

FOSTERING E-GOVERNANCE

SELECTED COMPENDIUM OF INDIAN INITIATIVES

A selection of major e-Governance initiatives in
Departments and Projects which competed for coveted
CSI-Nihilent e-Governance Awards for the year 2008-09.
The Awards were presented during Annual Convention of
Computer Society of India (CSI-2008) at Pune on 9 October 2009.

– Editors



Computer Society of India

About CSI

The Computer Society of India (CSI) is the largest association of Information Technology professionals in India, with over 30,000 members comprising software developers, scientists, academicians, project managers, CIOs, CTOs and students, among others. The society has 65 chapters spread across the length and breadth of the country. Being closely associated with students, the Society has developed a well-established network of nearly 300 student branches. The purposes of the Society are scientific and educational, directed towards the advancement of the theory and practice of computer science & IT. Please visit www.csi-india.org. Every year CSI conducts its annual convention in different parts of the country thereby providing platform to computer users to interact with specialists. Since 2005, e-Governance Awards are being conferred during the annual convention. 2008-2009 Awards were given during CSI-2009 on 9 October 2009 at Pune, supported by CSI Special Interest Group on e-Governance. (SIGeGOV).



About Nihilent

Nihilent is a SEI CMMI® Level 5 assessed and ISO 9001:2000 certified global consulting and solutions integration company using a holistic and systems approach to problem solving. Headquartered in Pune, India, Nihilent's executive team has over 350 person years of experience in international consulting, IT outsourcing and IT services. Nihilent's operations span across North America, Europe, Africa, Middle East and Asia. Our mission 'Change for Performance' encapsulates our commitment to make change happen systemically in terms of people, process, technology and knowledge for achieving sustained performance for our clients. Nihilent has taken several initiatives to partner governments across the world in moving in the direction of good governance. Please visit www.nihilent.com.

Icfai Books™

An Introduction

Icfai Books is the initiative of the Icfai University Press to publish a series of books in the areas of finance, management and allied areas with a special focus on emerging and frontier areas. These books seek to provide, at one place, a retrospective as well as a prospective view of the contemporary developments in the environment, with emphasis on general and specialized branches of knowledge and applications.

The articles are organized in a sequential and logical way that makes reading continuous and helps the reader acquire a holistic view of the subject. This helps in strengthening the understanding of the subject better and also enables the readers to stretch their thoughts beyond the content of the book. These series are designed to meet the requirements of executives, research scholars, academicians and students of professional programs. The Icfai University Press has published over 2200 books in these series. For more details about these books, readers are invited to visit our website: www.books.iupindia.org.

FOSTERING E-GOVERNANCE
SELECTED COMPENDIUM OF INDIAN INITIATIVES

Edited by
Piyush Gupta
R K Bagga
Sridevi Ayaluri



Icfai Books™

The Icfai University Press

FOSTERING E-GOVERNANCE:
SELECTED COMPENDIUM OF INDIAN INITIATIVES

Editors: Piyush Gupta, R K Bagga and Sridevi Ayaluri

Copyright © Piyush Gupta, R K Bagga and Sridevi Ayaluri, 2009/The Icfai University Press.
All rights reserved.

Although every care has been taken to avoid errors and omissions, this publication is being sold on the condition and understanding that the information given in this book is merely for reference and must not be taken as having authority of or binding in any way on the authors, editor, publisher or sellers.

Neither this book nor any part of it may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, microfilming and recording or by any information storage or retrieval system, without prior permission in writing from the copyright holder.

Trademark notice: Product or corporate names may be trademarks or registered trademarks, and are used only for identification and explanation without intent to infringe.

Only the publishers can export this book from India. Infringement of this condition of sale will lead to civil and criminal prosecution.

First Edition: 2009

Font: Electra LT Regular

Printed in India

Published by



The Icfai University Press

52, Nagarjuna Hills, Punjagutta

Hyderabad, India-500 082

Phone: (+91) (040) 23430 – 368, 369, 370, 372, 373, 374

Fax: (+91) (040) 23352521, 23435386

E-mail: info@icfaibooks.com, icfaibooks@icfai.org, ssd@icfai.org

www.books.iupindia.org

Icfai Team:

Editorial Co-ordinator: Ved Prakash

Sub-editors: V Sandhya Srikanth and M Manorama

Quality Support: S Sreedar and Ch Ramesh

Cover and Layout Designers: B Yugandhar, J K Vadana and D Radha Krishna

ISBN: xxx

The views and content of this book are solely of the author(s)/editor(s). The author(s)/editor(s) of the book has/have taken all reasonable care to ensure that the contents of the book do not violate any existing copyright or other intellectual property rights of any person in any manner whatsoever. In the event the author(s)/editor(s) has/have been unable to track any source and if any copyright has been inadvertently infringed, please notify the publisher in writing for corrective action.

ABOUT THE EDITORS

Piyush Gupta has 25 years of experience in the area of information technology, management and e-Governance. At present he is with the National Institute for Smart Government (NISG), an organization established by various Central Govt. Ministries, State Govt. and NASSCOM, and is working with the Ministry of Communication & IT and various State Govt's as strategic consultants in the domain of e-Governance.

Piyush has been instrumental in formulating and anchoring various e-Governance workshops for the political and policy leaders of various states. Some of the major initiatives include building long term capacities within Government and strategies for Institutional capacity building in the domain of e-Governance. These include e-Government Champions Training Program, and a one-year executive programme on e-Governance.

His experience includes working in Government, public sector and multinational organisation, and also as an entrepreneur. He has been involved as a member of the Advisory Committee in various prestigious organisations like The Commonwealth Center for e-Governance – India Chapter (CCEG-IC), United Nations ICT Task Force 'ICT Policy and Governance', "Human Resource Development" working group, member on the panel of ISO Auditor for IT companies with DNV (Norway) Certifying agency, member of the Accreditation Committee expert panel under DOEACC set up by Government of India for accrediting private computer training institutes under 'O' and 'A' level.

Piyush has been a invited as guest faculty to various institutions, and an invited speaker at national and international conferences. He has published number of papers and co-edited a book "Compendium of e-Governance Project Initiatives in India", 2007. He was a member of Jury on various eGov awards panel in India.

He is life member of Computer Society of India, Chandigarh Management Association. Piyush is widely travelled in India and other countries. He is Post graduate in Statistics and Management, and is pursuing research on e-Gov project assessment under discipline of Management Science.

Maj. Gen. (Dr.) R K Bagga joined the Army through National Defence Academy in 1955 and obtained his engineering degree from College of Military Engineering, Pune in 1964. While in service he obtained his M Tech (Computer Science) from IIT Kanpur in 1977 and Ph.D in Simulation from Osmania University in 1991. He also holds Masters in Sociology and Degree in Law from Agra University (1965-67).

Dr. Bagga has over 4 decades of service in Army (EME), including 20 years in Defence R&D Organisation, where he spearheaded Computer Activities in the Integrated Guided Missile Development Programme (IGMDP). He is the recipient of Ati Vishisht Seva Medal (AVSM) for distinguished service of exceptional order in providing computing resources and for software development for the Missile Programme.

A dedicated computer professional, he was the Chairman of India Council of IEEE in 1997 and 1998. He is Fellow of Institution of Electronics and Telecommunication Engineers (India) and Institution of Engineers (India). He was honoured by CSI with its Fellowship Award in 1998. He was Chairman Div V & VII of Computer Society of India from 2001-2005, dealing with Networking and Data Security. He is Convener of CSI-Nihilent e-Governance Awards from 2006-2008.

General Dr. Bagga is at present Advisor, Outreach Division at the International Institute of Information Technology, Hyderabad. Earlier, he was CMC Chair Professor in Information Technology at Administrative Staff College of India from 1998 to 2004. He was responsible for launching innovative Management Development Programmes at ASCI in the area of ERP, e-Commerce, e-Governance and Internet Technologies for practising Managers from India and

Commonwealth Countries. He conducted a number of very successful Workshops on IT Policies, e-Governance Application and Digital Divide, where all stakeholders were invited to share their experiences.

Apart from being Consultant/Advisor to a number of leading Software companies, including Satyam Computer Services Ltd., Gen. Bagga is on Advisory Board of educational institutes like Aurora Group of Colleges, Badruka College of IT, GNITS and Guru Nanak Engineering College, dealing with IT Education. He is at present guiding number of Research Scholars for their Ph.D in Osmania and JNT Universities.

Sridevi Ayaluri has over 9 years of experience in the field of IT and e-Governance as a trainer and capacity building. Presently she is working with the National Institute for Smart Government, NISG as Project Manager, Capacity Building & Knowledge Management.

Sridevi is associated with various National and State level capacity building initiatives in eGovernance, under the National eGovernance Plan of India. She is involved in designing and conducting programs for political leaders and policy level officials of various States in the Country. Sridevi has been instrumental in conceptualising and operationalising a one-year eGovernance Program for Executives, eGPX program in India. She is also working in the area of knowledge management in Government departments.

ACKNOWLEDGEMENTS

Over the last few years there have been many persons who have influenced and supported us in our endeavor. I would like to express my sincere gratitude to the Computer Society of India (CSI) for providing me the opportunity to participate in the e-Governance Awards process leading to the creation of this compilation. This has been possible only through the total support of, Shri S Mahalingam, President, CSI and Prof P Thirumurthy, Vice-President, CSI and all the members of Executive Committee of CSI.

