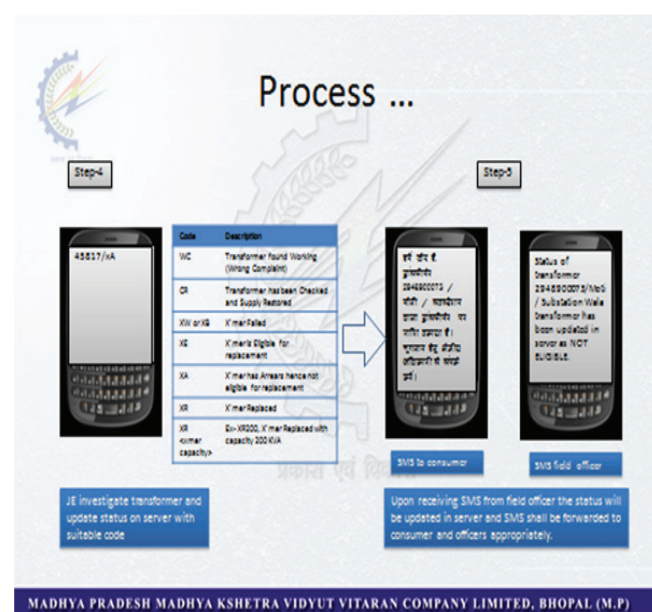
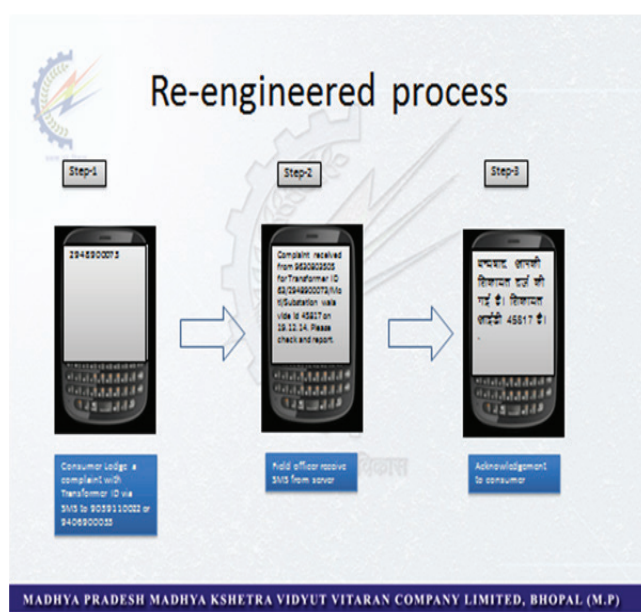
Upon receiving the SMS, server validates the location ID and registers the complaint against valid location ID only. In case of invalid ID suitable message in predefined template is passed to the complainant. After complaint registration in the system, a unique complaint ID is generated and communicated in the form of SMS along with Location ID, name of Village and Capacity of transformer to concerned officers ranging from Assistant Manager to DGM for initiating action. The complainant is also informed complaint ID and complaint date via SMS. In case of multiple complainants for a single transformer, each of the complainants will be given complaint status updates SMS till complaint is resolved and closed.

The officer concerned investigates the DTR and takes action to resolve the complaint. To update the complaint status, Company officers use different predefined key words depending upon the type of update desired. The keywords are sent through SMS to mobile number of Control Centre (9039110022).

In response to the above complaint status update request, the system updates the status of complaint and revert SMS in predefined template to the Complainant(s) and Company officers concerned confirming the current status of the complaint in the system till complaint is resolved and closed.

In this system complaint status can only be updated through SMS. SMS sent from the mobile numbers of concerned Company officers are only entertained by the system. Therefore mapping of officers contact details is always updated in the system. The entire system is monitored through web based user interface. All types of Reports and summary MIS are available at the web based application for failed distribution transformer information and management.

This application is available as 'Online DTR Status' hyperlink at <http://www.mpcz.co.in> under Quick Links group OR www.madhyavitaran.com.

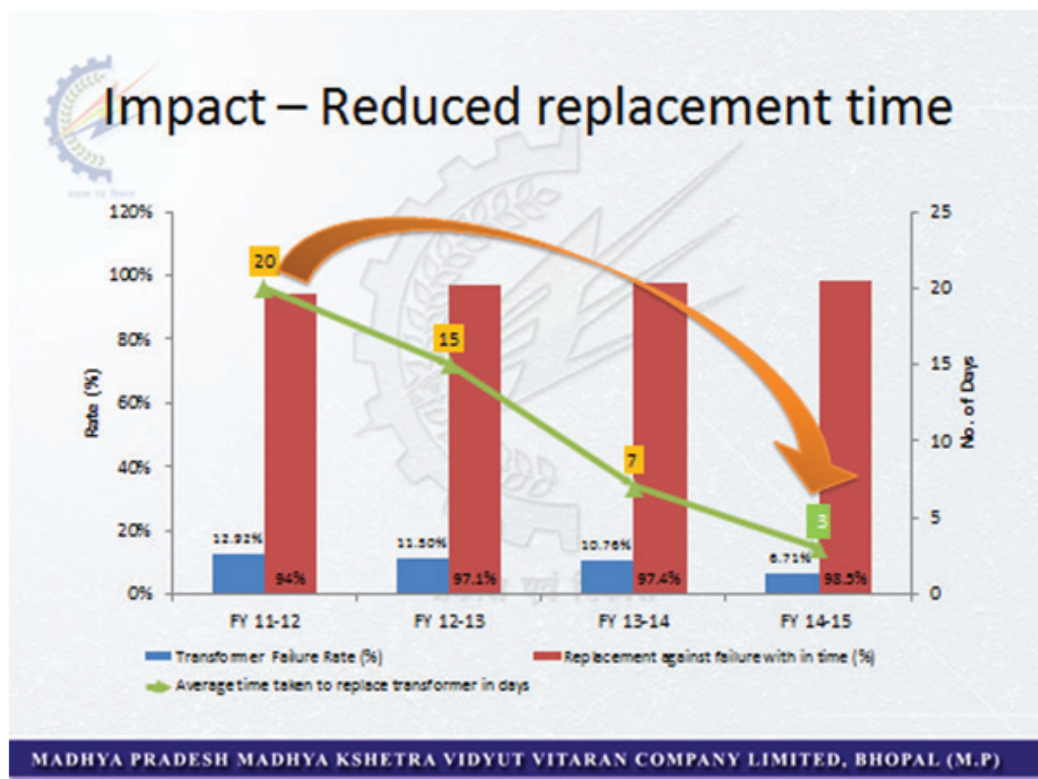


15. Result achieved/ Value delivered to beneficiary of the project and other distinctive features/ accomplishments of the project: -

(A) To organization

- (i) Improved quality of service.
- (ii) Improved response time
- (iii) Improved trust of citizens
- (iv) Better management of transformer inventory.
- (v) Realization of more revenue through early restoration of power supply (Year on Year Revenue Growth of 18.20%).
- (vi) Transparent System
- (vii) Rigorous Monitoring
- (viii) Efficient Inventory Management

(B) To citizen





- (i) 24 x 7 services
- (ii) Empowerment of citizen to initiate the complaint process for replacement of failed transformers.
- (iii) Improved response time for replacement reducing 'Blackout' period.
- (iv) Transparent system. Transformer replacement priority list is published at web site in chronological order of eligibility of transformer for replacement.
- (v) Regular updates regarding status of complaint.

Other Distinctive features :

Digital Inclusion –

Since the entire Failed Transformer Management and Information System gets activated through a single valid SMS received from the Complainant at any time without having to identify him/her self or provide any justification for doing so thereby preventing Language, demographic and cultural differences amongst stakeholders. Also the transformer replacements are done based on the chronological order of system generated replacement priority list.

Green e-Governance –

In the transformer complaint redress system all MIS and reports are on-screen. All stakeholders have been given training to avoid prints of the information available in the system. Whenever required they may take prints of summary MIS for the purpose of management. Thus, consumption of paper has been discouraged to make the system environment friendly.

Security and Confidentiality standards -

Complaint Status Updates can only be initiated through registered mobile numbers. Any officer whose mobile number is registered in the system can update the complaint status of failed transformers of his jurisdiction only. Complaints can only be updated through SMS and for each update transaction records are created with Complaint ID, updating authority, update made and timestamp. Its web based interface for MIS and reports is secured through login credentials given to each operating officer and also this application has role based matrix.

Strategy for Disaster Recovery and service continuity –

Frequent backups are taken to deal with any disaster and to keep the service in continuum

Replicability

Replicability

- Very cost effective- Net investment of Rs. 34.7 (Rs. 30 lakhs is for painting) Lakhs and payback period of 14 days
- Minimal standardized (only DTR number) data entry required on consumer end
- Personality independent and system driven
- Operating platform neutral and secure
- It is already replicated in WZ and EZ.
- Ruggedness: Running successfully since Aug. 2012

It is highly replicable

MADHYA PRADESH MADHYA KSHETRA VIDYUT VITARAN COMPANY LIMITED, BHOPAL (M.P)

SAMVIDA - an e solution to lower level recruitment

1. Owner of the Project :-

Rural Development Department, Govt of Bihar.

2. Host :-

Amrit Lal Meena, IAS

3. Status of Host:-

Principal Secretary Rural Development Department(At present Principal Secretary, Urban Development Department, Govt of Bihar)

4. Name of Project:-

SAMVIDA

5. Contact Person:-

Amrit Lal Meena

6. Contact Address:-

Principal Secretary, Urban Development Deptt, New Secretariat, Bailey Road, Patna- 800015

7. Telephone/ Fax:- 9471006271

8. Project Summary:-

SAMVIDA, popularly known as online contractual recruitment/volunteer services portal, is designed to use ICT technology and in particular Web-based resources for tasks involved with finding, attracting and hiring new candidates/personnel under various schemes of state and central government. The purpose of online recruitment is to make the processes more efficient, effective and economical. Online recruitment can reach a larger pool of potential employees and facilitates the selection process in a transparent manner. SAMVIDA is a recruitment management system which streamlines and automates the entire recruitment process.

The recruitment of 9777 IAY personnel within 4 months has made other departments of the state government to opt for this system.

9. Date of launch of Project:- 19.10.2013

10. Geographical Coverage:- State of Bihar

11. Beneficiary of the Project:- Unemployed Jr Engineers/ Accountants/ Inter pass and above.

12. Problem Statement before the initiative:-

The conventional system of recruitment in state government is designed for a limited number of applicants. The recruitment process is complex and time consuming as well. There are very small number of specialist organisations who can undertake the responsibility of large scale recruitment. For example Bihar has only two such organisation i.e. Bihar Public Service Commission and Staff Selection Commission. They themselves are overburdened and over pressed owing to regular recruitments.

Meanwhile a number of Centrally Sponsored Schemes have come up with the provision of dedicated contractual personnel for successful implementation of the schemes. Indira Awas Yojana was one of such schemes. To overcome the limitations attached with the complex and cumbersome procedure of conventional system was one of the most daunting challenges of the department so that the entire process is completed by the end of financial year.

The whole process of filling up of application, payment of fee, publication of draft merit list,

invitation of claims and objection and reply thereof, uploading of documents for verification and the final result was made online.

Another challenge was that of establishing the credibility of new system. For this the details of each candidate was made available on the website for public viewing. Arobust Grievance Redressal System was established and each and every complainant was given the reply through email and sms.

13. Project Objective:-

1. Simple model to attract the best talents suited for a job,
2. Transparent and open system,
3. Effective Grievance Redressal Mechanism,
4. Quick processing,
5. Data base of eligible job seekers.
6. Cost Effectiveness

14. Project Scope approach and Methodology:-

With the active support of National Informatics Centre the Rural Development Department developed a new online system for recruitment of 8422 Grameen Awas Sahayaks, 821 Grameen Awas Paryavekshaks(Jr Engineers), 534 Lekhapals(Accountants).

The response was enormous. Approximately 6 Lakh applicants applied for 9777 contractual post spread over 3 categories of different posts. The system was replicated by different departments successfully.

Progress so far:-

Name of Posts/Volunteers	No. of Posts	Applications processed	Status
IAY Sahayak, IAY Engineer, Accountant	9777	5,97,000	Recruited
Various posts under RDD	9678	794900	Recruited
Accredited Statistical Volunteers(Planning and Dev Deptt)	80000	12,00,000	Empanelled
Accounts Officer(Rural Works Deptt)	300	2550	Recruited
Various posts under Agriculture Deptt	8260	191000	In Progress
RGNDWM (PHED)	1300		In Progress
Forest Guard(Forest Deptt)	3200		In Progress
Data Entry Operator, UIDAI, RDD	6000		In Progress
Accounts Assistant(Panchayati Raj Deptt)	8400		In Progress

SYSTEM DESIGN: WORK FLOW :-

Stepwise design has been elucidated as follows-

- Step 1. Fixing Eligibility Criteria with no ambiguity. Advertisement Formulation/Publishing



- Step 2. Applicants register to obtain login credentials User Id & Password through SMS (duplicates verification).

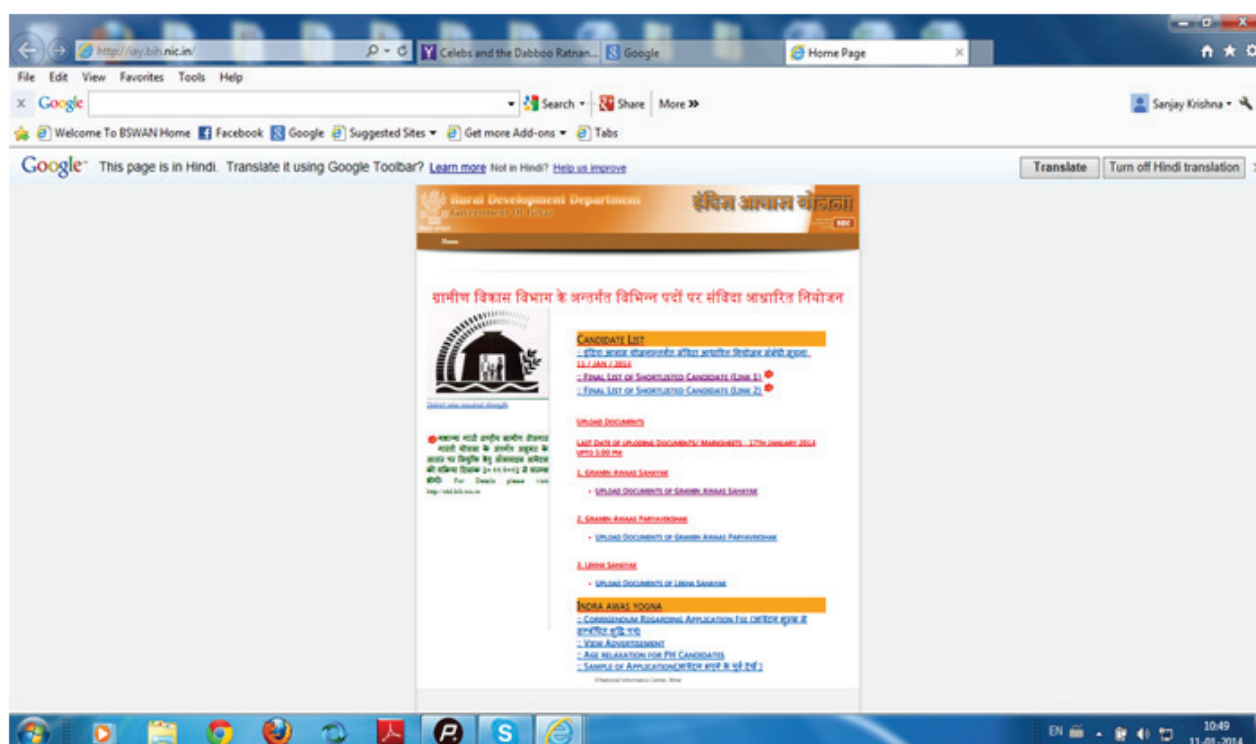
Final submission of online application by applicants.

- Step 4. Publication of list of all complete(valid) and incomplete applications after last date with the facility to view filled up application of other candidates.



Facility of online submission of grievances and redressal if any on the above list. Approximately 3500 claims and objections were received. All claims were duly replied by the dedicated team through registered email of the claimants. It is noteworthy that all the claims were either a request for enhancement of age bar or a request to provide the editing facility after final submission of application. No claim was made on the merit list.

- Step 5. Category-wise/location-wise draft merit list including waitlisted candidates.



Online submission of grievances and redressal if any on the above list and their reply.

- Step 6 Online uploading of documents by shortlisted candidates.
Generation of check-list for verifications by district level appointing authority.
- Step 7. The draft merit list was made available to the district authorities and a link of uploaded documents was provided to the district authorities.
Physical verification of the documents based on check-list & uploaded scanned documents by the district authorities.
- Step 8 Publication of Draft Select List
Online submission of grievances and redressal, if any on the above list.
- Step 9 Preparation of Final Select List and Final Wait List.
- Step 10 Allocation of posting places.
Issuance of appointment letter.