Special thanks are due to Dr Ashok Agarwal, Dr R K Bagga, Prof G P Sahu, Dr MP Gupta, Mr Satish Babu, Dr Mahesh Chandra, Mr S P Singh, Mr S R Das for assisting, as Members of Selection Committee, and Mrs Sridevi A in the process team. Prof ML Sai Kumar, Dr M Chandwani, Dr R P Gupta, Dr Tanuj Nandan, Mr Prabhu Datt Dwivedi, Mr MC Jayakrishnan, Prof H R Vishwakarma, Mr Bipin Mehta, Dr Phalguni Mukherjee, Dr A K Ramani and Mr KS Vijaya Sekhar need special thanks for participation in the field visits.

Core Group members (Dr Ashok Agarwal, Dr R K Bagga, and Mrs Sridevi A) have been regularly interacting to guide the conduct of the Award process through different stages of the Award and deserve our special gratitude. Our thanks to Mr L C Singh, Mr Ravi Teja and Harish Rao of Nihilent Technologies for supporting this entire effort.

My thanks to each and every one of the authors of the papers included in this book for their time and effort. Mr J Satyanarayana and Ms Joan McCalla deserve special thanks for their paper contributions in this book. As Convener of CSI Nihilent

e-Governance Awards 2008-09, I will be failing in my duty if I do not acknowledge all the States, Departments, Districts and Project teams particularly IT and other Secretaries for sending their nominations as well as details of results and enablers for evaluation by our Selection Committee. All of us are grateful to States, Departments, Districts and Project teams for frank discussions during our field visits and sharing their experiences. Prof G P Sahu who undertook the evaluation process for District Awards this year needs special thanks. It has been a wonderful learning experience for all of us.

I want to complement all teams who submitted nominations and helped us with their online submissions in this year awards. Special complements to award winners for the year 2008-09 for their well-deserved recognition. All of us were convinced that 2 States, 5 Departments, 5 Districts and 23 Projects short-listed were of very high standard and deserved recognition. Let me thank all the enthusiastic members from various states who made presentations to the Selection Committee during field visits and the final meeting held at Hyderabad.

Lastly, thanks to our Secretary Ms A Janaki from SIGeGOV, Mr Chinmay Mathur and Mrs Rekha from NISG and the team at Icfai Research Centre, Hyderabad who gave us full support in making this book possible. In particular, special thanks to Mr Ved Prakash, the team of able sub-editors including Ms V Sandhya Srikanth, Ms M Manorama and Mr Sreedar and designers Ms J K Vadana, Mr Ch Ramesh and Mr D Radha Krishna and the visualizer Mr B Yugandhar.

I would like to end this with a note by Albert Einstein – “The level of thinking that got you to where you now are will not get you to where you dream of being”.

– Piyush Gupta

Convenor, CSI-Nihilent e-Governance Awards 2008-09
e-mail: piyush.gupta@nisg.org

CONTENTS

<i>Foreword by S Mahalingam, President, CSI</i>	i
<i>Message by L C Singh, President & CEO, Nihilent</i>	iii
<i>Preface by Piyush Gupta, R K Bagga and A Sridevi (Editors)</i>	vii
<i>Abbreviations and Acronyms</i>	ix

SECTION I

E-GOVERNANCE EVALUATION – OVERVIEW

1. Framework for Designing SLAs for e-Government Projects <i>J Satyanarayana, IAS, Principal Secretary, Department of Medical, Health & Family Welfare, GoAP</i>	3
2. Integrated Delivery of eServices – Lessons Learned from International Experience <i>Joan McCalla, Distinguished Fellow, Internet Business Solution Group, CISCO Systems Inc.</i>	11
3. Law on e-Governance: A Primer <i>Vakul Sharma, Advocate, Supreme Court of India</i>	22
4. Audit Perspectives for e-Governance Projects <i>Neelesh Kumar Sah, Director, IT Audits, O/o Comptroller and Audit General of India</i>	32
5. Evaluation of e-Governance Initiative at District Level in India: Andhra Pradesh Experience <i>R K Bagga, Pranav Kumar Vashista, K S Vijaya Sekhar, IIIT-H and Piyush Gupta, NISG</i>	45
6. Approach and Methodology for Project Assessment CSI-Nihilent e-Governance Awards 2008-09 <i>Piyush Gupta, Sridevi Ayaluri, NISG and R K Bagga, IIIT-H</i>	87

SECTION II

E-GOVERNANCE DEPARTMENT INITIATIVES

- | | | |
|-----|---|-----|
| 7. | MP State Education Portal* | 109 |
| | <i>M Vinayak Rao, Sr. Technical Director and State Informatics Officer,
NIC, Madhya Pradesh</i> | |
| 8. | Accounts – Online, Government of Goa* | 125 |
| | <i>Archana P Nagvekar, Scientist/Senior Systems Analyst, NIC, Goa</i> | |
| 9. | Integrated Financial Management System (IFMS)* | 138 |
| | <i>Tapan Ray, IAS, Principal Secretary (E.A.), Finance Department, Gujarat</i> | |
| 10. | Rajasthan VAT IT Implementation Project | 151 |
| | <i>Ramesh C Sharma, Analyst Cum Programme (ACP),
Commercial Taxes Department, Rajasthan</i> | |

SECTION III

E-GOVERNANCE DISTRICTS INITIATIVES

- | | | |
|-----|--|-----|
| 11. | e-Governance Initiatives in District, Sagar, Madhya Pradesh* | 173 |
| | <i>Hiralal Trivedi, Collector, District Administration</i> | |
| 12. | IT Enabled Integrated Services through e-Mitra, Sushasan*,
Single Window & Apna Khata in District Pali, Rajasthan | 186 |
| | <i>Prithvi Raj, District Collector & District Magistrate and
Arun Purohit, ADM, Revenue, Pali</i> | |
| 13. | Towards Excellent eGovernance, Junagadh District, Gujarat* | 195 |
| | <i>Ashwini Kumar, Collector & District Magistrate and
Atul Khunti, DIO & Technical Director, NIC, Junagadh</i> | |
| 14. | e-Governance Initiatives for Faridabad District by
Municipal Corporation, Faridabad (MCF), Haryana | 214 |
| | <i>Ramesh Bansal, Xen-cum-Nodal Officer, e-Governance,
Municipal Corporation, Faridabad</i> | |
| 15. | Kannur District, Kerala* | 233 |
| | <i>Rathan U Kelkar, Director, Kerala State IT Mission</i> | |
| 16. | Jalgaon District, Maharashtra* | 240 |
| | <i>Kunal Kumar, Collector & District Magistrate and Pramod Borole,
DIO, NIC, Jalgaon</i> | |

SECTION IV

E-GOVERNANCE PROJECTS

- | | |
|---|-----|
| 17. Unified End-To-End e-Procurement Platform* | 253 |
| <i>D S Ravindran, CEO, Centre for e-Governance, Karnataka</i> | |
| 18. MPOnline | 266 |
| <i>Satnam Sethi, Chief Operating Officer, Madhya Pradesh</i> | |
| 19. Indore Municipal Corporation e-Governance Project | 285 |
| <i>Jitendra Singh, IT Officer, Department of Information Technology, Madhya Pradesh</i> | |
| 20. Aarogyasri Health Insurance Scheme* | 303 |
| <i>Babu A, IAS, CEO, Aarogyasri Health Care Trust, HM & FW Department, Government of Andhra Pradesh</i> | |
| 21. Gyan-Vinimay (e-Classroom) | 326 |
| <i>Ashutosh Mishra, IFS, Additional CEO, Chhattisgarh infotech & biotech Promotion Society (CHiPS), Chattisgarh</i> | |
| 22. Online Filing of RTI Complaint and Appeal at Central Information Commission* | 334 |
| <i>Pankaj K P Shreyaskar, Deputy Secretary & Joint Registrar, CIC and Durga Prasad Misra, Delhi</i> | |
| 23. India Development Gateway | 357 |
| <i>C Kathiresan, Project Manager, InDG, C-DAC, Hyderabad, Andhra Pradesh</i> | |
| 24. e-Krishi-Market Driven Agricultural Initiative through IT Enabled Agri Business Centres in Kerala* | 370 |
| <i>Rathan U Kelkar, IAS, Director, Kerala State IT Mission</i> | |
| 25. Implementation of the Indian National Tsunami Early Warning System* | 380 |
| <i>T Srinivasa Kumar, Head-ASG, Indian National Center for Ocean Information Services (INCOIS), Ministry of Earth Sciences, GoI</i> | |
| 26. Gujarat Common Entrance Test | 391 |
| <i>Manish Bharadwaj, IAS, Director, Technical Education, Govt. of Gujarat</i> | |
| 27. Old Age Pensioner's Payment & Monitoring System | 404 |
| <i>Mahendra Narayan Singh, District Informatics Officer, National Informatics Center, Jharkhand</i> | |