15. Result achieved/ Value delivered :-

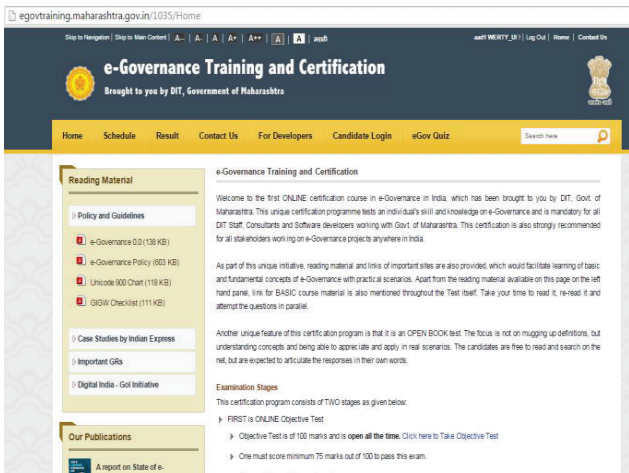
- a. Innovative e-solution for Large Scale Contractual Appointment within short duration.
- b. Centralized recruitment preventing selection of one candidate for multiple districts.
- c. Readily available wait List to replace non performers.
- d. Reduction in paper work and re-usability of databases by different departments.
- e. Digital Record Keeping .
- f. Qualitative improvement in execution, monitoring and reporting of Govt Schemes due to availability of dedicated manpower.
- g. Brought perceptible Systemic Change.
- h. Flexible, therefore able to adapt as per requirements of the Stake holders.

Lastly the Rural Development Department was able to recruit quality manpower in a quick and timely manner establishing its credentials with the job aspirants that too with minimum cost.

e-Governance Training and Certification

A project “e-Governance Training and Certification Programme” from Government of Maharashtra


Name of the State/Ministry	Maharashtra/IT
Name of the host/owner organization	Directorate of Information Technology (DIT), Government of Maharashtra
Status of the host/owner organization	Directorate of Information Technology, is a part of General Administrative Department
Name of the Project	e-Governance Training and Certification Programme
Name of the Nodal Contact Person	Mr. Muthukrishnan Sankaranarayanan (Director – IT)
Contact Address	Directorate of Information Technology Room 514, Fifth Floor, Annexe Building, Mantralaya, Madam Cama Road, Mumbai – 400032, Maharashtra, India
Telephone/Fax/e-mail	022-22026534 / 022-22024177 / director.it@maharashtra.gov.in
Project Summary	<p>“e-Governance Training and Certification” is the <u>first and only</u> ONLINE certification course in e-Governance in India, managed by Directorate of Information Technology (DIT), Government of Maharashtra. It is open to all, at national and International level.</p> <p>This unique certification programs tests an individual's skill and knowledge on e-Governance. It has been made mandatory for all DIT Staff, Consultants and Software developers working with Government of Maharashtra. This certification is also strongly recommended for all</p>

	<p>stakeholders working on e-Governance projects anywhere in India.</p> <p>The course website is http://egovtraining.maharashtra.gov.in</p>  <p>As part of this unique initiative, reading material and links of important sites are also provided on above website, which would facilitate learning of basic and fundamental concepts of e-Governance with practical scenarios. Apart from the reading material available on this page website, links for additional reading material is mentioned in the online question paper.</p> <p>Another unique feature of this certification program is that it is an OPEN BOOK test. The focus is not on mugging up definitions, but understanding concepts and being able to appreciate and apply in real scenarios. The participants are free to read and search on the net, but are expected to articulate the responses in their own words.</p>
Date of launch of project	October 2012
Coverage (Geographical)	The e-Governance Training and Certification exam is open to all, at National and International level so anyone across the globe can register and appear for the exam.

Beneficiary of the Project	Government Departments, Consulting Companies, Software/SI Companies, NIC Officials, CSC/SETU, Other Government Office and anyone who wants to enhance their skills and knowledge in e-Governance domain.
Problems Statement or situation before the initiative	<p>It was learnt that the standard courses available for the topics of “e-Governance” were of theoretical type. They did not have that practical edge that is required in to work practically in e-Governance domain at state/central government level. Moreover, the stakeholders like DIT Staff, Consultants from Consulting Firms and Government Staff were not having the required exposure or unaware of infrastructure setup, e-Governance Initiatives, Guidelines and Policy defined by Government of India and Government of Maharashtra.</p> <p>In absence of the above, there were many challenges in IT Project Initiation, Execution, Maintenance and Support which resulted in limited success of the IT Projects in e-Governance space.</p> <p>To overcome the above mentioned problem statement, there was a need of the hour to design a project in a specific way to address above mentioned challenges and bridge the knowledge and experience gap and thus increase the success ratio of IT Projects implementation.</p>
Project Objectives	<p>This project aims to facilitate learning of basic and fundamental concepts of e-Governance with practical scenarios.</p> <p>The exam checks the fundamental/practical knowledge grasped by the candidate rather than theoretical concepts and examples. This programme stresses upon practical knowledge. The focus is not on mugging up definitions, but understanding of concepts and being able to appreciate and apply them in real project scenarios.</p>

Project Scope approach and methodology	<p>Project Scope:</p> <p>Following was the scope of work.</p> <ol style="list-style-type: none"> 1. Online Training 2. Online Examination 3. Use of Cloud Services 4. Use of Mentors <p>1. <u>Online Training:</u></p> <p>Rather than classroom style training, under this project, a reading material and links of important sites are also provided on http://egovtraining.maharashtra.gov.in website, which would facilitate learning of basic and fundamental concepts of e-Governance with practical scenarios. Apart from the reading material available on this page website, links for additional reading material is mentioned in the online question paper.</p> <p>2. <u>Online Examination:</u></p> <p>The examination process is online, in two stages, Online objective Q&A and Online subjective Q&A followed by an Interview (Personal/Face-to-Face, through video-chat or telephonic interview)</p> <p>3. <u>Use of cloud services:</u></p> <p>The online examination process (test attempts, evaluation, results etc.) is done using cloud services.</p> <p>4. <u>Use of Mentors:</u></p> <p>All candidates with excellent understanding of e-Governance principles and domain knowledge, who score very high as per the defined grading criteria, are selected as mentor. A team of “Mentors” is built in this process, as project progresses, thus helping DIT, to further propagate and enhance the project.</p>
--	--

www.classmarker.com/a/results/tests/test/rgusers/?test_id=433687&rg_id=238249&return=g


ClassMarker 


Hi SETU | Upgrade | Logout

Dashboard ▾ Help ▾ My Account ▾ 🔍

Groups ▾ Results



Tests Groups Links

 eGovernance Fundamentals - Subjective Type Test

 eGov Batch023 Subjective Test

Settings
 Pass Mark: 63% ↑
 Time Limit: 06:00:00
 Edit

Statistics by Category ▾

Actions ▾	Name ▾	Percentage ▾	Score	Duration ▾	Date ▾	Statistics ▾
 Average @		0%	0/160	03:39:22		
 Swapneel Raut		0%	0/160	04:45:00	Thu 30 Jul '15 5:56pm	Grade

Approach:

A website has been developed by DIT to provide the reading material, publish test schedule and results, Online registration for objective and subjective test, and downloading the test certificate. Also, provides the links to useful external websites.

With the aim of cutting down the development and implementation time of online exam module, DIT had subscribed the Cloud Services to conduct the Objective and Subjective Tests.

Evaluation Methodology:

- Open-book Online evaluation
- The participants are free to read and search on the net, but are expected to articulate the responses in their own words
- Sufficient time is given to participants to read, re-read it and attempt the questions in parallel

Two stage evaluation process is followed for this examination:

Evaluation Stage	Marks	Description	Passing Marks
First	100	ONLINE Objective Questions Test	75/100
Second	160	ONLINE written Subjective Questions Test	100/160
	40	Personal interview (Face2Face or Telephonic or video calling)	20/40

Grading Method:

All candidates are graded in the following way:

Grade	Marks Criteria
Distinction	120 or above in Subjective test AND 25 or above in Personal Interview.
Pass	100 or above in subjective AND 20 or above in Interview

** It is must to pass the Objective Type Test to appear for Subjective Type Test

e-Governance Training and Certification Programme workflow:

<p>Results achieved/value delivered to beneficiary of the project and other distinctive features/accomplishments of the project.</p>	<p>Achievements:</p> <ul style="list-style-type: none"> • Since the start of the project in October 2012, twenty two batches of certification are completed • Over 5000 participants registered in the project • Over 576 candidates have been certified till now • Widely Popular initiative in Maharashtra and at National Level • Participation by candidates from all over India as well as foreign countries (from USA/Africa etc.) • Immense improvement in knowledge base of participating candidates/stakeholders • Better understanding of e-Governance Projects in state-government machinery. • Creation of Pool of top-performing consultants/officials • The website is Google TOP RANKER for the keyword search “e-Governance Training and certification” <p>Efficiency and Improvement in e-Governance Projects</p> <ul style="list-style-type: none"> • It has saved time and effort for identification/selection of e-Governance project resources within government departments as the candidates with “e-Governance Certification” can be selected right away, as DIT has done “testing” of these resources. • Noticeable improvements in quality of the project work being executed by successful candidates have

	<p>also been reported, as their knowledgebase has increased.</p> <ul style="list-style-type: none"> • There has been early and effective adaptation of newer technologies in many e-Governance projects of Government of Maharashtra, due to wide variety of subjective/topics chosen for drafting of question papers <p>Key Beneficiary: The Candidate</p> <ul style="list-style-type: none"> • The candidates, whether passed or not, are the REAL BENEFICIARY of LEARNING process! • They have greatly appreciated the training and evaluation methodology. • Some of them have even started to use similar approach in their organisation/company to evaluate their staff working in e-Governance Domain. <p>Replicability of the project</p> <p>With this innovative idea and modular design of course material; different modules and paper-sets can be made available for different categories of candidates. Thus, it can also be replicated in universities, training institutes etc.</p> <p>Awards Won</p> <ul style="list-style-type: none"> • Skoch Order of Merit Award 2013 • CSI-Nihilent Award 2013 • National Award of e-Governance Initiatives 2014-2015
--	--

SAMPARK

S. No.	Description	Write-up
1	Name of State / Ministry	Heavy Industries and Public Enterprises
2	Name of the host/owner organisation	Bharat Heavy Electricals Ltd.
3	Status of the host/owner organisation	PSU
4	Name of the Project	SAMPARK
5	Name of the Nodal Contact Person	Mr Vivek Pathak / Sr. Manager (IT)
6	Contact Address	Information Technology & Services (ITS) BHEL, Piplani Bhopal (MP) - 462022
7	Telephone / FAX / email	0755 – 2505465 9425605060 vpathak@bhelbpl.co.in

8. Project Summary

SAMPARK is one of its kinds of one stop, single window, multiple services providing system. BHEL Bhopal is one of the few Central PSUs in the country, to have developed totally IN-HOUSE and implemented a complete Employee Centric Services Portal for all the sections of the employees, covering a number of discrete Employee related services and integrating the data outputs of a number of different databases to arrive at a Comprehensive platform for information sharing. This Initiative covers all the employees of the organization, both on roll and ex-employees, including all the categories.

SAMPARK is an innovative way of increasing the satisfaction levels and productivity of employees, who are important stakeholders of the company. SAMPARK follows all the processes and documentation of ISO 9001 standard and the Data security of the Initiative have been ensured as per ISO 27001 standard. The Initiative has passed all the Process Audits of these World Class standards in Software Development.

9. Date of Launch of Project

01/04/2011

10. Coverage (Geographical)

The SAMPARK PORTAL for Ex-employees covers 18800+ ex-employees of BHEL-Bhopal, who reside across the various parts of the globe, as its end-user base. The system has been hosted on Internet, hence accessible from anywhere in the world.

11. Beneficiary of the Project

This Initiative covers all the employees of the organization, both on roll and ex-employees, including all the categories.

12. Problem statement or situation before the initiative

Before the Initiative, there was no system for Online Employee Centric Services. Employees had

to fill Physical/Hard Copy Forms for Entitlements, Reimbursements, Perquisites and Claims such as Telephone & Mobile Bills, Courtesy, Furniture and Furnishing Reimbursements etc. and for various other services such as Tour Advances, Income tax, Direct IT savings Visitor Passes, Quarter Complaints etc. These Manual entries would result in enormous amount of erroneous data given by employees, as there were no checks, validations and alerts. This resulted in huge work load for the HR and Finance departments, Redundancy of data and Non Transparency in delivery of employee centric services. Also as the whole process of providing services was manual, the Turnaround time in receipt, processing and approval was huge, due which employees were dissatisfied and discontented.

The other challenges were:

- We had no idea from where to start the project, as till date, no unit in BHEL had developed this type of a Project and hence we could not rely on any knowledge base.
- Project was to be started from scratch and Information regarding various Processes & Services to be computerized and made Online, was to be derived from various departments & sections such as HR, Payroll, Leave, TALTC, Conveyance, Township, Provident Fund etc.
- Implementation of the Project in the various departments factory wide was also a difficult task as managers and workers until then for years were used to Paper based systems and suddenly shifting to Paperless based computerized Online system for performing their day to day employee centric needs would require drastically changing their mindsets and convincing them about the advantages.

The Ex-employees were feeling alienated, after retiring from BHEL, as they did not have any medium and single point contact to express their views, concerns and raise their queries. SAMPARK portal also caters the newly introduced BHEL Employee Pension Scheme. It includes data compilation from various sources like Finance, HR, hospital etc., calculation of Pension corpus for individuals based on multiple factors and pension form generation as per BHEL Corporate format. BHEL Bhopal was one of the first units in BHEL organization to complete this entire activity in shortest possible time and pension is being disbursed through this system, smoothly & efficiently to all past ex-employees and to employees who retire from time to time every month. The main challenge was to minimize multiple interaction points for the employees and hence reduce the wastage of their valuable and productive time and provide a hassle free single point one stop solution for On-Roll and Ex-employees for all their Employee centric services.

13. Project Objectives

1. Provide a single, efficient information dissemination system to the employees for availing employee centric services by minimizing multiple interaction points for the employee and hence reduce the wastage of valuable time
2. To achieve
 - Zero Queries
 - 100% accuracy
 - 100% Transparency
 - 100% On-time delivery of services
 - 99.99% Availability of Services and
 - Zero Visits to Office in the delivery of Employee centric services.
3. A unique Corporate Social Responsibility (CSR) initiative taken by BHEL, for ex-employees, who form a large part of the BHEL Fraternity

4. To bring BHEL Administration and Management closer to all sections of employees & provide services in a comfortable environment and make availing of the information services a pleasant experience.
5. Provide for better turnaround time in receipt, processing and issue of services & create a medium for effective interaction between the BHEL Administration and the employees so that exchange of information and access to all employee centric services is speedy and easy, leading to a better quality of life.
6. To provide an online interactive platform for Ex-employees so that they can raise their concerns / queries & get response within short span of time and to develop a system which can compile the data for BHEL Employee Pension Scheme, calculate Pension corpus & generate Pension forms without any errors & delay
7. To develop a social network within BHEL for sharing experience and information and to build a strong Knowledge base in the organization
8. To provide a system for HR & FINANCE admins to track the various queries received from Ex-employees & Raise the standards and quality of service delivery in Central PSUs.
9. Bringing-in Total Transparency in all Employee Centric related Services
10. Reduce Infrastructural, Technical, Administrative, Staff and Processing costs to a significant extent for the organization & Eliminate redundancy, incorporated proper work flow management and reduced workload to all stakeholders.

14. Project scope, approach and methodology

It was identified that the needs of the On-Roll and Ex-employees were totally different and that the Standardization of various processes related to delivering Employee centric services was required.

On-Roll employees needed a 24X7, Online, single window, one stop solution to meet all their day to day needs of Filling forms & requests for various types of Entitlements, Reimbursements, Perquisites, Claims, Advances, and Bookings.

It was also analyzed, as to what were the requirements of Ex-employees, once they retire from the BHEL. It was understood that the absence of any interface / medium for communication with the BHEL management and amongst themselves, was the major cause for alienation and disgruntlement of ex-employees.

Thirdly after the Employees' Pension Scheme was introduced in BHEL, an online integrated system was the need of the hour for smooth and efficient disbursement of Pension. It was very tedious task to compile diverse of data of BHEL Ex-employees for Pension disbursement. The main problem was to compile ex-employees related data from various agencies like HR, Finance, Communication, and Hospital etc as final pension corpus calculation was completely based on this.