28.	Hospital Management System – Tripura <i>C K Dhar, State Informatics Officer, NIC, Tripura</i>	420
29.	Hospital Management System – Gujarat <i>Vineet Mishra, HOD Professor, Institute of Kidney Diseases and Research Centre and Institute of Transplantation Sciences</i>	427
30.	hsCAPNIC – Higher Secondary Centralized Allotment Processing* <i>M Asir Edwin, Technical Director, NIC, Kerala</i>	438
31.	APGO – Automatic Uploading of Government Orders – Online GO Management <i>G Jacob Victor, Joint Director (e-Governance), IT&C Department, GoAP</i>	447
32.	TWADNEST* <i>A Rajasekar, Manager (EDP), TWAD Board, Tamilnadu</i>	453
33.	Human Resource Management System* <i>D S Ravindran, CEO, Centre for e-Governance, Karnataka</i>	464
34.	PRISMS – Prisons Management System* <i>Revati Mujumdar, Manager Projects, Goa Electronics Limited, Goa</i>	477
35.	Sulekha – Plan Monitoring System* <i>M K Prasad, Executive Chairman & Director, Information Kerala Mission and K Premkumar, Kerala</i>	489
36.	Energy Billing System – Tripura* <i>C K Dhar, State Informatics Officer, NIC, Tripura</i>	501
37.	ICT in Gujarat Judiciary* <i>Sonia Gokani, Registrar (IT), High Court of Gujarat</i>	510
38.	Chhattisgarh Geographical Information System* <i>Ashutosh Mishra, IFS, Additional CEO, Chhattisgarh infotech & biotech Promotion Society (CHiPS), Chattisgarh</i>	522
39.	Information Security Management System Implementation for GUVNL* <i>Jagdeep S Kochar, Executive Director, (n) Code Solutions, Gujarat</i>	529
40.	E-Suvidha <i>Nilkanth Poman, Computer Officer, Computer Department, Pimpri-Chinchwad Municipal Corporation, Pimpri, Pune, Maharashtra</i>	540

41. Open Opportunity for the Civil Society for Participatory Governance	554
<i>Akhilesh Argal, Director (Governance), School of Good Governance and Policy Analysis, Bhopal, Madhya Pradesh</i>	
42. e-Integrated Co-operative Development Projects (e-ICDP)	568
<i>Tajwar Musharraf, Scientist-C, NIC M.P State Centre, C-Wing Basement, Vindhyachal Bhawan Bhopal, Madhya Pradesh</i>	
43. Drug Logistics Information & Management System	580
<i>Ramila ben S Patel, System Analyst, Central Medical Stores Organization, Gandhinagar, Gujarat</i>	
44. Xtended Green Node (XGN)	586
<i>P J Vachhani, Environmental Engineer, Gujarat Pollution Control Board Paryavaran Bhavan, Gandhinagar Gujarat</i>	
45. GeoAmpere – An Intelligent Decision Support System for Electrical Network Planning	593
<i>Dhiraj Kumar Muniya, Assistant Engineer, Distribution Planning Cell, Madhya Pradesh Paschim Kshetra Vidyut Vitaran Co. Ltd., Indore, Madhya Pradesh.</i>	
46. GePNIC-Government e-Procurement Application	601
<i>Nihar Ranjan Biswal, Scientist 'C', National Informatics Centre, Sachivalaya Marg, Unit – IV, Bhubaneswar, Orissa</i>	
47. PayManager (State wide)	618
<i>I D Variyani, Scientist 'D', National Informatics Center, Rajasthan State Centre 8318, SSO Building, Secretariat, Jaipur, Rajasthan</i>	
• Annexure: About CSI Special Interest Group on e-Governance	631
<i>Ashok Agarwal</i>	
• Index	647
• Author Index	651

* Winner of CSI Nihilent e-Governance Awards 2008-09

FOREWORD

Computer Society of India (CSI), the largest association of Information Technology professionals in India and Nihilent, a global consulting and solution integration company in India, have had a long association in evaluating e-Governance projects and recognizing the best among various categories. The awards for this year will be presented, as has been the practice, at the Annual Convention of CSI to be held at Pune from October 8 to 10, 2009. I must commend the team which has compiled all the nominated entries and presented it as a book.

At CSI, we have noted with great satisfaction the considerable progress that has taken place in the area of e-Governance at all levels in India. The citizen to government interface, the workflow, the delivery of service and tracking of performance through MIS have been handled in a number of applications developed across the length and breadth of India. Ministry of Information Technology, Government of India, as well as specialist organizations created by the government have laid out the ground rules and chalked out a mechanism for creating and maintaining applications in this area. The proliferation of applications, though welcome, also raises a question as to whether there is enough sharing of best practices and learning from each of the governing units in India. Given the resource crunch in India, we need to avoid duplication.

Through this award process, we are attempting to gather information on all e-governance applications which are making a difference to the governance process in India. Through this book, we are disseminating knowledge to interested stakeholders on what has been achieved so far. While the award process ends with a selection, I would say that each of the participating units also benefit by the rigour of examination by an eminent panel. The Special

Interest Group in CSI on e-Governance also has held Regional Knowledge-sharing programmes, bringing together top level administrators. The focus is on sharing and in developing a rigorous process of evaluation and benchmarking.

It is a connected world and we are becoming an integral part of a digital and knowledge society in India. Deservedly, we in India have also built a great reputation for ourselves as a leading nation in producing Information Technology professionals. Developing countries are looking at the progress being made in India on not just building IT capability but also on how IT is put to use. Specifically they are looking at socially relevant applications, particularly for their reach, impact and cost effectiveness. We can advance the level of cooperation with SAARC and South East Asian Countries as also other countries in Africa through a sharing process which involve education and meaningful alliances. This book will provide us an opportunity to reach the top level administrators in these countries, informing them of the direction of our activities.

This book is not a mere collection of articles on applications. It also discusses the framework on which these applications are built. There are articles written by eminent persons deeply involved in e-Governance. It discusses issues of Service Levels to be achieved, standardization, legal framework, audit as also international experience. Along with the description of applications which were submitted for evaluation, this book provides valuable insight into the methodology as well as the outcome.

In conclusion, I take this opportunity to thank the entire editorial team for bringing out this valuable addition to our knowledge in this area. I congratulate the representatives of all the Award Winning Projects.

– S Mahalingam
President, CSI

MESSAGE

Moving towards Performance Driven Governance

In the process of administration, whether public or private, the basic elements are efficiency, economy, and effectiveness. These can be achieved only through good governance. If good governance is the end, e-governance is a means to achieve it.

e-Governance is the delivery of government services and information to the public using electronic medium. It is an effort to make the government SMART (Simple, Moral, Accountable, Responsive, and Transparent). It provides a tremendous acceleration to move forward in this information age with higher quality, cost-effective government services and a better relationship between citizens and government. However, we seem to have not exploited the potential of e-governance fully. This is not due to technological, socio-cultural or funding reasons but a problem of accountability and execution.

A project in a drought-prone rural district aims to reduce the amount of time and money people spend in trying to communicate with public officials and seeks to provide immediate transparent access to local government data and documentation through a network of tele-kiosks. Merely setting up e-government projects in rural areas does not guarantee that the poor will access the services and benefits. All such programmes need a strong commitment from the policy makers and the establishment to make it work.

It requires fostering a culture of performance across various ministries and departments at the Centre, State and District levels.

Improving government performance is easier said than done. In order for the government to perform well as a whole, each agency or Department must perform well individually. For that to happen, each leader must consider performance an important goal and so on down the line. Performance can only be improved if it is measured accurately.

Performance measurement is an integral part of modern government. It stands behind the creation of targets, contracts and agreements that control service delivery. Good performance information can help Departments to develop policy, to manage their resources cost effectively, to improve Departmental and programme effectiveness and to report their performance to Parliament and the general public, thus promoting accountability for public resources.

US President Obama recently appointed a Chief Performance Officer (CPO), a newly created post designed to help improve government efficiency and reform budget practices. The mandate is very clear – streamline processes, cut costs, and find best practices throughout government. The CPO is to work with federal agencies to set tough performance targets and hold managers responsible for progress. The president meets regularly with cabinet officers to review the progress their agencies are making toward meeting performance improvement targets. Transparency and performance are the drivers of this programme.

The mayor of New York has a Citywide Performance Review (CPR) website that is a comprehensive reporting vehicle to track the effectiveness of municipal services based on a series of indicators. The Departments of the South

African Government work in a metrics-based performance culture, operating through well integrated, refocused and reengineered business processes supported by appropriate technology.

India has an opportunity to learn how executive leadership, proven business models and processes, and IT solutions can deliver a lifecycle approach of performance-driven government. Municipal leaders, whether they are elected officials or senior administrators, must champion models of performance metrics to align their accountability, transparency and accessibility mandates with the technology that is available to support such opportunities. Translating vision into clear objectives, setting actionable and measurable goals for Ministries and Departments, monitoring and evaluating programme effectiveness, and motivating officials towards accomplishing their goals are some of the basic steps that can be taken.

The message needs to be clearly conveyed out that the reason we need to measure government performance is to improve performance. Simply because what gets measured, gets done!

The CSI Nihilent e-Governance Awards have been monitoring and evaluating the efforts of government Departments at Centre, States and Districts in achieving good governance using ICT. The evaluation criteria are based on a well-defined mechanism to maintain uniformity and transparency. We hope that our efforts guide the change journey towards performance driven governance.

– L C Singh

President & CEO,
Nihilent Technologies Pvt. Ltd.