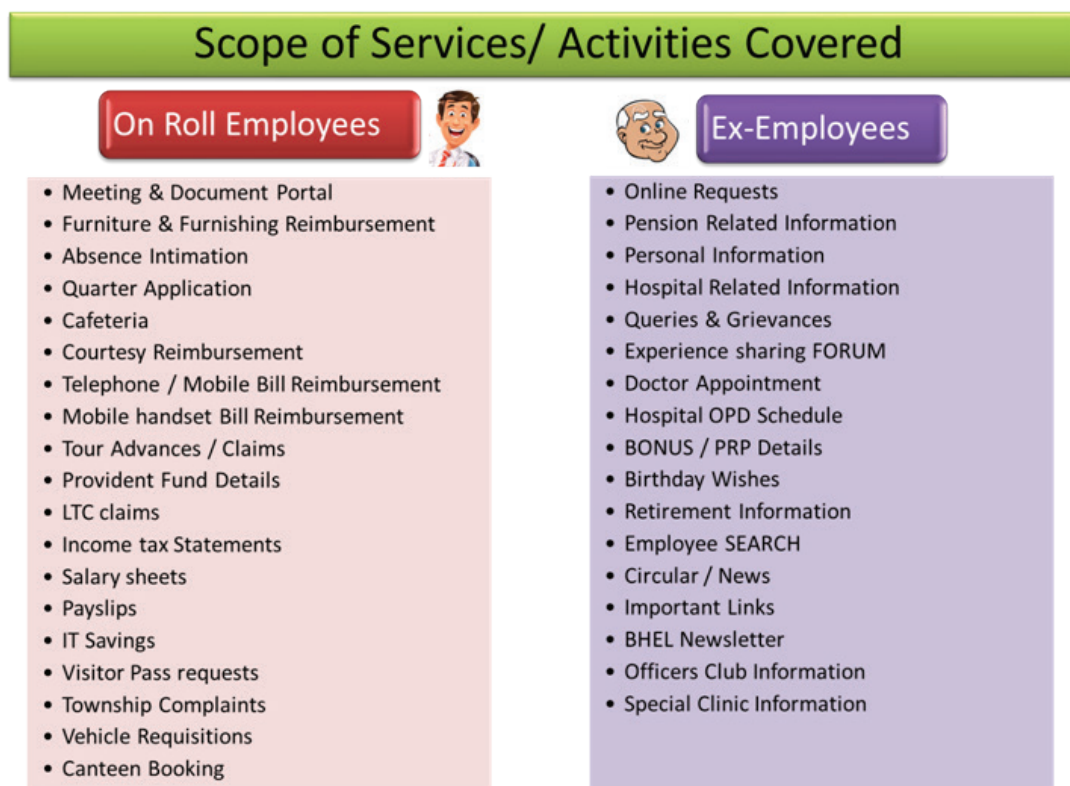
THREE modules of SAMPARK, employee centric services portal were introduced, as the employee coverage was different.

As Ex-employees, are residing all over the globe, a SAMPARK PORTAL was developed and launched on INTERNET through the Organization's website.

For On-Roll employees, working within the organization campus and in the various on-sites, spread across the various parts of the country, to meet to the requirements of Information security, a SAMPARK EMPLOYEE PORTAL, was developed and launched on the Organization's INTRANET,

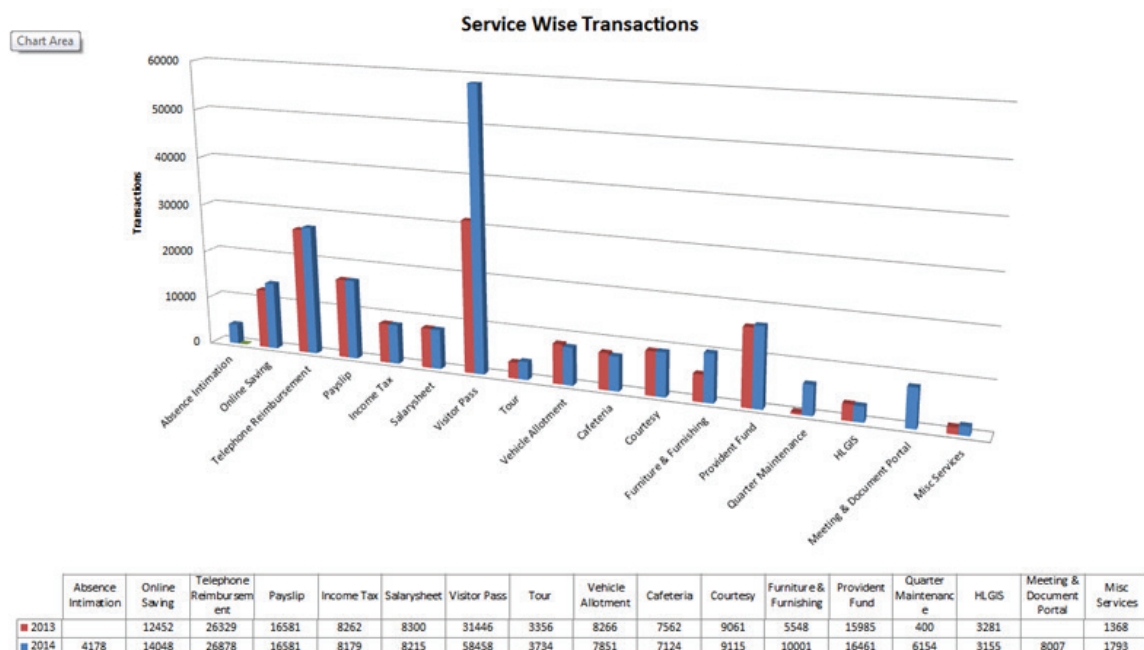
wherein the employees access the PORTAL either through local LAN or via VPN (Virtual Private Network).

For smooth disbursement of PENSION, a separate SAMPARK EMPLOYEE PENSION system was developed and launched for Ex-employees eligible for Pension.



Workflows for the various services covered in the whole SAMPARK gamut, were identified and separate e-Workflow based Online systems were developed for each service and then all these services were unified through a SINGLE SIGN ON.

For rollout of the Initiative, we have given wide spread publicity through various newspapers



& meetings. During the system inauguration, which was done by BHEL's Director (HR), a demonstration was also organized to all the Retired employees of BHEL Bhopal's oldest batch of executives, namely 1st & 2nd batch. The developed system was highly appreciated by these executives. Also wide publicity was given to all On-roll employees through company email and via the Intranet/LAN.

BHEL Director Krishnan inaugurates Sampark Portal for ex-employees

■ Staff Reporter

SAMPARK Portal for ex-employees was inaugurated by Director (HR) of BHEL R. Krishnan on Monday. Executive Director of BHEL Bhopal SS Gupta and Ex-senior officials from the first, second and third batch, who joined BHEL, Bhopal as Graduate Trainees, were present on the occasion.

Sampark Portal is one of its kind initiatives in the organisation, which would form an interface and medium for the ex-employees to connect and communicate with the company and also amongst themselves.

Using this Portal, the ex-employees will have access to their Personal, Pension, Hospital and Communication related details. An effort has been made to have a two-way communication between the ex-employees and BHEL, by offering innovative features like experience sharing forum and Online Queries and Suggestions. Sampark Portal has a whole bouquet of useful features such as Employees search, Birthday calendar and useful links such as Batch wise list, Circulars related to Ex-employees, Hospital OPD schedule, Recreation and other useful sites.



Director (HR) of BHEL R. Krishnan inaugurates ex-employees.

This portal is a BHEL initiative (http://www.bhel.com) which has IEX and Bhopal.

LAUNCHING

"SAMPARK PORTAL"

By

Shri R. KRISHNAN

Hon' Director (HR)

BHEL



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

The SAMPARK EMPLOYEE PORTAL for On-Roll employees hosts more than 30+ Services for 8000+ employees, working across the length and breadth of the country, and caters to 100+ departments and records more than 5.0 lakh transactions on a year to year basis.

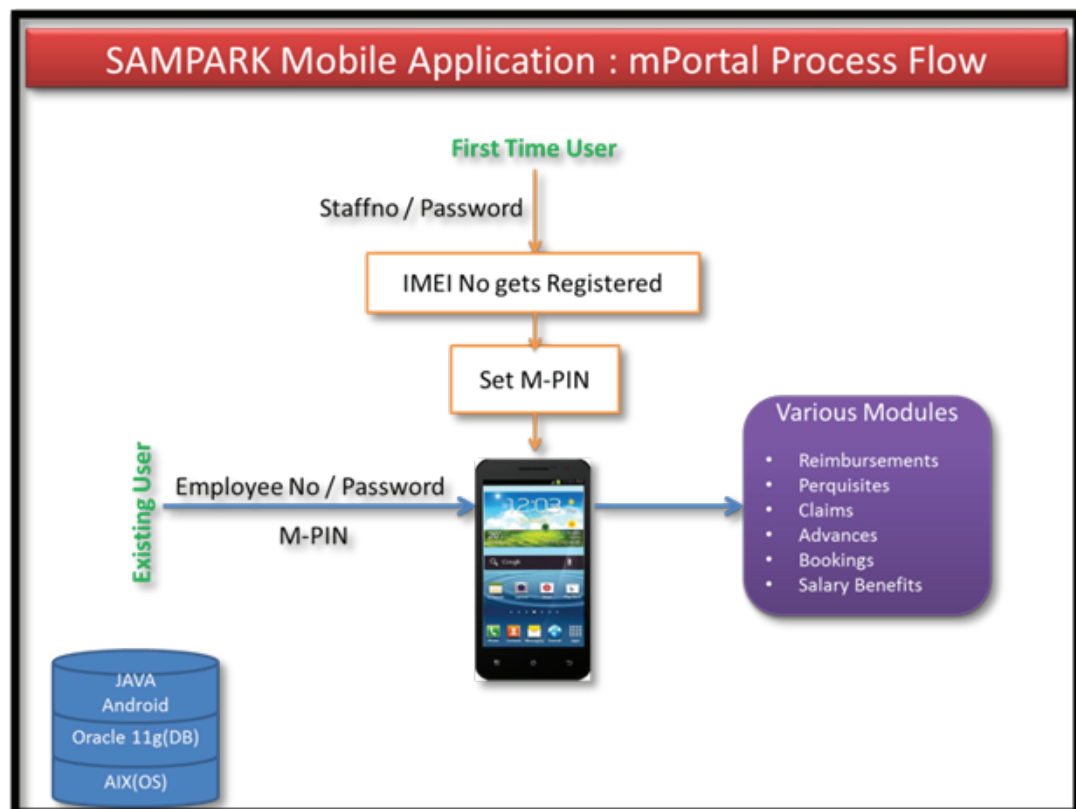
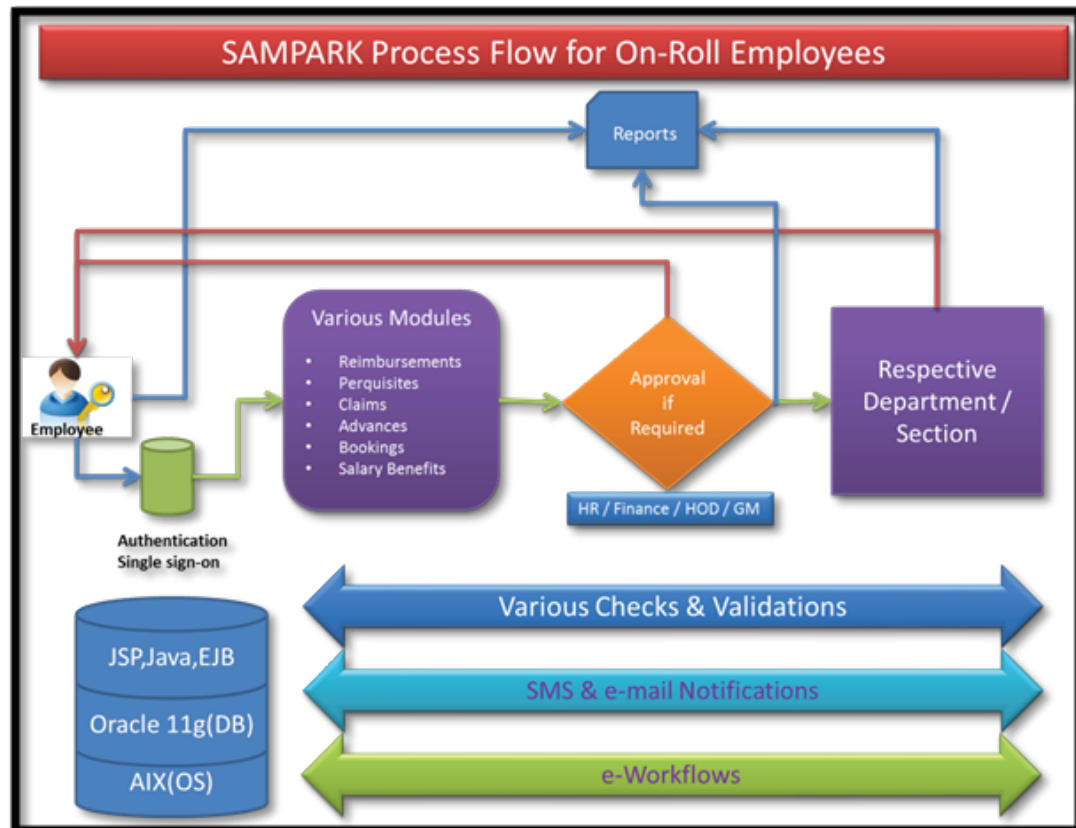
Earlier Ex-employees used to give their requests over phone or in writing which was very difficult to track. Now they can raise their concern / issues online through SAMPARK PORTAL, which will also help BHEL HR & FINANCE department to easily provide solution, track the request & generate reports for the top management. The target audience of the developed system are 18800+ , ex-employees who are residing across the various parts of the globe. This initiative has helped in Real time Approval of all types of services requests received from employees by relevant agencies.

The Initiative has enabled

- Zero Query
- 100% accuracy
- 100% On-time delivery of services
- 99.99% Availability of Services
- Zero Data loss
- Zero Visit to Office
- Total (100%) transparency in all Employee centric service requests and processing.
- Reduction in the turnaround time of user's requests
- The users get their claims, eligibility and other details on a single click
- The initiative has aided in avoiding duplicity and repetition

SAMPARK has e-enabled all employee centric services, with no manual intervention which has led to a Paperless office and GREEN IT.

It has brought all employee centric services to the desktops of employees. All services are available Online 24X7. This has helped all employees, even those who are in Second shift (factory timings: 4 pm to 1 am) and Third Shift (factory timings: 1 am to 7 am) to file service requests. The Project is a unique Corporate Social Responsibility (CSR) initiative for ex-employees. With the Mobile Application of SAMPARK, employees can view/create a number of employee centric services, from the convenience of their Mobiles, anywhere anytime. SAMPARK has resulted in a reduction in cycle time for processing & approval of employee service requests by about 95%. Finally it has helped into Image and Trust Building of the Organization and satisfaction of all stakeholders.



PROCESS FLOW OF SAMPARK

Award & Accolades:

- Have won the CSI National Award for IT Excellence 2013



- Registered under COPYRIGHT Act

Registered under COPYRIGHT Act	
PatentView	
Patent-summary Copyright-summary Patents Copyrights IPR INCENTIVES	
Back	
BHEL Copyrights	
CR no.	130042BP
Title	Sampark system
Unit	Bhopal
Inventors	Vivek Pathak & Rajneesh Rai
Diary No.	6011/2013-COSW
Diary Date	28-06-2013
Regd. No.	SW-7359/2013
Regd. Date	18-10-2013
Copyright Status	Registered
Remarks	Filed on 28/06/2013; Diary # 6011/2013-COSW; Reg # SW-7359/2013; Dt. 18/10/2013; Reported 18/12/2013;

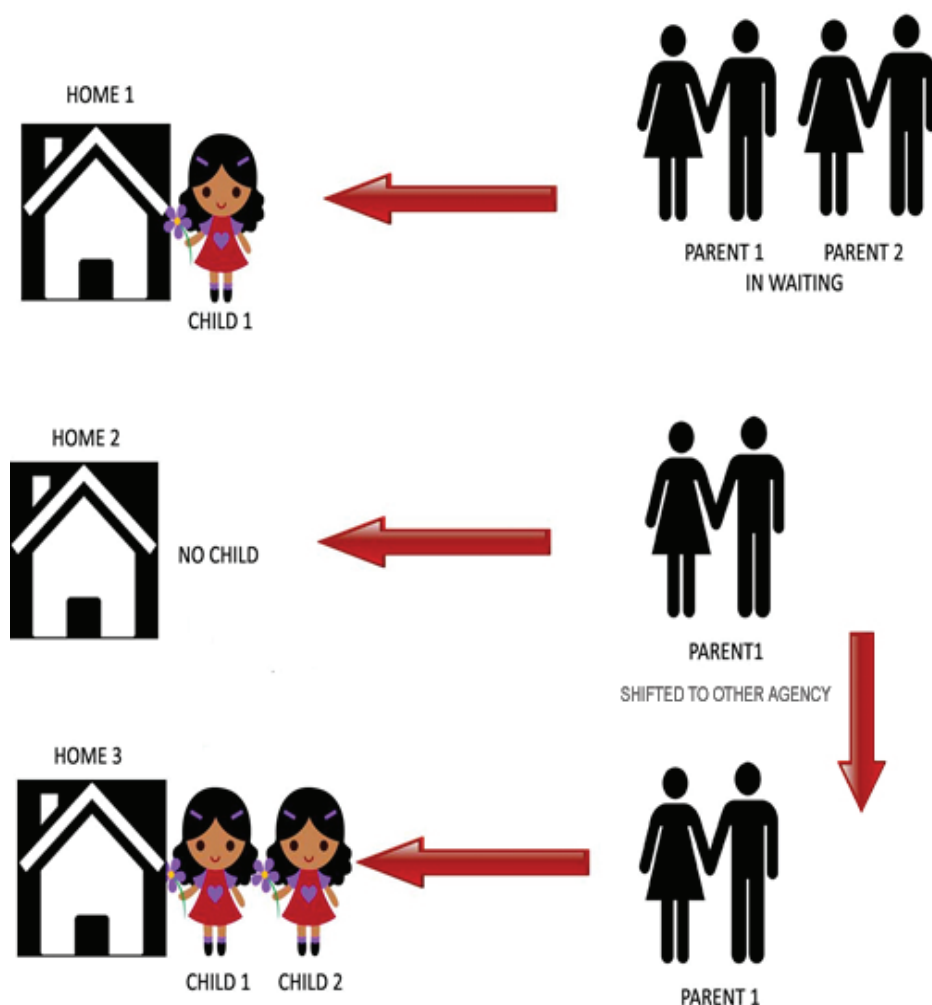
ANMOL

S. No	Description	Write Up
1	Name of the State/Ministry	Department of Women and Child Development, Madhya Pradesh
2	Name of the host/owner organization	State Child Protection Committee
3	Status of the host/owner organization	A Society registered under Society Registration Act. 1973
4	Name of the Project	Anmol (www.anmoladoptionmp.in)
5	Name of the Nodal contact person	Ms. Kalpana Srivastava, I.A.S.
6	Contact Address	Jawahar Bal Bhawan, Near IInd Stop, Tulsi Nagar, BHOPAL- 462001, Madhya Pradesh
7	Telephone/Fax/e mail	(0755)-2551331, 09425012310, kalpana0092@gmail.com
8	Project Summary	<p>Central Adoption Resource Authority (CARA) has been constituted by Government of INDIA to facilitate and monitor the countrywide adoption process through its website www.adoptionindia.in by accessing information from various Specialised Adoption Agencies (SAA) across the country. SAAs were not interlinked online with CARA. There was a system of only data uploading on availability of child and Prospective Adoptive Parents (PAPs) by SAA on CARA website. This led to lack of transparency and there was no way of validating data. More interestingly, State Adoption Resource Agency (SARA) constituted under the aegis of CARA did not have any linkages with the entire adoption process, lacking information on availability of children and PAPs.</p> <p>Prior to Anmol the entire adoption process was handled manually in SARA and the information received from different SAAs was prone to errors with no way of cross checking. Also there was no system put in place to give a clear picture on availability of children staying in homes and PAPs. It was also observed that PAPs could adopt a child only from the centres they had registered in and in many cases they had to wait endlessly whereas other SAAs across the state had children but no PAPs available. This led to long waiting lists of both parents and children's.</p> <p>There was a necessity to synchronize the homes of the entire state through their database and bring them under one umbrella to create transparency in, awareness about, monitor and expedite the adoption process. Thus the need for integrating homes with SARA emerged to develop a complete transparency in the entire adoption process.</p> <p>To address the above situation, Project Anmol was conceptualized, designed and implemented. www.anmoladoptionmp.in is an innovative initiative taken up by SARA, the first of its kind in the country to fast track adoption of children staying in SAAs and to align all the homes and stakeholders under one umbrella. Anmol is a well-designed multifunctional e-initiative for tracking child's status right from its entry point at Child Welfare Committee (CWC). It fast tracks matters related to adoption and other forms of non-institutional care including sponsorship and foster care at the state level. It functions through SARA for coordinating, monitoring and promoting adoption in the state.</p>
9	Date of Launch of Project	07.06.2013