PREFACE

Over the years, the exercise of assessing e-Government Projects for the CSI-Nihilent awards has become a passion to look forward to. It not only gives an opportunity to know in depth about the eGov-projects initiated by various State Governments, but also throws light on the success and failure factors of each of the projects. The team of senior professionals involved in the evaluation process has the zeal to learn, to share, to interact with the stakeholders and to make these initiatives known to one and all. The team agrees that this entire cycle of evaluation is a learning experience, where a great deal of knowledge sharing coupled with enthusiasm is involved. The learning has been taken from the previous year awards' exercise and prolifically adopted into the present year's evaluation process. The framework has been detailed clearly prior to categorisation itself, so that the initiative owners may benefit in understanding the process adopted and nominate their e-Gov efforts as per the required norms specified.

CSI Nihilent e-Governance Awards 2008-09, assessment model is based on Result-Enabler approach used in previous years and was further refined by bringing in transparency/objectivity in selecting the award winners. During the previous three years, all the short-listed nominations in e-Governance have been documented for use by all. For the current year also, this compilation has been attempted based on the write-ups received from various e-Governance initiatives in Departments, Districts and Projects, being implemented in different states of the country. The Selection Committee has attempted to finalise these awards based on extensive evaluation and field visits including Districts. The awards were presented during 44th Annual Convention of Computer Society of India (CSI-2009) held at Pune. The experience was also shared

during Knowledge Sharing Summit held in Hyderabad from 4th to 6th June 2009, where a large number of project leaders including IT Secretaries from different states participated.

This compilation consists of four sections where Section I has six chapters covering framework for designing SLAs, lessons from International experiences on Service Delivery by CISCO, Legal aspects of e-Governance and Audit. The approach and methodology for assessment, as well as extension to district level has been covered by core group members of the Selection Committee. Section II covers the details of nominations received from Departments belonging to Madhya Pradesh, Goa, Gujarat and Rajasthan. Details of six districts which were short-listed for this year's awards are covered in Section III. Dr G P Sahu with his team of volunteers made major efforts in conducting field visits to the districts for the first time for their evaluation. Section IV of the compilation covers all categories of e-Governance projects covering nearly 30 projects under G2C, G2B, G2G and G2E. e-Governance initiatives include all the major areas attempted by different States covering e-Procurement, Online services, Healthcare, Rural Applications, Education, Disaster Management and Web-based/Online applications for providing improved services to the citizens.

With growing initiatives in e-Governance as part of NeGP, this book will provide lucid learning and be of interest for all who are involved in conceptualising and implementing e-Governance initiatives in the country.

Wishing for many more online applications for next year awards.

Piyush Gupta, R K Bagga and A Sridevi (Editors)
CSI-Nihilent e-Governance Awards 2008-09
9 October 2009

ABBREVIATIONS AND ACRONYMS

AP	Andhra Pradesh
APTS	Andhra Pradesh Technology Services
ARTO	Assistant Regional Transport Office
BPL	Below Poverty Line
CA	Chartered Accountant
CCB	Central Cooperative Bank
CFC	Certified Filing Center
CGSCSC	Chhattisgarh State Civil Supplies Corporation
CLR	Computerization of Land Records
CMR	Custom Milled Rice
DIN	Director Identification Number
DIT	Department of Information Technology
EMRI	Emergency Management Research Institute
FAQs	Frequently Asked Questions
FCI	Food Corporation of India
FDR	Fixed Deposit Receipt
G2B	Government-to-Business
G2C	Government-to-Citizen
G2C (U)	Government-to-Citizen (URBAN)
G2C (R)	Government-to-Citizen (RURAL)
G2C (U/R)	Government-to-Citizen (URBAN/RURAL)
G2E	Government-to-Employees

G2G	Government-to-Government
GOI	Government of India
HP	Himachal Pradesh
IIMA	Indian Institute of Management, Ahmedabad
IIT	Indian Institute of Technology
IIIT	International Institute of Information Technology
IT	Information Technology
ITR	Income Tax Return
MARKFED	Marketing Federation
MCA	Ministry of Corporate Affairs
MP	Madhya Pradesh
MR Agencies	Market Research Agencies
MSP	Minimum Support Price
NeGP	National e-Governance Plan
NIC	National Informatics Centre
NSDL	National Securities Depository Limited
OLTAS	Online Tax Accounting System
PACS	Primary Agricultural Cooperative Societies
PAN	Permanent Account Number
PFO	Physical Front Office
PMU	Program Management Unit
PNR	Passenger Name Record
PO	Passport Office
RFP	Request for Proposal
RoC	Registrar of Companies
RoR	Record of Rights

RPO	Regional Passport Office
RTC	Record of Rights, Tenancy and Crop Registration
RTO	Regional Transport Office
SMS	Short Message Service
SRO	Sub Registrar Office
TAN	Tax Deduction and Collection Account Number
TDS	Tax Deducted at Source
TN	Tamil Nadu
UP	Uttar Pradesh
UTITSL	UTI Technology Services Limited
VFO	Virtual Front Office
WB	West Bengal

Section I

e-Governance Evaluation – Overview

Framework for Designing SLAs for e-Government Projects

*J Satyanarayana**

The role of Service Level Agreements (SLAs) assumes a great importance in defining the service levels in a manner that ensures the maximization of the customer satisfaction at an optimal cost and also provides a mechanism for enforcing the service levels in a contractually binding manner. While the concept of SLAs is well established in the infrastructure sector – physical infrastructure, IT infrastructure, and Telecom sectors – it is still in an evolutionary state in relation to service-oriented e-Government projects.

There are only a few known examples in India of deployment of SLAs in e-Government projects, like the MCA21 and BangaloreOne. With increasing number of e-Government projects being designed on a service-oriented approach, it has become imperative to create a framework for the design and management of SLAs for the e-Government sector.

This paper attempts to create a comprehensive framework for designing and managing SLAs for e-Government projects adopting a lifecycle approach. This framework would be useful to not only the architects and designers of e-Government projects but also to the Government agencies and the implementation agencies.

1. Definitions

Service: A service is the outcome of a request and it provides an economic, social or personal benefit or right to the requester or results in efficiency gains to an organization.

* The views expressed by the author are his own and do not indicate any policy or directions etc of the Government.

Service Level: A Service Level defines the quality and quantity of service, in a quantitative way.

Service Level Objective (SLO): SLO is the set of purposes or objectives sought to be achieved through defining and prescribing the Service Levels for an initiative or organization.

Service Level Agreement (SLA): SLA is an agreement between the Service Provider and the Service Seeker that defines the Service Levels, the terms and conditions for enforcing the Service Levels and the remedies in case the Service Levels are not fulfilled.

Service Level Management (SLM): SLM is an institutional arrangement that ensures effective implementation of the Service Levels and enforcement of the SLA.

2. Design Considerations

An SLA Framework enables designing and managing effective SLAs. We need two sets of design considerations – (i) Design considerations for SLA Framework and (ii) Design considerations for a specific SLA.

2.1 Design considerations for the SLA Framework: Every e-Government project, especially those with a business model involving the private sector participation, should first create an SLA Framework first and then attempt designing the SLA(s) for the project. The following considerations should prevail in designing the SLA framework:

The SLA Framework should

- i. Be Simple to apply.
- ii. Be Applicable to a wide variety of e-Government Projects of different sizes in the G2C, G2B, G2G and G2E environments.
- iii. Balance the requirements of the wide spectrum of Stakeholder Groups.
- iv. Ensure alignment of SLOs to the business objectives of the Project.
- v. Cover the entire lifecycle of SLA
- vi. Be Legally sustainable.

2.2 Design considerations for the SLA: The complexion of the SLA varies significantly across different projects, depending upon the nature of services

contemplated, the size of the initiative, and the business model adopted. However, it is necessary to put in place a framework for designing SLAs that enables consistency across various projects and ensures that the essential ingredients of an SLA are not missed out in the designing a specific SLA.

The SLA should

- i. Be simple to apply in a field situation.
- ii. Cover ALL the services envisaged in the Project.
- iii. Lay emphasis on different services in proportion to their relative values to the stakeholders.
- iv. Give a thrust to developing the project on an Outcome-based approach rather than Output-based.
- v. Be measurable through automated tools.
- vi. Be precise and unambiguous.
- vii. Be equitable as between the Service Provider and the Service Seeker.
- viii. Be cost-effective to implement.
- ix. Be legally enforceable.
- x. Provide scope for the evolution of SLA.

3. SLA Lifecycle

An SLA is a living instrument. It evolves over the Project Development period and lives through the project period. It is quite appropriate therefore to visualize the SLA in its lifecycle, as a first step in creating the SLA Framework.

The lifecycle of SLA starts with an articulation of the Business Objectives of the Organization or Agency. After all, e-Government is but a structured methodology to realize the vision, mission and objectives of an agency, in an effective manner. This step begins with introspection on the reasons for the existence of the agency, its core business and the objectives. At this stage, the agency has to go well beyond introspection, conduct a study of the ecosystem to scan the external environment, consult with the stakeholders and draw up a set of objectives that are prospective, futuristic and service-oriented.

Articulating the Business Objectives is a very important and elaborate function that usually takes a few months of intensive effort.

Business Objectives are quite often not immediately apparent. One has to examine the outcomes and drivers to identify the specific business objectives. Business Objectives are often high-level ideas that indicate a direction and a purpose for which the organization exists. The initial effort involves identification and segmentation of the customers and stakeholders. Business Objectives bring out the value proposition that the organization has to offer.

Once the Business Objectives are well articulated, it is necessary to identify the business areas that the organization would like to retain under its tight control, leaving the rest to the possibility of outsourcing. Such a distinction is being made here primarily keeping in view the specific requirements of Government agencies with regard to aspects like sovereignty, accountability and 'strategic control' over core and critical assets and responsibilities.

The last and the most important task in this phase of SLA Lifecycle is to identify, define, classify and prioritize the Services proposed to be delivered.

- **Identification of Services involves**

- Listing out the services currently delivered by the agency;
- Looking at the service portfolio offered by a comparable organization;
- 'Developing' new services either through survey of best practices, BPR or innovation, or a combination of all these 3 approaches;
- Consulting the customers and other stakeholders.

- **Definition of Services involves**

- Describing the service on an end-to-end basis;
- Defining the steps or processes involved in accessing/ availing each service.

- **Classification of the Services involves**

- Grouping the Services as Business Services that are visible and available to the external world and Technical Services that are internal to the organization and not visible to the external agencies.
- Grouping the Business Services as those available to the customers and those available to the employees of the organization.

- Classifying the Customer Services into informational and transactional and Internal Services as those relating to Efficiency, Productivity or Effectiveness.
- **Prioritization of the Services involves**
 - Grouping of the services along the dimensions of the desired business outcomes;
 - Assigning *inter-se* priorities and weightages to the various groups of services and subsequently to the services within each group;
 - Sequencing the Groups of services and/or the services in the order in which it is desirable to launch from the point of impact and feasibility.

After the services are arrived at, the service level objectives are defined. SLOs have a strong backward linkage with the business objectives but have a stronger forward linkage with the Service Levels and SLAs. *SLOs are precise statements that encapsulate the **management intent** in attempting to design Service Levels and SLAs, as a part of an e-Government initiative or project.*

- a. SLOs reflect the value that the management intends to give to the various groups of stakeholders and the value it intends to derive from the investment it makes in the Technology and Infrastructure. The following Table provides at a glance the wide spectrum of SLOs that a large and complex e-Government project may call for. The fundamental significance of SLOs is that they enable us to choose and/or design the Service Level Parameters and Service Level Metrics (both these concepts are discussed later) appropriately.

Stakeholder Group	Value Proposition (SLOs)	Investment Area	Value to be Derived (SLOs)
External Stakeholders		Technology & Process Areas	
Customers Suppliers Financiers	Efficiency	Standards	Interoperability
	Convenience	Architecture	Cost-effectiveness
	Reliability	BPR	Transformation
	Cost-effectiveness		Simplicity
	Responsiveness		Error-free
Contd...			

Contd...			
Internal Stakeholders		Infrastructure & People Areas	
• Employees • Management • Auditors	Usability	• Data Centre & DRC • Networks • Delivery Infrastructure • Change Management • Capacity Building	Performance
	Accountability		Security
	Traceability		Availability
	Effectiveness		Reliability
			Better Customer Relationship Efficiency Ownership
Desired Outcomes			
Customer Great User-Experience	Growth of the Sector	Cost-effectiveness for all stakeholders	Growth of usage of the system

The next is the creation of service levels. Service Levels are target metrics specified for each service and help the organization achieve the SLOs. A set of well-designed and well-calibrated Service Levels provides a necessary first step on the way to achieving success in an e-Government project. Service Levels are characterized by 4 basic attributes– Service Level Parameters, Service Level Metrics, Service Level Measurement Method and Service Level Enforcement Method.

A Service Level Agreement (SLA) attempts to capture the essence of the entire service level framework envisaged for an e-Government project. It is a legally enforceable instrument that touches all the components of the SLA framework. It also clearly establishes the relationship between the service-seeker and service-provider in precise terms.

The components of a typical SLA are listed below:

1. Objective Statement, including SLOs
2. Service Level Parameters
3. Service Level Metrics
4. Service Level Measurement
5. Roles and Responsibilities of the Parties to the SLA
6. SLA Enforcement Method, including payments, rewards and penalties
7. Relationship Management

8. Change Control

9. Risk Transfer and Risk Sharing

The following principles are useful to follow while designing SLAs for e-Government Projects.

- a) It is absolutely essential to design a complete SLA framework before attempting to draft the SLA.
- b) The SLA should not give scope for interpretation nor should it contain any areas of discretion available to either party
- c) It is desirable to take the services of legal experts for drafting the SLA.
- d) The focus of the SLA should be on defining the service levels and the methodologies for measurement and payment and equally importantly, the framework for managing the SLA in an effective manner throughout the term of the arrangement with the service provider.
- e) SLAs have to be evolutionary in nature, especially given the fact that the term extends to long periods like 5 to 10 years. It is therefore, essential to incorporate certain enabling provisions in the SLA that would permit a periodical review of the SLMx's with regard to their continued relevance and workability during the term. Such a review may be conducted annually in a joint effort by the service-seeker and the service-provider. Necessary adjustments may be made to the SLMx's so that they are closely aligned to meet the evolving requirements of the project.

The next is the Service Level Management. SLM relates to effectively managing the relationship between the service-seeker and the service-provider during the term of the agreement with a common objective of achieving the service level outcomes envisioned for the e-Government project. The essence of the SLM is Relationship Management.

Depending on the nature, size, and complexity of a project, two models of SLM emerge as mentioned below:

- (i) **Joint Management Model:** In this model a Joint Management Committee is constituted with representatives of both the parties. The Committee would be made responsible for measuring the SLAs, resolving areas of conflict through a discussion, and regulating the payments. They would

also be responsible for any remedial action required in respect of deviations in performance against the SLA.

- (ii) **Third Party PMU Model:** In this model the responsibility of managing the SLA is given to a neutral party selected by the service seeker through an open process. Very often such a party can also perform other management functions relating to the program. Accordingly it can be termed as the Third Party PMU, which is typically established during O&M period of a project. The PMU Model offers distinct advantages over the Joint Management Model as it assures neutrality between two parties on all matters relating to the SLM. The recommendations of the PMU have to be honored in total by both the parties.

4. Conclusion

SLAs assume a great significance in the context of e-Government planners and managers preferring increasingly to procure a set of e-Government *services* rather than *IT assets*. It is necessary in this regard to appreciate the need for (i) creating a framework for designing SLA before proceeding to design an actual SLA and (ii) for adopting a lifecycle approach is discussed in this paper.

While this paper is an initial attempt in exploring the area of designing SLAs for e-Government, there is a considerable scope for its further elaboration, importing and adopting the best practices from the private sector, especially in the areas of IT-enabled Services (ITeS) and Business Process Outsourcing (BPO).

(J Satyanarayana, IAS, Principal Secretary, Department of Medical, Health & family Welfare, Government of Andhra Pradesh, (former CEO - NISG). The author can be reached at jsnarayana@yahoo.com).

TWO

Integrated Delivery of eServices – Lessons Learned from International Experience¹

Joan McCalla

Introduction

India is implementing an e-Governance strategy across all levels of government. This strategy is based on a careful balance of investing in underlying technology, mission mode projects at the central and state government levels, district and local initiatives, and communications and awareness across all levels of government, all of which are being implemented under an overarching capacity building, policy and governance framework. This is an ambitious strategy that has been tailored to address the unique priorities, needs and challenges of India. Nevertheless there is much that can be learned from other governments facing some of the same implementation challenges.

Governments around the world are harnessing the potential of network based technologies to improve convenience and speed of service delivery to their residents and businesses as well as to increase overall efficiency and effectiveness of government. Because they are networked, these technologies also have the potential to transform government and further improve client service by enabling, from the client's perspective, the integration of services across various departments and levels of government. This is a very strong trend and has various labels, including integrated, shared, or one window/one stop service delivery. However, because this integration cuts across separate parts and levels of government that have long been “siloe” for very real historical, legal, practical, and political

¹ This is an edited version of a paper submitted to the paper competition associated with the 11th National Conference on e-Governance held in Chandigarh on February 7th and 8th, 2008 (Conference Theme: Integrated Service Delivery – Issues and Challenges). This was selected as the award-winning paper and it was earlier included in the Compendium of Papers from that conference.

reasons, it represents perhaps the single greatest challenge in realizing the full potential of e-Governance.

Based on almost 30 years of public service experience, most recently as the Chief Strategist with the Government of Ontario, Canada with responsibility for leading that government's successful eGovernment strategy, and now as a member of the global public sector team with Cisco's Internet Business Solutions Group, this paper presents practical lessons learned by the author on how to plan, manage, and deliver a successful integrated service strategy. After a brief section to identify the challenges, the paper suggests multiple parallel solutions for consideration.

Integrated Service Delivery: Challenges and Solutions

Integrated Service Delivery requires a vision, strategy, and plan that are shared by all who need to be engaged in implementation at the national, state, and local levels in the line departments as well as the IT departments. Directly following from this, the single biggest challenge to successful implementation is the lack of alignment between the different levels of government and the different lines of business as represented by the departments and IT on any or all of these three elements (vision, strategy and plan). While it is neither possible, nor desirable, to attempt to implement a detailed master plan in which there is no room for innovation or modification to meet specific departmental, regional, or local needs, there are approaches and tools which can be built into the strategy and plans to guide and maintain alignment to the overall vision and strategy as it is implemented.