S. No	Description	Write Up
10	Coverage (Geographical)	Anmol has coverage across the state through 37 SAAs. All these homes are now well connected with Project Anmol to fast track the adoption process and clear long waiting lists of PAPs. Anmol has improved governance by linking all the homes.
11	Beneficiary of the project	Children staying in SAA's and PAP's

12. Problem Statement or situation before the initiative

Central Adoption Resource Authority (CARA) has been constituted by Government of INDIA to facilitate and monitor the countrywide adoption process through its website www.adoptionindia.in by accessing information from various SAA across the country. SAAs were not interlinked online with CARA. There was a system of only data uploading on availability of child and PAPs by SAA on CARA website. This led to lack of transparency and there was no way of validating data. More interestingly, State Adoption Resource Agency (SARA) constituted under the aegis of CARA did not have any linkages with the entire adoption process, lacking information on availability of children and PAPs.



Triggers

Prior to Anmol the entire adoption process was handled manually in SARA and the information

received from different SAAs was prone to errors with no way of cross checking. Also there was no system put in place to give a clear picture on availability of children staying in homes and PAPs. It was also observed that PAPs could adopt a child only from the centres they had registered in and in many cases they had to wait endlessly whereas other SAAs across the state had children but no PAPs available. This led to long waiting lists of both parents and children's.

There was a necessity to synchronize the homes of the entire state through their database and bring them under one umbrella to create transparency in, awareness about, monitor and expedite the adoption process. Thus the need for integrating homes with SARA emerged to develop a complete transparency in the entire adoption process.

Triggers



Anmol was developed as a single window centre that offers procedure for adoption (administrative orders and information), provides information on availability of children according to needs to PAPs, tracks status of children by gender/age, informs parents about their status on waiting list, fast tracks adoption and other non-institutional care (sponsorship and foster care).

13. Project Objectives

- Ensuring transparency and trustworthiness in SAA functioning.
- Bridging gaps between parents interested for adoption and the centre from where the adoption is intended.
- Interlinking all homes across the state to ensure expeditious delivery mechanism.
- Monitoring of special cases and target monitoring.

- Developing interface with adoption agencies to fast track the adoption process.
- Tracking the status of children staying in homes by gender and age.
- Developing interface with every home across the state.
- Tracking status of families registered for adoption.
- Keeping citizens updated with procedures and amendments.
- Developing reports for analysis for management.
- Enabling management to ensure transparency in adoption process.
- Providing easy access to citizens.

14. Project Scope, approach and methodology

Area	Scope of service
Activity Monitoring	No. of children residing in homes Classification of children in different age group Registered PAPs Classification of PAPs in different age group No. of queries/problems received and resolved
Facilitating Adoption	Tracking the status of PAPs Tracking the status of children Aligning all the homes
Process Monitoring	Timely floating of advertisements Timely disposal of applications Linkages with CWC and Police for expeditious
Processing Impact Monitoring	No. of cases brought before the Court No. of children adopted. No. of waiting list cleared.

Approach

(ii) Problems Identified

Process	Problem areas
Parent Registration	<ul style="list-style-type: none"> • Parents had no option but to go to adoption homes and register manually, the home sent the data to SARA and then monitoring activity started. • At the time of registration there was no integration of database of other homes and registered child / PAPs.
Monitoring	<ul style="list-style-type: none"> • Only manual areas for monitoring. • Unable to check the current status of child/PAP regularly.
Transparency	<ul style="list-style-type: none"> • Parents / public were not able to view the details as to how many children are available in the homes. • There were illegal activities involved in adoption of children which encouraged corruption.
Ease of Access/ Language Barrier	<ul style="list-style-type: none"> • Not able to provide the details in easier medium to the public for awareness of the program. • Integration with mobile was required.
Feedback / Complaint Resolution Centre	<ul style="list-style-type: none"> • No Helpline.

Methodology

To make the adoption process effective and result oriented the management decided to introduce an ICT enabled governance model to fast track the system and make it transparent responsive and demand driven. The process of developing ANMOL was as under:

Step 1. Detailed Discussions with All Stakeholders to Plan out Anmol

The conclusion came that the system should be effective in segregation of data of PAPs and children as per their requirement and age. It was also decided to have a system which was responsive, dynamic and easy accessible to all citizens with auto alert at every tier. The focus was on designing a credible, reliable and accurate system to ensure transparency.

Step 2. Formation of Core Group

A core group has been formed to assess the need for information and to develop formats on which the reports were to be generated.

Step 3. Base Line Study

There were meetings with concerned persons and detailed surveys on a fixed set of questions. That was our primary research which was undertaken block as well as district wise and every feedback was filtered through objectively so as to identify problem areas ensuring that research was going in the right direction. Secondary research was done by technical department under the guidance of the administrative department to study the solutions, models or prototypes that had been implemented in developed countries. As this was the first of a kind initiative in the country there was no model or prototype to observe within the country.

Step 4. Development of Information Panels

Based on reporting formats a team of professionals were involved for developing information panels and also finding methods for evaluating the information so that the management should be able to track the areas for interventions.

Step 5. Selection of Suitable Technology

As adoption of children was a sensitive issue hence proper care was taken to select a technology platform which could address security issues.

This was followed by development of web application in incremental parts, which was sequentially tested and approved. Database development involved integration of data available at different homes and agencies with upcoming registration of parents. Feedback was collected again district wise in documented form and changes were incorporated as finally discussed.

The developed solution is web based which is self-explanatory and easy to use. However a few agencies or homes that were not well aware of the technology were trained at their respective locations by trained professionals.

Step 6 . Assessing Financial Requirements

The management was keen to develop an in house cost effective monitoring management system which would be easy to operate. The financial requirement for the same was assessed prior to development of software.

Step 7 . Pilot Testing and Modifications

The developed system was tested in one or two homes to assess the effectiveness of the software before implementing it in the entire state. The strategy was to ensure implementation of a self-sustainable monitoring management system. The system was further fine-tuned as per requirements from the access centres.

Step 8. Training of Project Staff

Once the software was developed and ready for implementation, intensive training was provided to all the concerned staff who were involved in the data feeding. The training was given once every quarter to keep the staff updated on latest developments.

Step 9. Data Uploading

The data on the final version of the software was uploaded with the help of professionals to minimize the chances of errors.

Step 10. Implementation and Concurrent Monitoring and Training

The software once installed is regularly being revisited by professionals to ensure effective implementation, reliability of data and information.

Step 11: Publicity

Effective campaigning has been taken up to promote Anmol through advertisements, hoardings, Phone in etc.

Step 12. Communication and Dissemination Strategy Used:

Effective communication between agency, PAPs and children, a strong interface between various stakeholders through use of mobile applications, web and help desk has been enabled by Anmol.

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

Citizen Centricity and relevance, User Convenience & cost to user

1. To Citizen

a) Synchronized Communication Channel

- The Prospective Adoption Parents (PAPs) are now updated on the status of their applications and also with all the procedures and amendment related to adoption.
- Communicating with and contacting adoption agencies have now become very easy and accessible to PAPs. The queries are handled at a faster pace and there is also a helpline facility.

b) Ease of Use

- Anmol is accessible through any modern age web browser like Internet Explorer, Google Chrome, Mozilla or Firefox. Automatic Alerts are enabled on registered E-mail and SMSs to PAPs and agencies. There is a special provision for disabled people; they also get information at his/her doorstep through SMS and/or emails. Information forms and fill in details are easy to access and feed in. They are regularly updated in database.

c) Help files and Information

- Easy to understand information and help manuals are available to guide users for registration and other process. There is a detailed list of SAA registered homes along with their respective addresses and contact details.

d) Impact on effort, time and cost incurred by user

- PAPs have to no longer wait for the child of their choice. Geographically the user has more options in terms of adoption homes. They are allocated with a waiting number and notified accordingly on SMS and emails. Time and money is saved as Anmol has reduced unnecessary travel and communication cost.

e) Feedbacks /grievance redressal mechanism

- Prior to introducing the web based MIS, there were several drawbacks with regard to addressing complaints/queries, providing first-hand information on the scheme & its benefits. Secondly, there was no such powered mechanism to monitor the progress. Thirdly, ensuring timely disposal of the cases was critical. Introduction of web based MIS has enabled expeditious services to the end user in time.
- An efficient, dedicated and totally online helpline has been one of the most important parts in this web application which functions in 5 steps right from the generation of report to the closure of request.
- Help desk functions in the following logical steps:
- Registration and generation of ID (ticket no.)
- Problem analysis Sorting with knowledge base with support team
- Response & acknowledgement Closure of Request

Service delivery channels	Easily accessible on all browsers. Automatic Alerts are synced on registered E-mail and SMS to PAPs and agencies.
Completeness of information provided to the users	Anmol on its portal provides all relevant information with regard to adoption process. Any amendments made in the process also can be easily accessed through portal.
Accessibility (Time Window)	Reduced turnaround time for registration, adoption process and feedback/ complaint resolution by providing easy access
Distance required to travel to access points	User can access all the information online from his/her smart phone or using cyber cafe. The homes are so established that it covers the entire population of the state.
Facility for online/offline download and online submission of forms,	All the information is available online with a facility of downloading and submission of forms. Registration Forms are available to fill in all necessary details and through separate access areas for PAPs and adoption agencies. There are strict validators to cross check the information on browser side and alerts user to feed in information correctly
Status Tracking	Status tracking is available for agency and PAPs plus constant admin monitoring

Impact on effort, time and cost incurred by user reduced	Time and money is saved as Anmol has reduced unnecessary travel and communication cost. (Uses SMS and emails)
Feedbacks /grievance redressal mechanism	This has ensured that firsthand information is taken from user and expeditious steps are taken for any grievances
Audit Trails	An audit log is prepared regularly on feedbacks received, complaints addressed, etc.
Interactive platform for service delivery	ASP.net is used

2. To Organization

- Monitoring: A continuous watch from the admin area on the status of adoption rates and child growth. Monthly and quarterly information on adoption and waiting list status of Prospective Adoption Parents (PAP) and children is available in one click
- Fast tracking the adoption process and reducing the long waiting list of PAPs
- A strong interface among all the stakeholders' viz.:- Child Welfare Committees (CWC), homes, Police who are involved in adoption process
- Monitoring of special cases and tracking the status of children by gender and age has become easy.
- Central alignment of all the centres with Anmol makes it easy for the Organization to track waiting list.

3. Other Stakeholders

The benefits for the stakeholders are as follows:

Stakeholders	Benefits
Homes	Homes are interlinked and can access the status on PAPs and the children for fast tracking the adoption process.
Police	The Police are being informed for FIR for prompt action
Child Welfare Committees	CWC now are making a child legally free for adoption in with the stipulated time.
Department	Extent of Integration
Directorate of Women Empowerment	Providing support for girl child through e-Ladli.
Central Adoption Resources Authority(CARA)	It is autonomous body under the Ministry of Women & Child Development. It functions as the nodal body for adoption of Indian children and is mandated to monitor and regulate in country and inter country adoptions
Department of Social Justice	Possibility of linking with the department for ensuring empowerment of children staying in homes. Physically challenged children can be dovetailed with the scheme of the department of ensuring their overall growth
Child Right Commission	The Commission can access information for tracking the status

Sustainability

Anmol is a sustainable model due to innovative use of technology which is new and adaptable to recent technological environment. It is flexible to the extent that it has the capacity to change, upgrade and is linked with other similar technological service providers.

Organization Sustainability

The training and sensitization of all stakeholders has helped made the project sustainable. The staff recruited for data feeding was trained on each input of the application format. They were also sensitized to handle cases with due discretion maintaining confidentiality. The functionaries were exposed to use of ICT. District wise onsite trainings were also organized for accurate sensible and transparent data feeding.

Administrative Sustainability

The Integrated Child Protection Scheme funded by Central and State Government provides for complete setup for SARA and Anmol.

Financial Sustainability

There is a separate budget for SARA and Anmol.

Ownership by Stakeholders

ANMOL is one of the most viewed web portal and has potential use for agencies and institutions which function for the cause of child welfare and facilitating adoption process. ANMOL is capturing the information on most valued human resource and fast tracking the adoption process for children in needs of parental care.

Localisation of best practice

Central Adoption Resource Authority (CARA) has now come up with a new version of its web portal on adoption across the country. This portal has incorporated numerous features of Anmol like: developing integrated list of Children, integrated list of PAPs and maintaining online authenticated supporting documents relating to the adoption etc.

Innovativeness

Use of the new technology has caused reduction in the number of steps and removed bottlenecks and irrelevant steps.

I. Technology Use

- Anmol has been a part of the major public services structure renovation - a step in nurturing the future of our country i.e. children.
- E-Governance to Employee partnership (G2E) has been one of the major primary interactions in the delivery model of Anmol. The adopted methodology and technology that has been developed is to keep in pace with the current and future needs. Developed solution is robust, adaptive and completely secured.

II. Use Of New And Emerging Technology

- The technology used for Anmol provides an opportunity to the government to make the scheme client oriented and demand driven. It is a unique portal which is responsive for both i.e. for the government and for the end user.
- The application has facilitated the government to incorporate mobile applications and IVRS for extending the outreach and making it convenient for the user.
- ASP.NET technology used for Anmol is adaptable to every condition and can be linked with other e-Portals of organizations and institutions functioning for similar cause.
- Anmol is uniquely designed on Google base with lots of panels on board.
- It also provides a complete helpline desk for the user for any queries/information at times.
- The system is available in Hindi for better interface with the end user.
- The form once fully filled is fed in the data base by trained operators in the project office to avoid discrepancies. The MIS has a band width of 3500 GB enabling enormous space for the user. The disabled people also get the information at his/her doorsteps through SMS and with use of mobile applications.

e-inclusion

No.	Steps	Prior to Anmol	After Anmol
1	Filing of application	Manually done by visiting home	Online
2	Submission of documents	Manually	Submitted manually and tracked/corrected online
3	Home study	Manually	Corrected online
4	Status tracking	Rigorous travelling	Online
5	Turnaround time	Frequent visits to homes	Information available online. Visit only when required.
6	Parent Child Match Making	Manual	Online
7	Adoption through Court	Information through regular Communication channels	Online

Efficiency Enhancement, Number of users & services

Bottlenecks	Process of removal
Lack of information about adoption process	The information is now placed online. The details of adoption process is available online
Excessive travelling for registration and status tracking	The status tracking is available online.
Delineation between homes	Integration of all homes through Anmol
No linkages amongst stakeholders	All the stakeholders involved in adoption process are interlinked online.