Based on international experience, this paper identifies approaches in four broad areas to address the underlying integration challenges: technology, people, and process, all of which are heavily influenced and guided by the overall governance framework. Many of these suggestions are already being taken into consideration in the implementation of the NeGP. The intent is to provide a useful checklist to anyone involved in the implementation of the e-Governance strategy to support its successful implementation as it moves forward. Given limited space for this paper, I shall touch only briefly on the key factors in each of these areas.

1. Governance

- a) **Shared vision and strategy** – While it may seem self-evident, it is important to note that, first and foremost, integrated services to residents and businesses cannot be achieved unless there is a shared vision of that outcome and a shared strategy. It is not sufficient for a vision and strategy to be approved at the top and then passed along in documents to be read and internalized. It must be communicated, discussed, understood and shared by all involved so that the individual plans of many departments, functions, governments and partners are designed to contribute to the overall result, i.e. “the whole is greater than the sum of the parts.” A shared commitment to the overall vision is especially useful when issues arise. When faced with particularly difficult choices, it allows participants to separate themselves from their individual departmental/functional perspective and to ask the question: “putting ourselves in the place of the individual client, what is the best decision to take to support improved service?” In fact, many governments have established external advisory panels containing client representation to ask for their input and advice along the way, and/or conducted regular surveys to ensure their plans are aligned with the priorities and needs of clients and businesses. Ensuring that implementation is actually addressing a real priority helps to build support and commitment from the public as the plans are implemented which in turn builds further support from the public and political leaders. Stakeholder advisory panels have also been used as a means of getting advice from experienced practitioners (e.g. leaders from retail, banking or other sectors who have already implemented change across their organisations) and building understanding and support from outside government.
- b) **Leadership from the top** – Perhaps the best way to ensure ongoing understanding of and commitment to a shared vision and strategy is to provide ongoing visible leadership from the top levels of government (both political and bureaucratic) and down through all levels of management. Constantly reinforcing the vision and the strategy in speeches and other documents, and providing a framework to help staff understand the linkages to their policies and programs, will help participants at all levels to understand the new direction and how they can contribute through their

own roles and responsibilities. In addition, during the course of implementation there will be many difficult decisions and choices to be made and it is important to have committed leadership who understand the vision and strategy so they will be supportive through these difficult challenges. This is especially important at the middle and senior management level where these leaders have long experience with, and may have been promoted because of, their success within their own domains and therefore need to be engaged in defining the new processes to overcome their natural resistance to change. One model adopted by other governments to engage leaders in the change process are cross-functional advisory bodies as a forum to provide input to detailed implementation plans as they are developed and where communications messages may be tested in advance of widespread roll-out.

- c) **Appropriate project and programme governance to set priorities and resolve issues** – In addition to advice and communications, many decisions will need to be made throughout implementation at the individual project level and for the e-Governance programme overall at each level of government. These decisions will relate to sequence and priorities, service levels and processes, funding and costs to departments and clients, amongst many other factors. By its very nature, issues related to e-Governance generally and integrated services specifically, involve more than one department and more than one function. Therefore, it is important to establish effective governance bodies representing these various interests. This is essential so that the various points of view may be heard before decisions taken, so that there is a shared ownership of and commitment to implementation once decisions are made. Not all decisions will necessarily need to flow to the top level governance body, so it is also important to establish a governance framework to establish appropriate levels of authority, i.e. what types of decisions go to what body. Amongst other benefits, maintaining an effective ongoing governance structure also builds in understanding and commitment to the plans, linkage to and leverage of other responsibilities of those involved in the governance, and built-in continuity as participants inevitably change throughout implementation. Based on the international experience, it is important that the governance bodies include representatives of the line departments and information

technology as it is critical that IT be viewed as supporting the program/business priorities of the government not the other way around.

2. People

- a) **Engage and involve managers and staff** – Building on the “leadership” point made previously, it is important that managers and staff at all levels be actively engaged in the implementation. While it may not be possible to involve everyone in the design of the plans in the first place, front line managers and staff do need to be engaged in implementation as they need to understand its impact and will ultimately be responsible for ensuring success. For example, if individual staff members are uncertain how delivering a service through an integrated model or a new electronic process will impact their own job, they may resist the change. At minimum, this means that their valuable “on the ground” experience and input to the change process will be lost; more substantively, it could mean they may openly resist the change process and delay progress. For this reason, other governments have developed change management strategies as part of their e-Governance efforts which often start with efforts to instill a service culture across the organisation. These strategies are based on ongoing communications which clearly describe the vision, strategy, rationale for the new approach, implications to various stakeholders and how they become involved in language tailored specifically to address their particular concerns and interests. Experience has shown that for change of this magnitude, frequent repetition of the messages will be required at various stages throughout the process; direct communications from line managers to staff is the most effective (i.e. a tiered communications strategy); and it is impossible to communicate too often. Other mechanisms include involving front line managers and staff in the planning process by seeking their input at appropriate points, engaging them in implementation (e.g. defining specific functional requirements and participation in advance testing before deployment of the new approach), and most significantly, ensuring they receive information and training on the new models (including support to develop new skills to take on new responsibilities).
- b) **New skills** – Experience has shown that in any government there are skills shortages in the public sector that need to be developed for successful e-Governance deployment. These skills are especially in the area of project

management, change management, business and technology architecture, business process reengineering, and contract management. Given the growing Indian economy and the competition from the private sector for these scarce skills, the challenge in India is particularly large. While it may be possible to purchase some of these skills through the private sector, given their importance for the ongoing control and management of the e-Governance outcomes on behalf of the Government and the people of India, it is also important that there be ongoing training and capacity building for these skills. In addition to classroom training, building on the experience of individuals involved in already completed projects would be very useful, as well as building a pool of experienced resources through smaller/mid-size projects. In addition, it is likely there is a lack of basic computer literacy skills in pockets of the front line staff who will eventually be asked to implement the plans. If that is the case, there will be fear and resistance to change which can be addressed by including basic computer literacy as a pre-requisite for new employees and providing basic computer training for existing employees, followed by specific training on the new processes prior to implementation as noted in the previous section.

3. Process

- a) **Client centred process redesign** – There are undoubtedly many changes in process that can be enabled by information and communications technologies. These changes may include elimination of steps no longer required because they add no value or automation of other steps using information and communications technologies (ICTs), i.e. streamlining. Given the goal of integrated services, other process changes may be as the result of opportunities to align processes across different services so they may be combined for truly integrated service to the client, for example the reuse of basic identifying information across multiple related programs. These process changes may or may not be enabled by ICT. For example, aligning renewal cycles and client information requirements for multiple related services (e.g. related to starting a business, or operating a vehicle/driving license) could have a significant impact on improving client service today and into the future. A good place to start with process redesign is to carefully document the existing end-to-end processes using consistent terminology for similar process steps regardless of the service/program.

There are many similar processes across different programs (e.g. intake of information, issuing permit, receiving payments, etc.) It is probable that many existing government processes are not well documented. Writing down the steps will help to develop a shared understanding of why each step is there, and aid in the identification of opportunities for process improvements that can be made within and across services. The goal in the first stage should not be perfection – some process changes will be easy to make and could be determined within the project or through project governance; others may require policy or even legislative change and would take longer to implement; and still others may be difficult to address because of dependencies across programs/services. Providing integrated services and transforming government into an integrated operation should be viewed as a long term goal to be staged in over time in an ongoing cycle of plan → design implement evaluate redesign implement evaluate, etc. in semi-annual or annual update cycles. Many governments for example have started towards integration by integrating only the “front end”, i.e. by providing one number to call, one portal, and/or one public “counter” where people can call/login/visit to receive services from multiple programs, departments, and levels of government. Once integration starts at that level, and staff are working cooperatively across lines of business, it becomes easier to identify next steps towards further integration. It also should be noted that process mapping will not always mean the elimination of a particular step in the process. When moving to electronic services and/or integrated services, new steps may sometimes be required, for example new processes to authenticate the person who is seeking the service or protections to prevent privacy or security breaches as services move to electronic channels. Other jurisdictions have developed lexicons and work books for process mapping which could be adapted for use in India.²

b) Programme and project management methodologies and governance –

There are many standardized methodologies for programme and project management, all of which are designed to strengthen project discipline and increase the rate of successful implementation. Oversight (governance) is also required at the individual project level and overall programme level

² For example, governments in Canada have cooperated in the development of a government services reference manual. A description of the federal government approach to the “Business Transformation Enablement Program” and various tools can be found at: <http://www.tbs-sct.gc.ca/btep-ptoi/index-eng.asp>

to ensure that the individual initiatives proceed as planned, are appropriately aligned, and that they are able to respond to changing circumstances, including external pressures and opportunities. Perhaps the two most common challenges that e-Governance initiatives face are: 1) asking the same people to implement change at the same time as continuing ongoing service delivery, (where the short term “urgent” priorities always take precedence over longer term change) and 2) scope creep – continually changing the project to build in interesting new ideas or opportunities. Adopting a programme approach, i.e. recognising the e-Governance initiative at the central, state and local government levels as a large change initiative being implemented through many separate but related projects, and a project management methodology and discipline will help to mitigate both these risks. Governance should be used to ensure that projects proceed through each step in the process (concept, approval, planning, design, deployment, assessment) only as they are ready.

- c) **Dividing projects into modular pieces with short term deliverables –** This point is directly related to the above point on project management, i.e. in order to move forward, many governments have learned that it is important to break projects down into short term deliverables, to develop a weekly, monthly or quarterly action plan based on those deliverables, and to measure progress against those steps. This helps to build momentum and a track record of success and to be able to detect and address issues early. A common methodology is to adopt a traffic light approach, i.e. to identify a project as green (on time and on budget); yellow (plus or minus a defined percentage of time or budget); or red (significantly off time or budget). Projects which are identified as yellow would have the opportunity to identify their challenges and to present their plan to bring the project back on track, including seeking help (resources, decisions, etc) from senior management through the governance process. Attention would be especially focused on the projects identified as red in order to understand the issues and to determine the best course of action, including senior management attention to address the issues whether additional resources, changing the schedule, making difficult process decisions, or exiting the project. This approach is intended to focus limited senior leadership time and attention on those areas of highest risk.

- d) **Establishing baselines, benchmarks and ongoing measurement** – The e-Governance initiatives are being implemented in an environment of constant change so it will be difficult to measure impact after the fact. Therefore evaluating the overall success of the initiative over time requires the establishment of baselines and benchmarks. This is important not only from the perspective of accountability, but also as input to future change initiatives. An understanding of the baseline is also very important as a basis of negotiating transfer of resources as the plan is implemented. There is often a very poor understanding of current costs and service levels. However, if services currently planned, managed, and delivered by one department are going to be delivered by the private sector, another department or another level of government as part of an integrated service delivery model, it will be important to understand what resources are currently being utilized to achieve what levels of service to establish a foundation for the new model. Based on Ontario Canada's experience in shared services, understanding of the baseline significantly accelerates the implementation process by reducing friction and debate across departments.

4. Technology

- a) **Architecture** – An architectural framework (at the business and technology level) contributes to the successful implementation of an integrated service model in a few ways. Like the process mapping described above, the business architecture helps in establishing a shared understanding of the underlying who, what, when, why, where, how components of the various services being provided by government. These elements have been defined over time, are often undocumented, and are frequently taken for granted. Defining an end state business architecture, and the technology architecture which enables it – even at a high level – helps to better understand how the various service and technology elements can best fit together to support integrated services, at the same time as leveraging existing and planned investments. They also provide the overall framework within which individual initiatives can be planned and designed in a decentralized manner yet contribute to the overall end-state vision for integrated services when implemented. Not only will a well-planned architecture provide guidance as to how services will be delivered, the

process can also identify opportunities for one project to develop a particular standard and/or design and develop a particular process or technology which can be used by subsequent projects that will need similar processes or technologies. This not only avoids duplicate investment of time and effort, it enables consistent, reliable and familiar processes to the client, i.e. improved client service. To be effective, there should also be governance of the architecture. Not only should the architecture itself be reviewed and approved at a senior management level, the project management and governance model identified above should include quality assurance (i.e. review and approval by an architectural review board or its equivalent) to ensure compliance with the architecture (and standards).

- b) **Standards** – Establishment of key standards, especially related to network connectivity and information management is very important to enable integrated services. Like architecture described above, it also is a means to enable decentralized project planning and design while still building to a common vision and strategy. There should be a formal process of approving and posting standards so that only approved standards are included in project RFPs or other design documents. Of course, open standards are recommended as a means of building in flexibility and choice for the future. Establishing standards is detailed and important work and like architecture, should be supported by governance to ensure that once developed, standards are approved, published and used. The model should be biased towards mandatory standards unless there is a strong reason not to use them, but there should also be a defined exception process as exceptions will be necessary under certain circumstances. Much work has already been done in this area; also many other governments have done work in the standards area, including publishing their standards on the web, so there is an opportunity to review and adapt work done by others to the Indian context.
- c) **Shared infrastructure (network, data centres, common service centres, etc.)** – Last, but definitely not the least, one of the most direct ways of supporting integrated services is to utilize a shared infrastructure. Combining infrastructure requirements for multiple initiatives into a common infrastructure solution not only supports economies of scale including the ability to justify higher service levels to the benefit of

everyone (e.g. broadband), but it also, by definition, directly supports the provision of integrated services to the client. Given the amount of work to be done to implement e-Governance across all levels of government, it is important to leverage the limited IT capacity (especially people capacity) for multiple purposes and to avoid duplication of effort and investment, not only in the planning and delivery of technology, but also for its ongoing management and support which ultimately entail much higher costs when considering full life cycle. For this model to work, all of the elements noted above – especially strong leadership, shared vision, and governance – are required to support the difficult tasks of defining infrastructure requirements and its subsequent design to address multiple needs and in aligning the timing and location of the service and infrastructure roll-outs. A certain amount of give and take – i.e. compromise – will be required by the line departments responsible for programs and services as well as by the IT departments responsible for infrastructure.

Conclusion

Implementing e-Governance is difficult at any time in any place. Implementing integrated services across all levels of government, across many departments, across a country with the size and complexity of India is a massive challenge. This paper outlines many of the methods that can be put in place to address that challenge. In these few pages, it is impossible to go into depth on any of these points, but it is intended as a useful checklist to guide leaders on tools they may put in place to support successful e-Governance transformation in India.

In conclusion, it should be noted that e-Governance is not a goal in and of itself. The goal of the National e-Governance Plan in India is about making all government services accessible to the common man in his locality. This is an ambitious goal which will only be realized over time. There is lots of good work already done and much to build upon both in India and internationally. Therefore, as Voltaire wisely stated “don’t let the perfect be the enemy of the good” – as you move forward with implementation, learn from the experience and adjust for the future.

(Joan McCalla, Distinguished Fellow, Internet Business Solutions Group, Cisco Systems Inc., jmcalla@cisco.com).

THREE

Law on e-Governance: A Primer¹

Vakul Sharma

It is said that finally e-governance is coming of age in India! Primarily, it is because of the initiatives of the Government of India as well as private entrepreneurs. The public-private-partnership models have become the backbone of e-governance successes all across India.

In a way, it can be said that the concept of e-governance has matured in India. Earlier, e-governance has more to do with the facilitation rather than regulation, but now e-governance involves both facilitation and regulation. The regulatory aspect of e-governance has taken time to establish itself. Regulation here means following the ‘rule of law’ while *creating*: (a) RFP documents on e-governance initiatives, (b) E-governance applications, and (c) Inter- and intra-departmental e-governance policies.

It would be interesting to see the regulatory aspects of e-governance. It should not be forgotten that law on e-governance is still in its nascent stage, but that does not mean that the companies/institutions, application developers, content developers, head of the departments, e-governance service providers etc. have a right to disregard the established principles of law. In fact, such bodies/personnel cannot claim that they were ignorant about the law, as they say, “...*ignorance of law is no defence*”. It is thus mandatory that the aforesaid bodies/personnel, including e-governance service providers should follow the established principles of law, while creating, hosting, and disseminating e-governance related records (including electronic records).

¹ Selected excerpts from the Author’s soon-to-be published book. Copyright and all other rights are reserved in favour of the author.

RFPs on e-Governance Initiatives

These days, almost all major (or minor) e-governance plans come with a set of Request For Proposal (RFP) documents for parties to participate in the bidding process. These RFP documents have been created keeping in mind the e-governance project objectives, technology components (software-hardware interface etc.) milestones (to be achieved in phased manner) etc. These RFP documents are being created with the help of IT savvy experts having deep domain knowledge in technology and are impeccably drafted. However, many times, the said document lacks legal clarity, resulting in loss and delay in executing the e-governance projects. Why? The reason is, if RFP lacks legal clarity, the subsequent Master Service Agreement (MSA) executed between/among the parties would also retain the same set of clauses and thus it may prove detrimental to the execution of said e-government project. Lack of legal clarity may also affect the various Service Level Agreements (SLAs) under MSA.

It would be interesting to note that in India the RFPs, MSAs and SLAs are often being created by the IT vendors, and the involvement of the department/institution is said to be minimal. It is a wrong practice and it is imperative that the concerned department/institution should examine RFPs, MSAs and SLAs from legal perspective as well. It should not be forgotten that in every e-governance project there exists a commercial risk and that risk needs a legal cover.

Ideally, the RFP document for any e-governance project should consist of three volumes:

Volume I – Functional & Technical Specifications

Volume II – Commercial Terms & Bid Formats

Volume III – Legal Specifications

Volume I

Important components of Volume I – Functional & Technical Specifications are:

1. Scope of the project
2. Roles and responsibilities of the stakeholders
3. Functional requirements
4. Technical requirements

5. Operational requirements
6. Service Level Agreements (SLAs)

SLA specifies the expected levels of service to be provided by the service provider to the various stakeholders of e-government project. This expected level is called the baseline. If performance is lower than the baseline in that case, there may be a lower scale of payment to the said service provider.