Anmol is a cost effective initiative. It not only makes the adoption process easier to monitor but also helps in reducing huge travel for PAPs. Parents from any part can register themselves for adoption from any home across the state. The records are filled online thereby reducing the chances of errors. The errors if any can be cross checked and rectified simultaneously. The increase in outputs after ANMOL is as follows:

Parameters	Before Anmol	After Anmol
Registration of PAPs	311 (April 2010 to May 2013)	660
Children	466	435
Volume growth in transaction (Adoption)		
a) Restore to biological Parents	52	199 (an increase of 382%)
b) Adoption (including pre adoption)	94	380 (an increase of 404%)
Time Taken to process/transaction/ service delivery	Minimum 12 months	6 months
Capacity building	Nil	2002 participants

Intangible Benefits		
	Before	After
Accessibility	Difficult access	Easy
Resource Utilization		
Manpower	High intake due to manual processing. Huge staff for data validation at all tiers.	Reduced manpower

Financial	Excessive indirect expenses due to involvement of manpower towards salaries and admin cost	Administrative cost is negligible
Time	Manual processing cause delays	Reduced turnaround time
Transparency	Tracking was not possible	Tracking becomes easy
Indicators	Before	After the initiative
Service Charge on deliverables	No	No
Travel Cost	Excessive travel cost for the parents for registration and follow ups.	No. The status on application is available in one click.
Ease of Transaction	Pursuance of the case was difficult	Automatic message generation. Information is available on line to know status on waiting list.

Anmol has produced remarkable results in just a couple of years of its implementation. The efficiency of management has improved considerably and cases have been resolved timely. Anmol promotes and improves the family-based solutions for children who are orphans or surrendered/abandoned and also functions as a grievance redressing agency for all adoption related issues in the state. From the parent's viewpoint there is transparency in registration and waiting list so that there is no bias. Anmol enables the management in taking suitable action in case of irregularities or malpractices occurring in the adoption programme whether by recognized adoption agencies or by individuals. Suitable preventive and punitive action is being taken.

Central adoption resource Authority has now come up with a new version of its web portal on adoption across the country. This portal has incorporated numerous features of Anmol such as Development of integrated child list, integrated list of PAPs and keeping authenticated relevant documents. Anmol finds a welcoming family for every child in need.

Quarry Management System

1. Introduction/background of the innovation:

Tamil Nadu Minerals Limited (TAMIN), is a wholly owned company of the Government of Tamil Nadu started in 1978. It is engaged in the extrication, processing and marketing of Granite and other minerals such as Limestone, Vermiculite, Quartz, Feldspar, Indian Standard Sand and Graphite. This enterprise entered the international granite market in the year 1979 and has secured a steady market for dimensional blocks of black and other colour granites in countries like USA, Italy, Spain, China, Japan, Dubai, Poland etc. TAMIN is operating about 33 granite quarry leases, 9 major mineral leases and 8 factories. About 1350 workforces and 160 heavy machineries are being engaged across Tamil Nadu.

This article offers a description of the development and use of a new innovative software QMS to automate the processes and functioning of TAMIN.

QMS covers most functional aspects of TAMIN such as everyday entry and processing of data, entire operations in various units of the company such as follow up of mining lease application, reminding renewal of lease, timely supply of quarry requirements, date of tendering, inventory management, reminding the follow up of legal cases and indicating mining violations for rectification, generates suitable reports, helps to monitor the day to day activities going on in the field directly from the HO, helping with easy management of the quarries with corrective actions and facilitate the administration in decision-making. QMS automatically reviews the utilization of men & machinery, production & sales performance of the quarries & mines on a daily basis and performs everyday mine auditing.



QMS was developed to suit the mining operation of TAMIN specifically and is not a readymade one. Each and every aspect in QMS was planned to fulfil the specific needs of TAMIN, taking into account all the technicalities of quarry operations.

2. How and why it was conceived:

The Monitoring, follow up and managing the entire network of quarries, mines and factories of TAMIN situated in various part of the state is a Herculean task. Earlier, it was monitored in a conventional method and the top management had to entirely rely on the reports furnished by the Divisional Officers regarding production, sales and utilization of men & machinery. After joining of Shri. M. Vallalar, I.A.S., as Managing Director in the organization ie. in November 2011, he studied the existing system and found certain deficiencies such as poor management of men & machinery, delay in reporting, delay in production / sales process, lack of transparency in cost control, non-quantification of production waste etc.

In order to overcome the above deficiencies, an innovative system called QMS was conceived

and introduced by Shri. M. Vallalar, I.A.S., Managing Director, TAMIN to monitor the day to day activities of quarries, mines and factories. The QMS is an innovative effort and it is the first of its kind in the mining sector.

Problems Identified:

- a. Delay in preparation of local / export invoices for sales of minor mineral, major mineral and finished products
- b. There was no pre plan to produce big size granite blocks before dressing. This resulted in selling those granite blocks for low price due to its small size.
- c. Since dressing of granite blocks were done on a pick and choose basis, high quality granite blocks were dressed for sale, which resulted in the stagnation of other granite blocks.
- d. Measurement of granite blocks was done manually. There was no possibility of cross checking of granite block's measurement. Possibility of inadvertent / advertent error existed.
- e. Buyer was allowed to pick and choose the desired finished granite blocks.
- f. Granite Quarry/Major mineral mines working wastes were not tracked or measured which provided scope for illicit activities.
- g. After booking of granite blocks by the buyer, there was no time limit to make payment. Likewise, there was no time limit for removal of granite blocks from the quarry site even after payment and so buyers used the quarry site as their stock yard. All these aspects lead to illicit activities.
- h. Cost of production was high due to inefficient management of men & machineries due to non-availability of details of performance and depending on the inaccurate manual reports furnished by the Divisional Office.
- i. Lack of optimum utilization of men & machinery
- j. Lack of facility for mine auditing by the management
- k. There was multiplication of work as reports like selection list, invoice, dispatch challan, tax report were prepared manually by various section / divisional offices.
- l. Lack of transparency

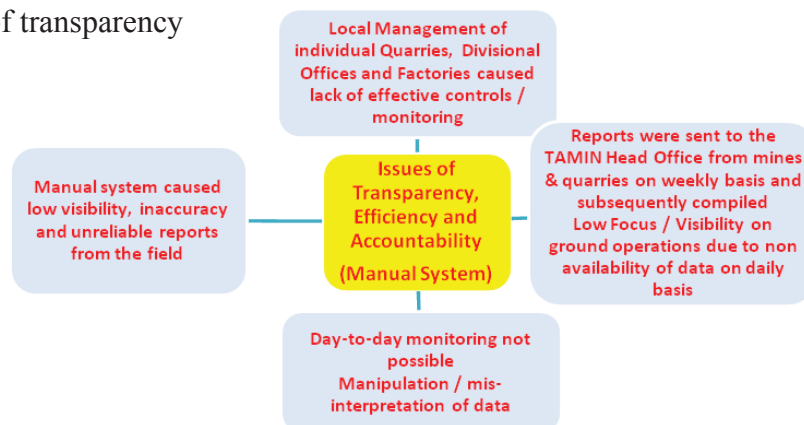


Fig: Key Issues and Challenges Faced

3. Process engineering done in order to reform the existing system:

In order to implement this software, initially the existing system was studied thoroughly and modified and made simple to suit the present day circumstances. In the first instance, various registers were introduced to monitor the entire quarry operations. Slowly and parallelly, the Quarry Management System (QMS) software was introduced to ensure accuracy and transparency in the whole system and to create scope for counter checking of facts and figures with an aim to avoid manipulation at a later date. Before introducing the QMS software, the views of various field level stakeholders such

as Geologists, Mining Engineers, Mechanical Engineers, Importers, Buyers were sought for and taken and the following strategies are adopted.

- Reformed the existing functional procedures
- Introduced registers to record daily production, sales, mining lease etc
- Prescribed a suitable data sheet for daily activity entries in quarry / mines
- Identified suitable employees for the implementation
- Conversion of undressed / unshaped granite blocks to finished blocks was allowed chronologically only.
- Planning of production of Gang Saw Size blocks from undressed / unshaped block before dressing was ensured.
- Proper and accurate recording of waste generated at each and every stage of quarry / mine operation was made compulsory
- The lengthy and time consuming procedure followed earlier for sale of products was simplified.
- Selection of granite blocks at the wish of the buyer was not allowed. It was allowed in chronological order only.
- Measurement of blocks is strictly monitored thro' QMS
- At each stage of production, i.e., primary cutting of granite blocks, undressed / unshaped blocks, finished blocks, digital photographs with measurements are taken and uploaded so as to verify the measurements from the Head Office.
- Every day mine auditing ensures optimum utilization of mineral wealth
- Rare natural wealth is accounted for every day

Functional strategy of QMS:

The QMS was designed considering the geological / mechanical / scientific mining aspects of mines and quarries.

The operation of the QMS begins with the fundamental units of the company viz quarry, mine & factory. Everyday, data are entered in the computer from the divisional office after getting data from quarries in predefined data sheet without delay.

The systems in the Divisional Office / Factories are integrated with the Head Office. This enables the concerned officers in the Head Office to monitor the day to day activities going on in the field directly and manage the quarries with corrective actions and facilitate the administration to take timely and appropriate decisions. From the primary data fed at each individual centre many reports needed for decision making to suit the need of the hour can be generated.

Further, this software takes care of the entire operations of the quarry, mine, factory activities including follow up of mining lease application, reminding renewal of lease, timely supply of quarry requirements, date of tendering, inventory management, reminding the follow up of legal cases and indicating mining violations for rectification. This QMS automatically reviews the utilization of men & machinery, production & sales performance of the quarries & mines on a daily basis and automatically generates email and sends it to all the Divisional Managers. Every day mine auditing takes place. Thus all aspects of the operation of the mines, quarries are closely monitored. Thereby even the Divisional managers and the men in the field are able to plan the quarry operations

in a better manner on a daily basis. All the above factors have been tested in the field. Its results are proven in the present balance sheet. So this QMS helps to provide efficient and effective management by setting high standard of quality of service and continuous sustainable improvement. QMS was developed to suit the mining operation of TAMIN specifically and is not a readymade one. Each and every aspect in QMS was planned to fulfill the specific needs of TAMIN, taking into account all the technicalities of quarry operations.

4. **Date of Launch of Project:** 19.10.2012

5. **Project Coverage:** State of Tamil Nadu

6. **Benefits from the innovation and factors responsible for its success:**

a) Volume of transactions processed

- Optimum utilization of men & machinery achieved
- Improved Quality of service provided to the buyers, delays in service deliveries avoided significantly.
- Overseeing and verification of the measurements of the granite blocks lying in a remote quarry from the Head Office is made possible thus reducing the overheads of spot verification and inaccuracy in measurement is avoided. Previously it has been a major problem in TAMIN to monitor effectively thus causing revenue loss but QMS has made effective monitoring possible.
- A sense of alertness, vigil, vigour, competitiveness, achievement and self reverence was instilled in the minds of the working force and management and falling prey to external forces avoided.

b) Coping with transaction volume growth

The QMS system enabled the management to actively increase production and sales which resulted in increase in profit of the company.

c) Time taken to process transactions

The manual system which was in vogue caused delayed decision making due to non-availability of data readily and reports from the field were re-verified by sending another team of officers. Thus old system followed then was time consuming, inaccurate and uneconomical. Now with the use of reports generated through QMS instantly needy decisions are taken swiftly without any delay.

d) Accuracy of output

Earlier, the Head Office administration relied entirely on the manual reports furnished by the Divisional Officers on production, sales and men & machinery. It had to be re-verified for accuracy. Now, since the data are collected and entered online on a day to day basis, accuracy is ensured and accountability is created as manipulation of entries is made impossible. Moreover, all granite blocks with measurement tape of length, breadth and width are digitally photographed and uploaded in QMS which can be viewed by the users from anywhere in the globe thereby each granite blocks and other minerals are accounted with accurate measurement and quantity.



Fig. Verification of Block Measurement using Digital Photograph

e) Simplified procedure and Improvement in delivery time of services

The lengthy and time consuming procedures followed caused delay in service delivery. The QMS system helps to improve the quality of customer service by immediate generation of invoices and issue of delivery challan thereby facilitating the buyers for making timely transport of blocks to create an ambiance for better marketability. The delay for service delivery to the clients are minimized by adopting the simplified procedure. Example of comparison of simplified procedure with old procedure is given below.

Old Procedure:	Simplified Procedure:
<ol style="list-style-type: none"> 1. After production of granite blocks, inspection notice is issued to the buyer. 2. Buyer after inspecting the granite blocks at the granite quarry site on the date noted in the notice choose the required blocks from the stock. 3. The list of blocks with buyer measurement chosen by the buyer is prepared and sent to Head Office 4. After necessary verification, based on the said approved list, release order is issued from the Head Office to the divisional office for getting approval of Assistant Director(A.D.), Commissionerate of Geology and Mining (C.G.M.) Department with his measurement 5. In the meantime, proforma invoice is prepared and sent to the buyer. 6. Buyer pays the amount fully or partially depending upon his immediate requirement 7. After payment, despatch instruction is sent from Head Office to the Divisional Office for the paid blocks 8. After getting permit from the collectorate and based on the buyer's convenience, delivery challan is prepared(there is no time limit for the buyer to take the blocks from the quarry site, the blocks remain in the quarry until he takes them) 9. Based on the delivery challan, invoice is raised from the Head Office and sent to the buyer. <p>(This whole process takes at least two months.)</p>	<ol style="list-style-type: none"> 1. After production of granite blocks, interested buyers are permitted to visit the quarry and select the blocks serially only (not permitted to pick and choose) 2. Based on buyer's selection list of selection of blocks is prepared. The validity of the selection list is for 15 days only. 3. Proforma invoice is prepared in QMS and sent to the buyer 4. Within 15 days, party should pay the full amount. In the meantime, Divisional Office gets the approval of A.D., C.G.M. Department and updates the A.D.'s measurement in the QMS 5. After receiving payment, invoice is raised at the Head Office and sent to the Buyer. Immediately, Divisional Office gets permit from the collectorate and issue it with delivery challan. 6. Buyer has to take the granite blocks from the quarry site within 20 days after permit is issued or else demurrage will be collected from the buyer. <p>(This whole process is completed approximately within 15 days.)</p>

7. Impact:

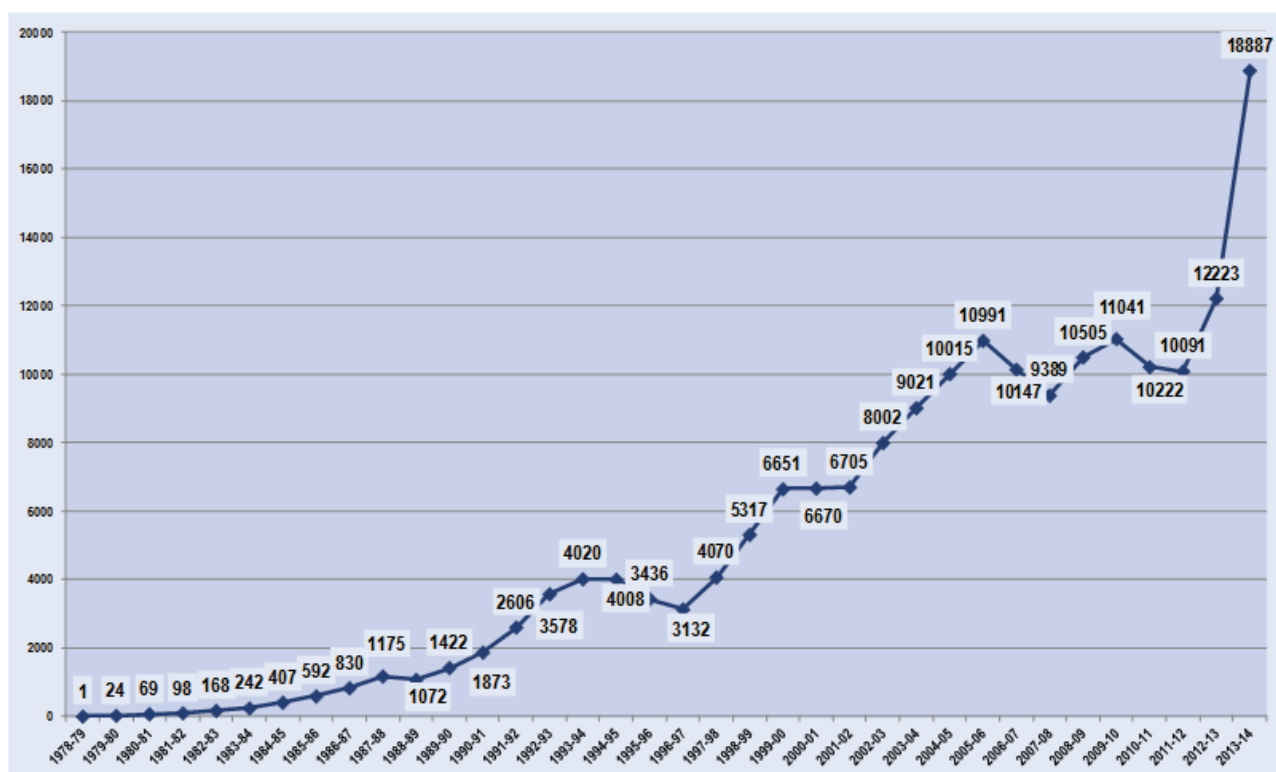
Due to close monitoring and effective follow-up aided by the QMS system, TAMIN has achieved increase in production, sales and profit during 2013-14 as mentioned below:

- Highest ever production since inception of the company in the year 1978-79 has been achieved in Black Granite (23817 M3), Graphite Ore (87995 MT), Indian Standard Sand (3714 MT),

Exfoliated Vermiculite (1752 MT), Raw Vermiculite (2201 MT), Limestone (701413 MT) and Cut & Polished Slabs & Monuments (100179 M2)

- By optimum utilization of the resources of men and machineries with the help of QMS, production has increased and cost of production has reduced.
- Moreover, QMS guides the workforce to use the men & machinery effectively on a daily basis in quarry operation which resulted in increase in production.
- Highest ever sales from the inception in the year 1979 of the company has been achieved in Black Granite Rs.91.07 Crores, Limestone Rs.28.62 Crores, Graphite Flakes Rs.28.35 Crores, Indian Standard Sand Rs.6.13 Crores and Exfoliated Vermiculite Rs.1.82 crores during 2013-14.
- The actual sales for the year 2013-14 was Rs.188.87 Crores against Rs.122.23 crores in the previous year (an increase of about 55%) which is the highest ever since the inception of the company.
- Rs.45.81 crores worth of granite blocks were exported during 2013-14 to China, Japan, USA and other Eastern European Countries which is the highest ever from the inception of the company.
- The profit before tax is Rs.24.69 Crores for 2013-2014 (Rs.47.57 crores if EPF & Gratuity provisions are excluded), an increase of Rs.21.18 Crores (603%) over the previous year, which is the highest ever profit since the inception of the company.

SALES TURNOVER (Rs. in Lakhs)



8. Possibilities of replication:

Success of any institution or company mainly depends upon effective monitoring of the operation of its functions. Our Quarry Management System enables the administration to have an effective monitoring and management of quarries, mines and factories. This software with some modification can be utilized in other organizations / firms, which are involved in mining of minerals. This Quarry Management System is a prelude to effective monitoring of state mineral wealth.

9. Contact Details:

Mr. M Vallalar, I.A.S.,
Managing Director
Tamil Nadu Minerals Limited
No.31, Kamarajar Salai, Chepauk,
Chennai – 600 005.
Mobile: 9840080001 Landline: 044-28524563
Email: vallalargowtham@yahoo.co.in

e Jaalakam

1) Owner of the Project

The project is owned by Department of Economics, St. Teresa's College, Ernakulam, Kerala

2) Status of the Owner of the Project

St. Teresa's College is an autonomous institution, a college with Potential for Excellence and a pioneer institution in the field of women's education which envisions a value –oriented education for young women. The College was established in 1925 as the second women's college in Kerala and the first in Cochin. The Department of Economics of St. Teresa's College, the oldest department started in the year 1937, strives to create and sustain a thirst for knowledge among the student community. The Department inculcates a sense of social responsibility among students so that they become socially productive citizens and e- Jaalakam is the result of this social commitment.

3) Name of the Project

e Jaalakam

4) Name of the Contact Nodal Person

Dr. Nirmala Padmanabhan - Associate Professor and Head of the Department of Economics

5) Contact Address

Head of Department of Economics, St. Teresa's College, Park Avenue Road, Convent Junction, Marine Drive. Kochi- 682011, Kerala

6) Telephone/ Fax/e- mail

0484 -2351870/2350519, ejaalaakmstc@gmail.com, nirmalap1@gmail.com

7) Project Summary

e Jaalakam is a Model e- Governance Literacy Project which aimed to enhance capacity of the public to access various online services offered by Government agencies. It targeted various civic groups as well as around 12,000 students studying in class ten in 86 Government and aided schools in Ernakulam District so as to enhance their capacity to access e- governance services. In connection with this, a number of innovative e-learning tools which demystify the method of access and inspire people's confidence in accessing various e-Governance services were designed and popularised.

8) Date of Launch of the Project

September 2012

9) Coverage

e-Governance literacy was imparted to around 14,000 people/ households indirectly covering nearly 56,000 persons assuming an average of four members per household in four districts. There are 106 delivery centres which includes 86 schools and 20 civic groups.

10) Beneficiary of the Project

Beneficiary of the project includes diverse civic groups from both genders, dissimilar age clusters

and varied social class including higher secondary students, undergraduate and research students, professionals, members of residents associations, housewives and elected representatives of local bodies.

11) Problem Statement

Women in Kerala reveal a gender paradox with exceptional achievements on traditional measures of development like literacy, health parameters and Gender Development Index but trail behind in direct measures of autonomy including household decision making, mobility and control over money. Thus it is being increasingly realized that what the state needs are programmes aimed at gender empowerment in decision making and participation.

While men at some stage or the other do access many of the services from various Government offices and local bodies, most women get bogged down with family obligations, lack of time, social and physical constraints on mobility and entrust such matters completely to male family members.

The observation that developments in e-Governance hold immense potential for overcoming such isolation and enabling women to benefit from/ participate in Government services prompted the department to initiate a project for empowering girl students in their institution.

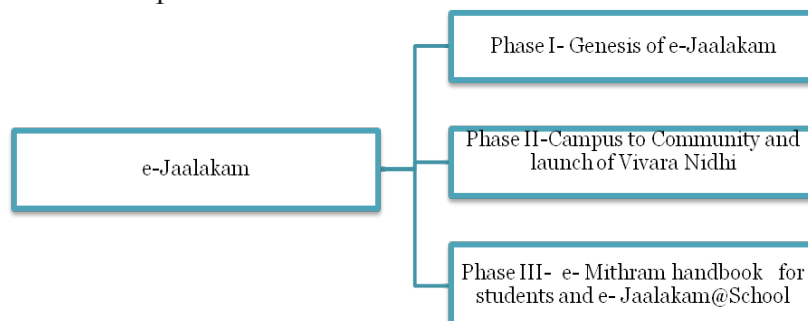
It was expected that training at a young age when girls have the time and capacity to learn new things will benefit them at some stage in their life, help increase their agency and promote gender inclusion in Governance. During the course of the project it was realised that men were also generally ignorant about e- Governance and hence the scope was expanded to cover them also while still retaining its primary focus on women.

12) Objective

- a) Generate awareness of various e- Governance initiatives among citizens in general and girl students/ women in particular
- b) Provide a compiled databank of e-Governance services useful to citizens, familiarize them with related websites and detailed steps to access these services thereby enhancing their capability to benefit from and live in an e- society.
- c) Motivate citizens to generate demand for various e- Governance services which will in turn provide incentive for improved delivery of services and promote measurable, accountable and responsible Governance
- d) Mould a generation of participatory citizens, particularly participatory women

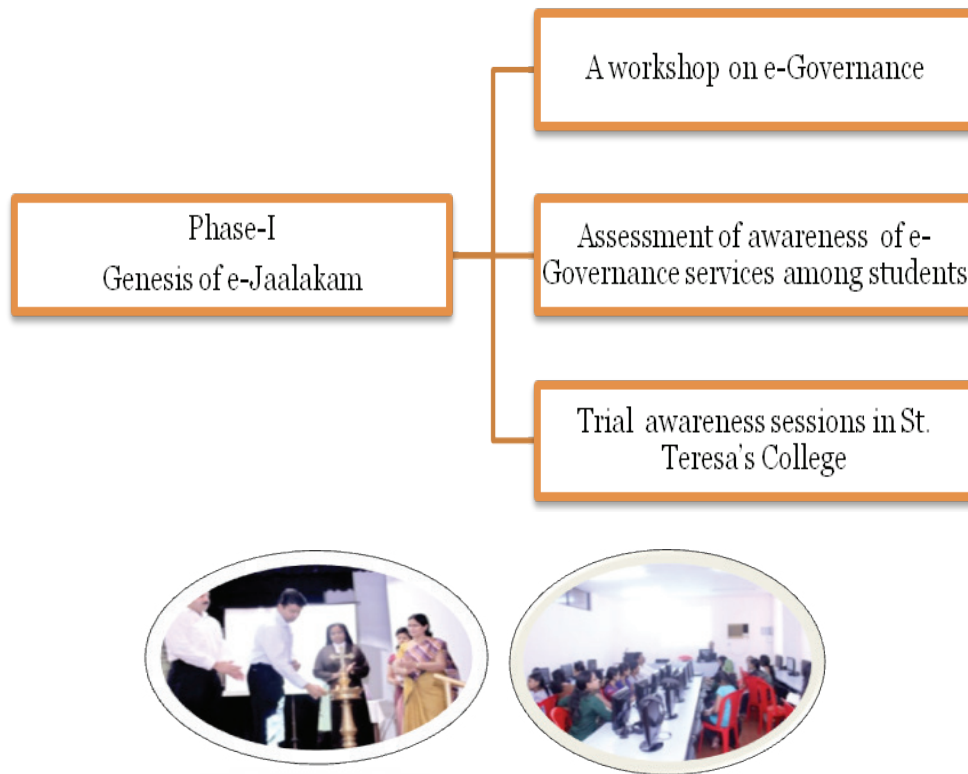
13) Project Scope- Approach

e-Jaalam project evolved overtime, through multiple phases, to the citizen engagement movement that it is at present.



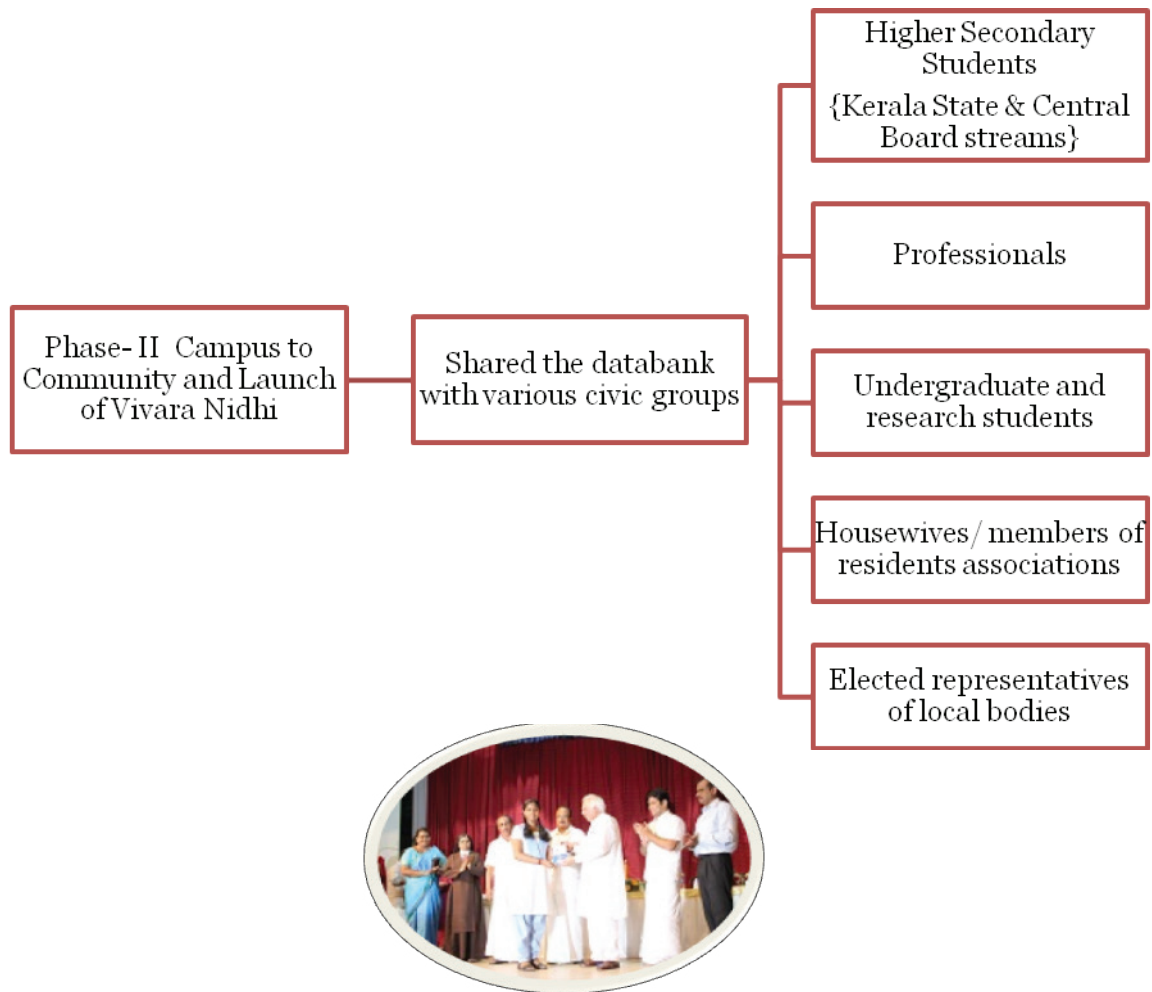
Phase I – Genesis of e Jaalam (Sept. 2012 - June 2013)

The genesis of e-Jaalakam involved a series of sub phases which included



- A two day workshop on e-Governance was conducted in the college with support of Kerala State IT Mission and State e-Governance Mission Team, Kerala in September 2012 during which 20 student volunteers were groomed to be e-Governance Master Trainers.
- Newly generated awareness of award winning e-Governance projects such as Sevana - civil registration - led the department to undertake some research on its implementation in the state in general which in turn revealed that despite its wide implementation and success in registration, very few people had accessed the certificates online. Simultaneously a small study was undertaken to assess awareness of e-Governance among a sample of 70 students studying in first year bachelors programmes in varied disciplines in St. Teresa's College which indicated that public awareness and access of e Governance services was indeed rather low as a consequence of which their full potential remain unutilized even in a highly literate state like Kerala.
- These findings prompted trial awareness sessions for faculty and students in the campus, feedback from whom indicated that it was indeed a very useful programme. This imparted confidence to venture into the next phase focused on learning to access greater number of online government services. Finally a databank of relevant governance sites was prepared so as to include important online services/ information women might generally need in their lifetime and these were arranged in a life cycle pattern from birth to death. An e- Jaalakam pamphlet was also prepared which furnished the URL of more than 100 relevant websites.

Phase-II- -Campus to Community Phase of e-Jaalakam and launch of Vivara Nidhi- A Citizen's

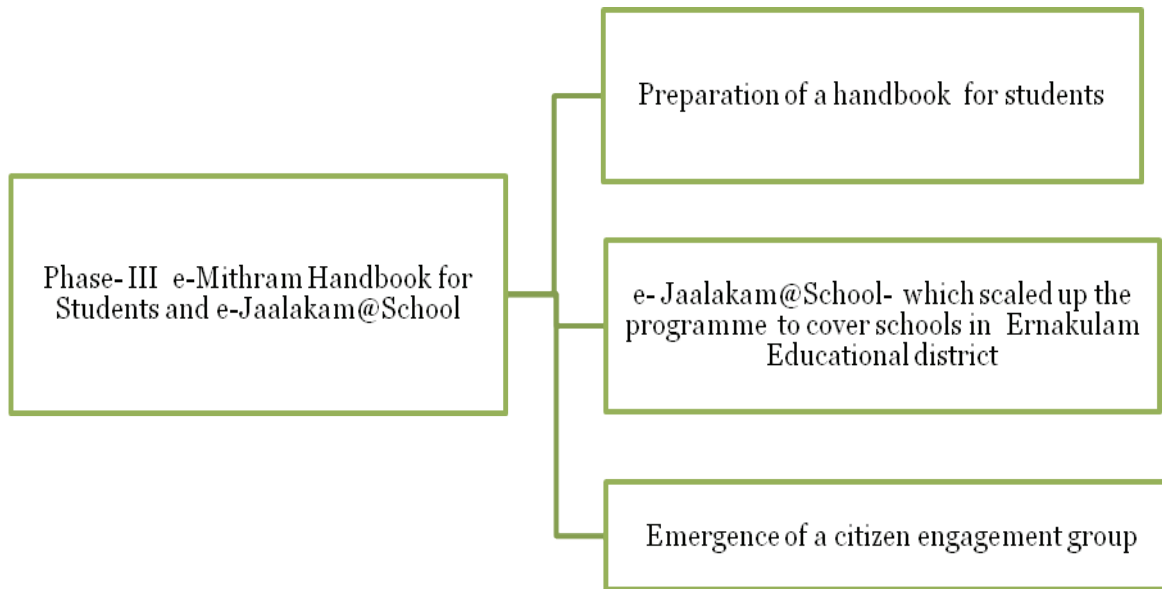


During the second phase – (C2C) campus to community phase, the group of student master trainers shared their databank with various civic groups which included both genders, dissimilar age clusters and varied social class .A total of 945 people were covered through seventeen sessions. Feedback was collected from a sample of 100 persons from among them so as to study the impact of the project. Out of this, 60 % reported that they found it very useful while the remaining 40% rated it useful. Only 4% of the participants knew more than 80% of the content of the databank in turn reiterating public ignorance about e- governance initiatives,

A request that originated from citizen's during these training sessions was for written instructions which could be used as and when needed This led to design and publication of Vivara Nidhi – A Citizen's handbook on e- Governance which literally handholds the public in their efforts to access 23 core e-Governance services by detailing the various steps one has to follow in accessing these in a simple flow chart form which even a layman could follow easily

Phase III-e- Mithram handbook for students and e- Jaalakam@School (January- June 2014

Phase three incorporated following major changes



- Comprehension that a universal tool was not suitable for people belonging to different age groups led to design of a separate handbook for high/ higher secondary school students which included only services which could kindle their interest.
- Training sessions organized in previous phase by undergraduate student volunteers during their holidays/ free time imposed serious constraints on the area and extent of coverage. A wider reaches out and sustainability warranted a different plan of action. The solution visualized was integration with a much acclaimed project in Kerala namely IT@School which has a well established network of operations throughout the state. A joint venture between St. Teresa's College and Regional Resource Centre, IT@School, Ernakulam District was initiated to launch a pilot project to educate 12, 000 students studying in class ten in around 86 Government and aided schools in Ernakulam District in January 2014.
- Some citizens requested for a handbook in the local language which would enhance utility to a large majority of the general public as compared to the English version. Correspondingly an attempt was made to meet this public demand during which it was observed that only around three - five of the twenty three services outlined in the handbook had WebPages in Malayalam while all others had only an English interface. Thereupon, the department communicated

such demands of the public to the Government of Kerala. Thus the project facilitated gradual transformation of citizens from mere acceptors of services to demand generators who strive to influence the type and quality of services. The department also took on the role of a citizen watch group that would keep abreast of latest e-Governance services launched, profile the mode of access in simple terms and make it available to the public

.14) Result achieved

(i) to institution

The project re-enforces the parent institution's motto of women empowerment

(ii) To citizen

- It has developed a number of e-learning tools which has eased common man's method of access to various e-Governance services
- The tools help to change citizen's attitude towards e-Governance services from an "I don't know / I can't/ it is too complicated" mode to "How easy!"
- Imparted awareness on e- Governance to around 14000 people indirectly covering 56000 assuming an average of four people per household
- Led to evolution of a citizen engagement group in e- Governance

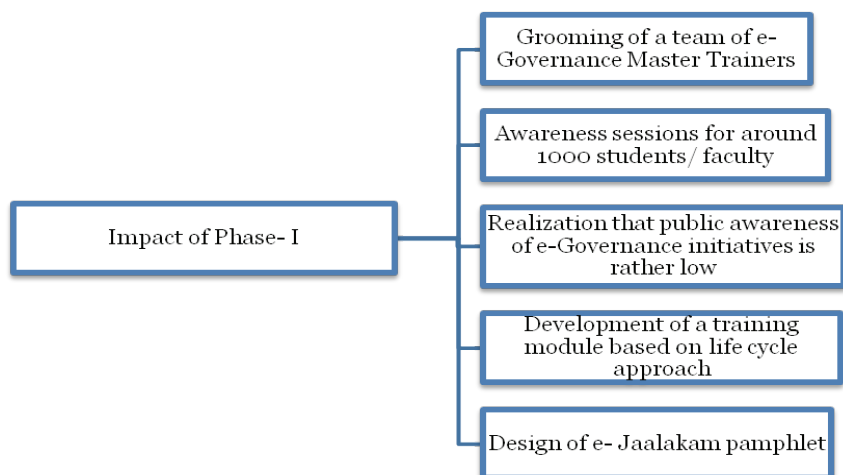
(iii) Other stakeholders

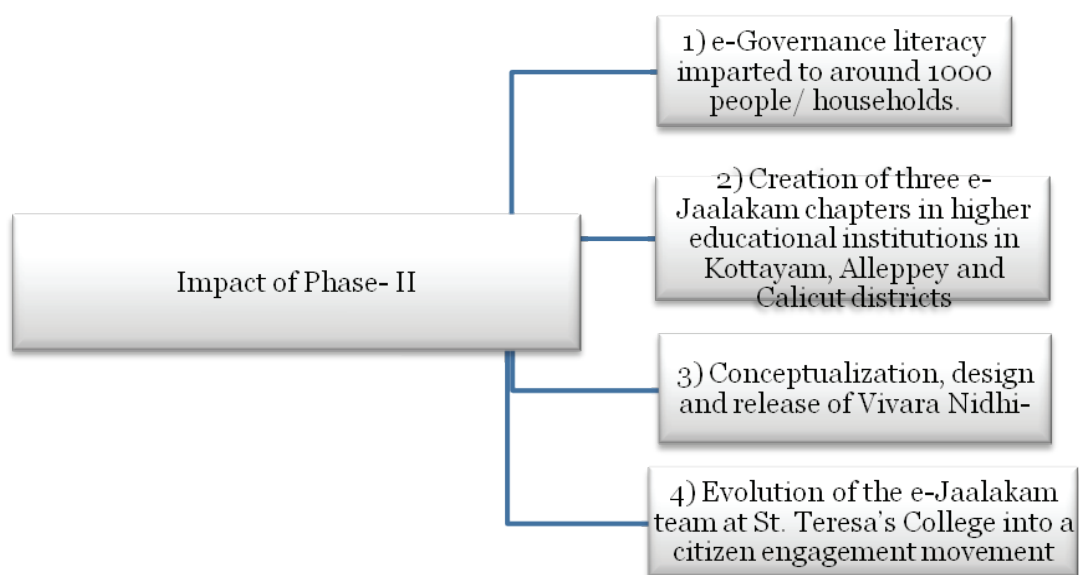
- It has increased the confidence of the student master trainers and made them really empowered young women who can play a positive role in society.
- Highlights the need for holding awareness sessions for the public for realization of potential benefits of G2C initiatives.
- Besides Ernakulam, the project has succeeded in creating three other e-Jaalakam chapters in higher educational institutions in the districts of Calicut, Kottayam and Alleppey. Success in inspiring all these students to take up the social cause of spreading e-Governance literacy is one of the greatest achievements of the project.
- Potential model for other states –The citizen engagement tools developed have attracted interest at the National level

The phase wise impact of the project is highlighted below:

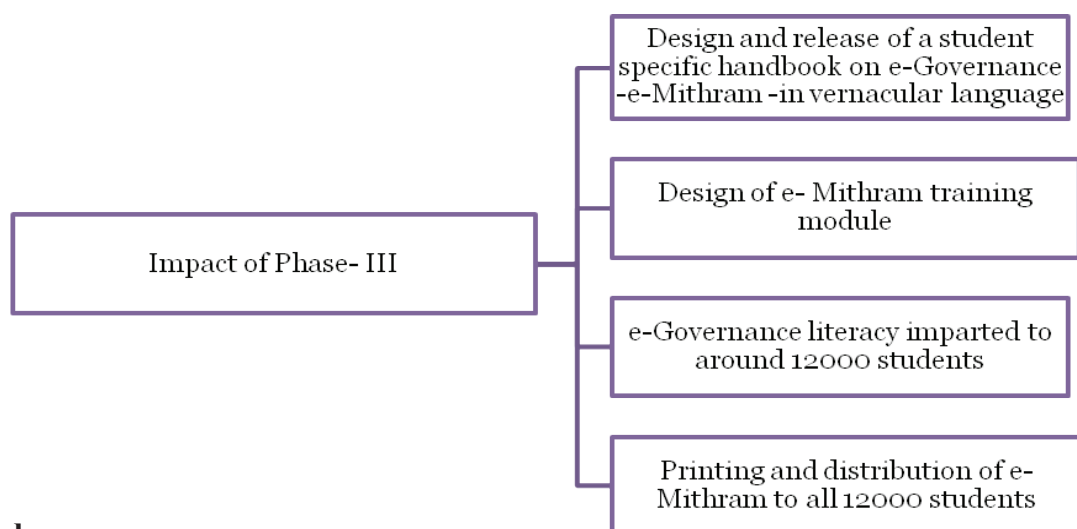
Phase 1:

Phase II:





Phase III



Awards

1. National Award on e-Governance 2014-15 - GOLD under category 'Outstanding e-Governance Initiative by Academic and Research Institutions'
2. Chief Minister's Award for Innovations in Public Systems 2012-13
3. Kerala State e- Governance Awards 2011-13

TCS Financial Inclusion

1. Name of the state/Ministry

N.A.

2. Name of the host/owner organisation

Tata Consultancy Services Ltd

3. Status of the host/owner organisation

Tata Consultancy Services is an IT services, consulting and business solutions organisation that delivers real results to global business, ensuring a level of certainty no other firm can match. TCS offers a consulting-led, integrated portfolio of IT, BPS, infrastructure, engineering and assurance services. This is delivered through its unique Global Network Delivery Model™, recognised as the benchmark of excellence in software development. A part of the Tata group, India's largest industrial conglomerate, TCS has over 324,000 of the world's best-trained consultants in 46 countries. The company generated consolidated revenues of US \$15.5 billion for year ended March 31, 2015 and is listed on the National Stock Exchange and Bombay Stock Exchange in India.

4. Name of the project

TCS' Financial Inclusion Solution Suite .

5. Name of the Nodal contact person

Ajay Shrivastava(National Sales Head-FI)

6. Contact Address

Tata Consultancy Services
Plot No 1, Survey No. 64/2, Software Units Layout
Serilingampally Mandal, Madhapur
Hyderabad - 500034, Andhra Pradesh
India

7. Telephone/Fax/email

Telephone: +91 9246178890
Email: Ajay.shrivastava@tcs.com

8. Project Summary

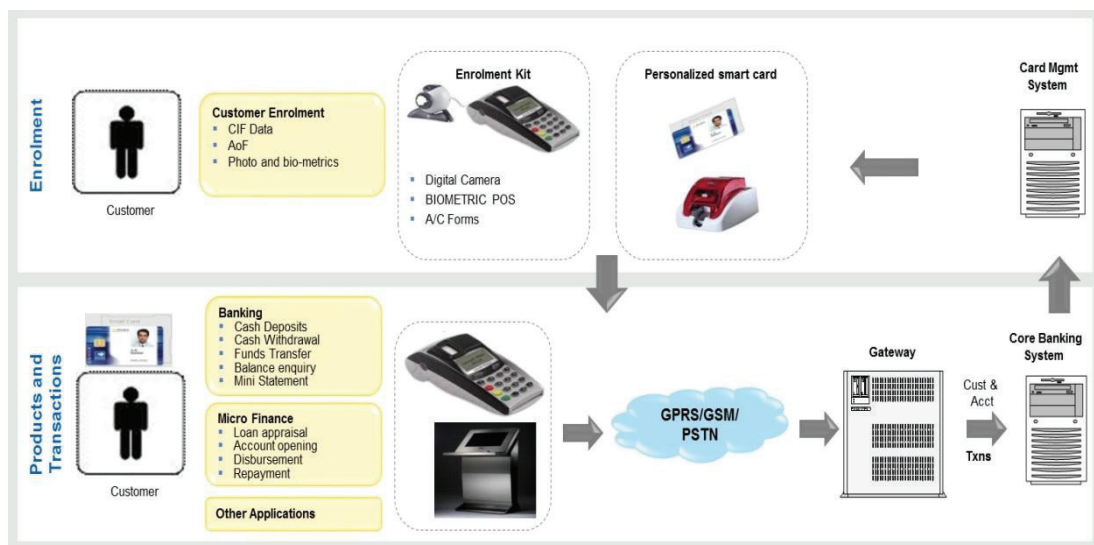
TCS' Financial Inclusion(FI) solution is used to deploy 45,000 Kiosks and 40,000 Hand Held Terminal(HHT) on field by various banks. The following are operational statistics based on the number of units computerized.

- Customer base of over 20 million
- 24 Public Sector Banks
- 5 Private Banks
- 18+ Regional Rural Banks
- 85,000+ locations covered in 27 states
- Over 120 million transactions annually

TCS platform caters to wide range of products namely:



The FI Process Overview:



The suite facilitates the following Financial and Non- Financial services:

- Customer enrolment
- Savings bank, term deposits, recurring deposits and loan account
- Cash transactions, balance enquiry, mini-statement, statement of account
- Remittance and fund transfer
- AEPS and interoperability
- Insurance payments
- Government subsidy payments and Grants, pensions, NREGA

Value Added Services

- Recharge, Top-up Card
- Bill Collection – Electricity, Telephone and so on
- Payments – NEFT/ RTGS
- Payment Gateway – Oxygen, AP-Online, MP-Online
- Salary wages disbursement
- PDS transactions
- Corporate payments and collections
- Purchase of agricultural equipment, fertilizers, seeds, etc.
- Sale and purchase activities carried out by – Dairy, poultry industry etc.

- Information on Government schemes
- Seek Pricing info from external portal interface

These services are made available through the following channels:

- Laptop/PC
- POS/Hand Held Device
- Mobile and Tablets
- Self Service Kiosks



Laptop/PC – Only vendor for FI Kiosk

- Works only in online mode
- Emerging as a preferred option with improving connectivity
- Biometric or non-biometric options; Cardless solution



POS/Hand Held Device

- Works in online and offline mode
- All in one device - Biometric and non-biometric solution (ATM card based), smart card and cardless approach
- Tie up with multiple device vendors/manufacturers



Mobile & Tablets

- Self service as well as assisted service model; cost effective
- Available mode of communications → GPRS, 3G, SMS, USSD
- Best portability in available options



Self Service Kiosk

- Self service model
- Works only in online mode
- Can be stationed in retail outlets

9. Date of Launch of project

Year 2011

10. Coverage(Geographical)

S.N.O.	Parameter	Value
1	National level – Number of State covered	27
2	State/UT level- Number of District covered	500+
3	District level- Number of Blocks covered	4000+

11. Beneficiary of the project

The main beneficiaries of the innovation are

- Rural, Semi Urban and Urban House holds
- Farmers and Land less labourers
- Women Communities
- Self Help Groups
- School Students
- Dalits and Tribals
- Rural and Urban Poor

12. Problem Statement or situation before initiative

Challenges faced by Banking Service Providers, Regulatory bodies and Government Agencies

- Poor Banking Reach: At the onset of the FI program in 2010, despite a network of 82,000 bank branches, banks cater to only 5% of villages.
- High installation and capital cost: The cost of infrastructure, hardware and software required for installing a new branch at remote areas is very high.
- Collaborative Approach: Collaborative participation required between several external stakeholders comprising banking institutions, regulatory directives, hardware vendors, business correspondent agencies, etc.
- Lack of channel for Government Payments: Government Subsidies, Pension Payments and Direct Cash Transfers are not reaching to last mile customers on time and in transparent manner.
- Absence of Standardised Processes: TCS has tried to develop and evolve multiple processes which not only complies with standards set by Regulatory bodies but also help in business growth and risk mitigation. There was no standardization in the specifications of field level devices such as Laptops, Finger Print Scanners.
- Large Untapped Rural Markets: Majority of rural house-holds does not have access to Banking Services.

Challenges faced by Technology Providers

- Scalability: Technology model which can easily grow from single unit to 10,000 units and subsequently to 10, 00,000 units.
- Sustainability: Technology which is not only scalable but gives sustainable business returns in long run
- Replicability: Modular and Layered Technology Architecture which caters to the need of Banks and can be easily replicated across multiple units
- Standardising applications and business processes

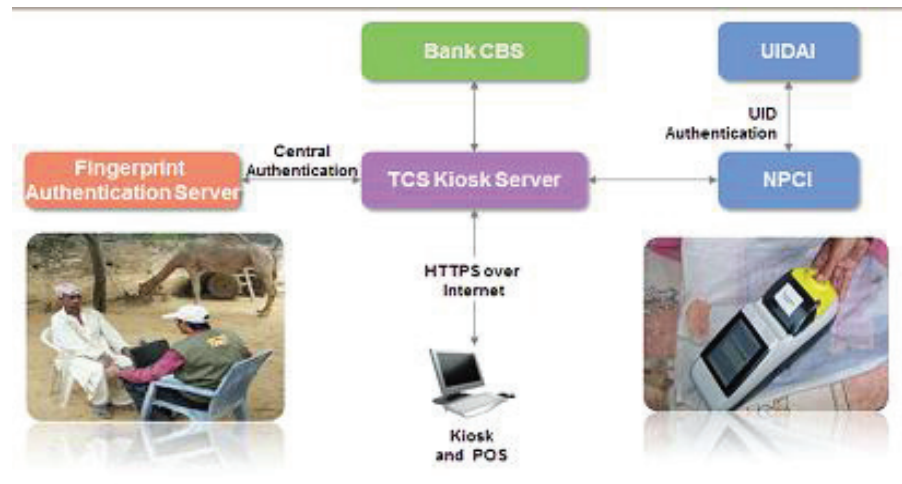
Challenges faced by Last Mile End Customers

- Low Financial Literacy: Villagers are having high dependency on informal credit system with high rate of interest on credit products. There is lack of knowledge about banking products.
- High cost coupled with inconvenience of commuting to Bank: Cost of Transaction for a farmer or a land less labourer at the Bank Branch is high due to travel distance and wait in queues and hesitation in speaking to the branch staff.
- Lack of penetration of Banking Services to rural households.
- Lack of Trust: Due to new technology, most of the times people are not able to trust new innovation which needs to overcome.

13. Project Objectives

To provide banking services to the unbanked, rural, underprivileged population of India.

14. Project Scope Approach and Methodology



TCS has set up a FI Business Unit to implement the various FI programs. The key components of this FI unit are:

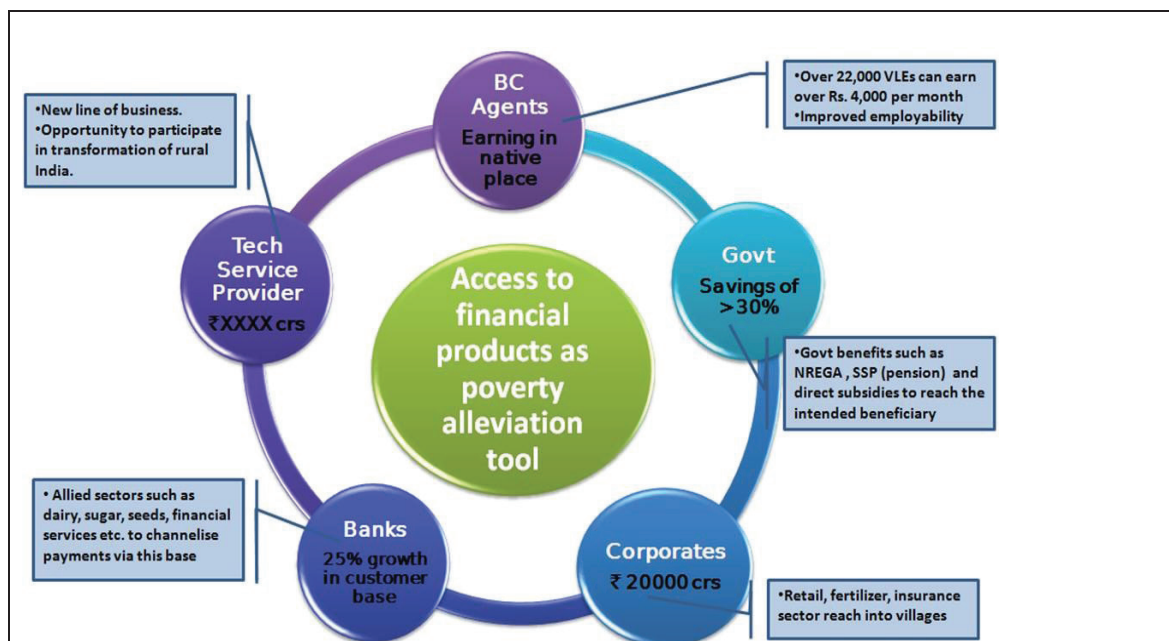
- Setting up of technology infrastructure which includes last mile digitisation through multiple technology options (hand held terminals, kiosks, mobile devices), facility management, smart cards provision for the enrolled customers and day to day operations including reconciliation of end-to-end and financial transactions.
- Setting up Standard Operating Processes (SOP) for scalability, standardisation, controls and a feedback mechanism for innovation and improvements.
- Setting up a team having varied skill-set from reputed institutions with relevant experience to run such innovative end-to-end programs. These skills include technology, Business Correspondent (BC) agents and the corresponding supervisors and managers to provide services in the villages, technical support personnel (TSP) to provide field support and operations and technology development personnel.
- Partnering with multiple entities Non-Government Organisations (NGO), Trusts, commercial organisations, vendors for Point of Sale (POS) terminals, financial institutions for providing services including distribution and personalisation of smart card, providing hand held devices etc. in villages.

TCS FI solution has following features:

- Standard Interface capability and Flexible Architecture
- BC Management and Smart Card Modules
- HHT Management Module
- Secured Transactions
- De-duplication Module

15. Results Achieved/Value delivered to beneficiary of the project and other distinctive features/accomplishments of the project

(i) To organisation



Key Metrics:

SNo	Metrics	Before FI	After FI
1	Customer base	5 Lakhs	2 crores
2	Village Coverage	5000	85000
3	Village Coverage (%)	5%	80%
3	Banks	5	24 PSU Banks, 5 Private and 18+ RRBs
4	Revenue Growth	0	50%

- TCS provided FI Technology has Improved Financial Literacy and awareness of financial services among rural households
- The TCS FI application has enabled timely payment of government subsidies in transparent and efficient manner
- The TCS created ecosystem of Banks, Technology Vendors and VAS (Value Added Services) has resulted in over 120 million transactions across India through FI channel, which has contributed significantly in increased savings and income for rural house holds
- Some quotes from villagers and BC agents on advantages of the recharge facility (translated from local language)
 - 'minimum recharge at local retail shop is Rs 50; while BC agent can provide recharge of Rs 10',
 - 'no need to carry cash; the amount is deducted from bank account',

- '20 Rs recharge gives a balance of Rs 20 whereas in retail shop for a balance of Rs 20 it charges Rs 22',
- 'the nearest store for recharge is 17km while this gives recharge sitting at home'
- We used to get payments through slips. Someone would take the payments in other person's name, but now there is computerized system. Using the smart card I can get loans and pay my bills

Banking Institutions and Government Organizations			
SN	Indicator	Before	After
1	Penetration of Banking Services in rural areas	10%	100%
2	Installation Cost for penetration of Banking services in rural areas	Rs.50,00,000	Rs. 50,000
3	Reach of Insurance Products to rural homes	Low	High
4	Standard Operating Processes and Procedures	Low	High

(ii) To citizen

Following social benefits were achieved through implementation of TCS' FI initiative:

- By providing access to basic banking and financial services in the villages it encourages small savings and facilitates credit to the needy. In the long run it will improve the financial capacity and confidence of the poor and support their overall development
- Brings in financial literacy and awareness of financial services impact is created among rural and semi urban people.
- Provide allied financial products too from the same Business Correspondent agent - one stop shop for all financial products – insurance, loans, bill payments, recharges etc.
- It provides employment to a member of the community as a Banking agent besides increasing the employment in the overall eco-system (TCS, Device vendor, NGO, Banks, and Governments etc.)
- With availability of financial services in the villages and employment of village youth for this program it support retention of people in the villages
- Eco-friendly as significant savings in terms of cost and travel time to the banks, also electronic transactions result in savings on paperwork (no cheques, passbook, electronic photographs, electronic images etc.)
- It also supports Women empowerment cause as in many villages women self-help groups are appointed as banking agents
- It provides a channel for proper authentication and timely disbursement of the government benefit payments to the intended beneficiary thereby preventing and fraudulent activities and assurance of timely receipt of money by the poor
- Rs. 10 micro-savings in account resulting in approx. Rs 6000 annual savings
- Credit history established enabled lending by bank
- To end users:

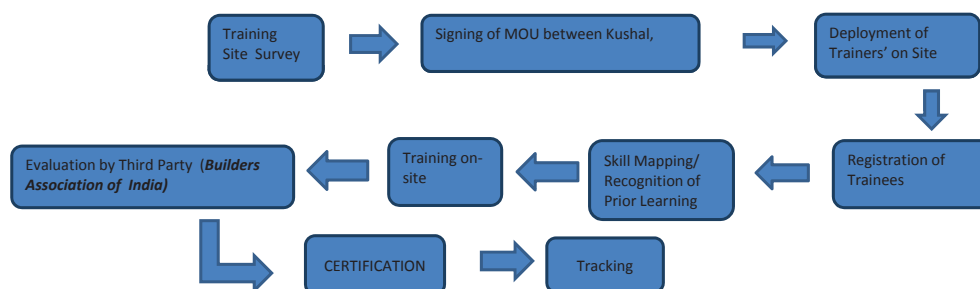
SN	Indicator	Before	After
1	Reduction in Transaction Cost	Rs. 50	0
2	Reduction in Travel Time	2 Hours	15 minutes
3	Timely payment of Government subsidies & Scholarships at customer door step	Low	High
4	Financial Literacy & opportunities for rural house holds	Low	High
5	Credit Off take of Govt. Schemes	Low	High

(iii) Other stakeholders

- The main beneficiaries of the innovation are
- Rural, Semi Urban and Urban House holds
- Farmers and Land less labourers
- Women Communities
- Self Help Groups
- School Students
- Marginalized Communities
- Dalits and Tribals
- Rural and Urban Poor
- The solution is working with SHGs for NREGA payment disbursement and with some dairy institutions for dairy payments. Solution is capable of following:
- The FI technology enables the linkage of SHG with banking system through local BC.
- With the help of FI technology, all members of SHGs can open bank accounts and all transactions can happen through the bank. The data can provide the real time monitoring of Cash Flow for SHGs and SHG Federations.
- SHG acting as BC can enable banking services in the villages, enabling government payments and other payments/collections services.
- Customised financial products can be designed through bank partnership for development of rural community.
- Some of the examples are:
- NREGA payment disbursement at Sangli and other districts of Maharashtra
- Pension payment disbursement at Aurangabad and other districts. The pension payment at Aurangabad has been awarded by GOI
- Partnerships with Self Help Groups for easy, transparent and door-step banking transactions at Raigad, Nashik and other districts of Maharashtra
- Scholarship Payments to school students at many districts of Maharashtra
- BC Agent: Over 1000 SHGs earning Rs. 3000-4000 pm as BC agents
- Government: 10%-15% reduction in Govt. disbursement due to wrong/non-existent beneficiaries
- Bank : Savings balances Rs. 8 lakhs and credit off take of Rs. 3-4 lakhs in sample districts

Kushal Project

S. No.	Description	Write-up
1	Name of State/Ministry	Joint Venture between National Skill Development Corporation and CREDAI Pune Metro (PPP Model)
2	Name of the Host/Owner of the Organisation	CREDAI Pune Metro
3	Status of the Host/Owner Organisation	Kushal is registered under Bombay Public Trust Act & The Society Act
4	Name of the Project	Kushal CREDAI Pune Metro
5	Name of the Nodal Contact Person	Col (Dr) J R Sharma, SM (Retd)
6	Contact Address	501 & 502, Mantri Terrace, Thube Park, Near Sancheti Hospital, Shivaji Nagar, Pune 411 005
7	Telephone/Fax/E-mail	020-2553 0433/083909 06372; ceokushal@gmail.com Kushal is a project, joint initiative between CREDAI Pune Metro and National Skills Development Corporation (NSDC). Kushal is Vocation Training Provider and is into upskilling and Training Construction Workers. The model we follow is on-job-on-site, earn-while-you-learn which entails Zero-wage Loss for Construction Workers, but, at the same time lead to wage rise and skill upgradation
8	Project Summary	
9	Date of Launch of Project	We received our first grant on 4th July, 2011 from NSDC
10	Coverage (Geographical)	Pune City; MOU Signed with CREDAI Chennai, CREDAI West Bengal & CREDAI Nashik
11	Beneficiary of the Project	Construction Workers : got upgraded, upskilled and lead to wage hike, thereby better quality of life. A chance towards career pathing, instances of workers becoming Contractors themselves; Developers : Speed of Work entailing Timely completion of Project, Reduced Wastage, Saving of Material Cost; Contractor : Less or no Re-work, Skilled & Trained Workforce, Better Productivity & Results This sector is also one of the most unorganized sectors in India and faces huge shortage of skilled workers on the construction sites. - labour is migratory in nature, - high demand for Construction Workers, - no Qualification Threshold to join Industry, - Lack of incentive to get trained and skilled, - Being illiterate and poverty-stricken cannot spend on upgrading and training himself.
12	Problem Statement or Situation before initiative	
13	Project Objectives	To train 1 lakh Construction Workers as Skilled Manpower over a period of 12 years. In that train 20,000 workers in the first 3 years and this milestone was achieved on 31st March, 2015
14	Project Scope Approach and Methodology	Process diagram or flow chart for the steps involved vis-à-vis approach and Methodology



Pioneering and Ground-breaking Approach :

- Developed curriculum that would be suitable to an on-the-job-on-the-site training model envisages 80% Practical and 20% Classroom training in which the worker earns while he learns. Having overcome the challenge there was no wage-loss for workers and this way it garnered excellent participation.
- Course Content and Syllabus Designed & Developed in a manner that is easily comprehensible by semi-literate, barely literate Construction Workforce, so much so that the same can be translated in any of the Regional Languages of India.

- Hiring Trainers who would speak the language of the workers, and would physically be able to teach them by doing the job themselves, be demonstrative ,hands-on, thus KUSHAL sought out people who have themselves worked in the respective trades for 15-20 years and are thoroughly skilled in their craft.
- In order to train the trainers to be able to teach the curriculum we have a rigorous Training-of-Trainer Program which equips the Trainers to upgrade themselves, the said Trainers are equipped, hand-helded, mentored under Supervisors & Principal Academics.
- Developing a Recognition of Prior Learning/ Skill Mapping system and a database of the trained workers.
- Tracking the trainee and see if there has been a wage increase.
- Evolving a transparent system of evaluation;

Methodology :

Training is provided in 6 Trades :-

① Shuttering ② Bar Bending ③ Masonry ④ Tiling ⑤ Plumbing ⑥ Painting.

Trainers are Registered with 18 Digit unique ID :-

18 Digits Unique ID Code for Kushal Trainees								
Trainee Name	Unique ID	State	District	Year	Month	Trade	Center	Trainee number
Krishnanad Shriram Paswan	212503040343914752	Maharashtra	Pune	2013-14	Apr	Masonry	Nyati Wind Chimes	Serial Number

- first 2 digits denote state to which he belongs,
- next 2 digits denote the district from where he hails.
- The next 2 digit each are for year and month of his registration, Trade & Centre each make up for the 2 digit code followed by 6 digit unique Trainee number.

Trainers are experienced foremen doing hands-on work for more than 15 years; a month of induction period is spent to instil the pedagogy of KUSHAL

Audio Visual Training Aids : Training is imparted by making use of Trade Films & Training is implemented using PROTAB (Tablet with Projector).

Mobile Training Van : State-of-the-art van equipped with Big Screen etc., to address large audience which goes from site-to-site.

Soft Skills Training : Construction Workers are urged and encouraged to stay away from vices like Tobacco, Alcohol. Soft Skills Training

Kushal Encourages its Trainees (Construction Workforce) to open Bank Accounts & enroll for Aadhar Cards

Safety : Safety is given lot of stress and Construction Workforce are made aware of Safe working practices by way of Training, Safety Posters, encouraging them to use safety Helmets, Jackets, Harness etc.,

In its endeavours to instill & teach soft skills which covering myriad topics like Safety, Health & Hygiene as in more ways than one they directly-indirectly is indeed affecting workers quality of life and performance at work.

Post Training Status Tracking :

Our Database Team diligently tracks, keeps tab on how Trainees are faring by being in touch with them and assess wage increase post-training. The data thus maintained has shown that approx. 80% of tracked Trainees have had wage rise. Tracking takes place by way of :-

- 1.Pre evaluation video;
- 2.Post evaluation the Trainees are issued 2 Post cards, the same are self-addressed, pre-printed, containing questions like current salary, current site & mobile number etc.,;
3. Phone calls to the Trainees on Sundays after Training is over

Our Database Team thus tracks progress very efficiently. MIS Database is concerned, it is a Relational Database Management System based information system that supports trainee registration, evaluation, certificate preparation & distribution and manages tracking data process. Software covers entire gamut of Tracking activity

15 Result Achieved/Value Delivered to Beneficiary of the Project and other Distinctive features/accomplishments of the Project

Kushal is helmed by Mr. J P Shroff, Chairman of Steering Committee and other Members of committee comprising of Mr. Ranjit Naiknavare, Vice Chairman; Sameer Belwalkar, Hon. Secretary HR, Legal & Admin; Mr. Abhijit Achalare, Secretary; Mr. Kapil Trimal, Joint Secretary; Mr. Rupesh Banthia, Treasurer, Mr. Madan Thombare, Member; Mr. Kavish Thakwani, Member; Mr. Shrikant Nagarkar, Member & Mr. Sandeep Maheshwari, Member. Steering Committee Members provide Guidance, Mentorship, Advise, Direction, Support to Kushal. Kushal strives for Excellence, best way to be better is to compete with the champions from across Globe. Kushal is fielding Team which shall be representing India for the first time in the Category of Construction and Building Technology under skills Wall and Floor Tiling & Bricklaying in World Skills Competition Sao Paulo Brazil, August 2015. Prior to that 2 competitors who shall be representing India in each skill mentioned above were chosen from National Level Selection in October 2014 after that they, Parusharam Nayak & Tikam Singh participated in World Skill Oceania Regional Competition and won Bronze for India. This success proves that Kushal's Training shall stand them in good stead and they will be able to compete with the best in the world.

The success at Hamilton, New Zealand has proved to be a shot in the arm, as, Kushal Trained Parusharam Naik & Tikam Singh were felicitated by Prime Minister of India Mr. Narendra Modi at Vigyan Bhavan, New Delhi on 15th July, 2015 during 1st World Youth Skills Day at Launch of 'Skill India' Mission.

Both the competitors are in Sao Paulo Brazil for World Skills Competition right now, being held between 11-16 August, 2015

Statistics as on 10th August '15 :

Workers Registered: 34412

Workers Trained: 22962

Workers Certified: 21533

Total sites covered: 176

Total contractors covered: 2500+

Total developers covered: 71

Total Bank accounts opened: 7024

Total Aadhaar Card Opened: 195

The following 13 International/National Awards won by Kushal so far are the Testimony of the success of this model :

UK-India Skill Forum Award - 2011 (Best Skill Provider – Government Funded).

CIDC Vishwakarma Award - 2012 Achievement Award for Construction Skills Development.

Construction Week India Award - 2012 (Excellence in CSR Award).

NSDC's Business Innovation Award - 2013.

eIndia Public Choice Award - 2013 (Certificate of Excellence).

Tata Institute of Social Science (TISS) Gold Award for ON-JOB Training Program 2013.

Best Compliant NSDC Partner Award - 2014

Certificate of Recognition Award – 2014, Financial Inclusion and Payment Systems (FIPS)

Tata Institute of Social Sciences–Leapvault CLO Award Oct 2014: Award in "Apprenticeship - Skill Development Efforts - Honourable Mention"

ASSOCHAM India Award 2014-15 for Best Vocational Training Provider (VTP) - Training.

Government of India National e-Governance Award 2014-2015 for Use of Information and Communication Technology for development by Non-Government Institutions 2014-15.

7th CIDC Vishwakarma Awards, 2015 – Achievement Award for Construction Skill Development.

GOLDEN GLOBE TIGERS CSR Award 2015 in Malaysia under Training & Development Category.