Volume II

Important components of Volume II – Commercial Terms & Bid Formats are:

1. Instructions to bidders
2. Formats for technical bid
3. Formats for commercial bid

Volume III

Important components of Volume III – Legal Specifications are:

1. Definitions
2. Scope of agreement
3. Rights and responsibilities with respect to physical and digital assets
4. Terms of payment, including invoicing procedures
5. Tax liabilities, if any
6. Confidentiality, non-disclosure & data protection
7. Personnel Management
8. Governance structure
9. Change & Control procedure
10. Exit management

MSA is signed with the successful bidder. Legally speaking, MSA governs the way in which the selected e-governance service provider will build and manage the facilities and deliver the services specified under MSA and the SLAs. Care should be taken that MSA conforms to RFP documents. No material difference should be there between RFPs and MSA. If there are certain components, which have not been covered in RFP documents adequately, the same may be covered

in the MSA. It is important that MSA should mention the following clauses in a precise and unambiguous manner:

- Ownership of resources
- Force Majeure conditions
- Warranty & Disclaimers
- Penalties, if any
- Intellectual Property Rights
- Material breach (which may include among others, any failure to provide security and safety policy, business continuity & disaster recovery plans, exit management plans etc.)
- Procedures related to dispute resolution (conciliation, mediation and arbitration)
- Governing law
- Jurisdiction

In other words, RFP documents, MSA and SLAs should be in *sync* with each other – functionally as well as legally.

Managing e-Procurements

Further, if e-governance projects involve process of e-procurement, then it is imperative that RFP documents should also articulate in detail about its e-procurement system, as the bidders expect transparent and secure bidding process. The RFP documents should mention in detail the security features of e-procurement process(es):

- Physical security of data center
- Security features of e-procurement website (including encryption standards)
- Online security features (fire walls, intrusion detection system, network monitoring etc.)
- Encryption of sensitive data (price bids)
- Conformity with the Information Technology Act, 2000

Interestingly, this author has found that most of the RFPs related to e-procurement are ambiguous and have failed to do justice with the law, i.e. the

Information Technology Act, 2000. For example, majority of the RFPs have a standard clause – “Conformity with the Information Technology Act, 2000”. Such a clause is *meaningless* in the context of e-procurement, unless it articulates in detail:

- Use of electronic signatures² issued by the licensed Certifying Authorities (should provide a list of current licensed Certifying Authorities)
- Electronic signature is currently valid
- Electronic signature (in use) is a secured electronic signature

It is obligatory that e-procurement platforms must conform to the legal principles as articulated under the IT Act, 2000 and the Information Technology (Certifying Authorities) Rules, 2000 & the Information Technology (Certifying Authorities) Regulations, 2001 made thereunder.

Owning e-Governance Applications

Every e-governance project is a novelty as thus it creates a new application. The questions are – who owns this e-governance application? Is the ownership lies with the department/institution, which commenced and paid for the application? Or is it with the application developer, i.e., the e-governance service provider. If the said e-governance application, which has been created at the behest of the department/institution – is “work for hire”, then depending on the terms of MSA, it shall be taken as the intellectual property of the said department/institution.

It is interesting to note that most of the e-governance applications though created and paid for by the department/institution are being owned by the e-governance service providers. It is all due to *skewed* MSAs, favouring e-governance service providers at the cost of the department/institution.

From the department/institution perspective, MSA should grant absolute and inalienable intellectual property rights to such e-governance applications to such department/institution. Though the e-governance service provider may claim that the said application is based on its proprietary application and hence no rights should be granted to the department/institution. However, it should not be forgotten that the application provider has customized or created a bespoke application using its proprietary application – that does not make the said

² The Information Technology (Amendment) Act, 2008 has substituted “electronic signatures” for “digital signatures”

application provider as the absolute owner of the said customized/bespoke application. After all it is a “work for hire”. The department/institution may not have any intellectual property rights over the proprietary application; nevertheless, it does have rights over the customized/bespoke application. Hence, it is imperative that MSA should refer to department/institution rights over customized/bespoke application.

Further, it is important for the application developer/service provider to:

- Share source code (and object code) of customized/ bespoke application with the department/institution
- Enter into a separate non-disclosure and confidentiality agreement with the department/institution for not disclosing/using its database for unauthorized data mining or similar purposes
- Not to develop similar application for any third party

It is thus for the department/institution to secure its digital resources/assets and lay claim to the underlying intellectual property rights. This takes us to a much wider macro- perspective, i.e., nature of inter- and intra-departmental e-governance policies, which may exist at the appropriate government level.

e-Governance @ Macro Level: Inter- and Intra-departmental e-Governance Policies

e-Governance represents a new form of governance, which is dynamic, and exponential. It needs dynamic laws, keeping pace with the technological advancement. From macro perspective, the basic legal issues surrounding e-governance is all about giving legal sanctity to basic governmental functions and practices from publication of an official gazette to acceptance, issuance, creation, retention or preservation of any document; and participation in any monetary transaction. The Information Technology Act, 2000 (*effective* from October 17, 2000) granted the legal sanctity to limited range of e-governance functions.

These e-governance functions are based upon ‘functional equivalent approach’ in order to extend offline governmental functions and practices to the online environment. The idea is to facilitate efficient government-citizen interface by giving due legal recognition to digital signatures and electronic records. Functional equivalent here implies “functional exactness” – whether it is in paper form (record) or paperless form (electronic record).

Table: Functional Equivalent Approach	
Physical Governance	e-Governance
Legal recognition to paper documents	Legal recognition to electronic records
Signatures	Digital signatures/Electronic signatures
Retention of records	Retention of electronic records
Publication of Official Gazette	Publication of Electronic Gazette
Delivery of services	Electronic delivery of services

In fact, Chapter III of the IT Act gives legal recognition to the electronic governance. Sections 4 to 10 (including section 6A³) highlight the extent of electronic governance rights conferred by the IT Act, to: (i) the Government (ii) e-governance service provider and (iii) the individual.

Legal Recognition of Electronic Records

The IT Act has defined in section 2(1)(t) “electronic record” as data, record or data generated, image or sound stored, received or sent in an electronic form or micro film or computer generated micro fiche. In other words, by articulating this definition, IT Act has laid the foundation of electronic governance in India. Further, section 4 of the IT Act, also makes it clear that one of the critical features behind granting legal recognition of electronic record is the accessibility of the said electronic record for a subsequent reference.

Legal Recognition of Electronic Signatures

The IT Act further provides that in order to authenticate electronic records, one shall need “electronic signature”. It is important to note that electronic signatures are subscriber [S.2(1)zg] specific. One has to be a subscriber to authenticate an electronic record. The Act is very specific; it does not provide a non-subscriber such a facility. A non-subscriber has no legal right to authenticate an electronic record. Within the department, it is to be decided, who would be a subscriber?

In fact, it is section 6 of the IT Act, which articulates the extent of use electronic records and electronic signatures in Government and its agencies. It identifies use of electronic records and electronic signatures in the filing of any form, application or any other document with any office, authority, body or agency owned or controlled by the appropriate Government, the issue or grant

³ Inserted by the Information Technology (Amendment) Act, 2008

of any licence, permit, sanction or approval, the receipt or payment of money effected by means of electronic form.

The aforesaid provision is meant for all government practices and functions. The approach is to implement e-governance at every level: (i) government-to-government (inter- and intra-departmental levels) (ii) government-to-citizen and (iii) government-to-business.

Delivery of Services

IT Act⁴ has now given credence to service providers with respect to electronic delivery of services in the newly introduced section 6A. The focus is on efficient delivery of services to the public through electronic means. Further, it has made electronic delivery of services chargeable. The onus is now on the department to distinguish between chargeable e-governance services and non-chargeable. This would make many public-private-partnership (PPP) models viable and would in turn revolutionize the e-governance delivery space.

Retention of Electronic Records

Any e-governance initiative requires maintenance (archival) of electronic records. The IT Act, in section 7 lays down the following conditions for retention of electronic records:

- (a) accessibility so as to be usable for a subsequent reference
- (b) retention in the format in which it was originally generated, sent or received or in a format, which can be demonstrated, to represent accurately the information originally generated, sent or received
- (c) the details which will facilitate the identification of the origin, destination, date and time of despatch or receipt of such electronic record

The statutory conditions for retention of electronic records are quite stringent. Mere possession of the electronic record is not sufficient; department/institution has to adopt a procedure for retention of electronic records that fulfills all the aforesaid conditions. Non-compliance of any aforesaid condition may render the electronic record inadmissible in the court of law⁵. Thus, it is mandatory that department/institution must lay down policies for retention of electronic records.

⁴ Inserted by the Information Technology (Amendment) Act, 2008

⁵ Sharma, Vakul (2009): 2nd Edn: Information Technology – Law & Practice, Universal Law Publishing

The aforesaid section brings enormous responsibility especially on the department/institution and its agencies to be careful in fulfilling the conditions laid down for retention of electronic records. Department/institution must not forget for effective e-governance, proper retention of electronic records plays a very important role.

Functional Equivalent: From Official Gazette to Electronic Gazette

The IT Act, under section 8 has provided a useful example of functional equivalent approach by equating the Official Gazette at par with Electronic Gazette. From the functional point of view this provision has immense importance as it makes available rule, regulation, order, bye-law, notification in electronic form to any person. The onus is on the department/institution to formulate policies on availability of the Electronic Gazette. Significantly, the *provisio* further provides that the date of publication shall be deemed to be the date of the Gazette, which was first published in any form.

This e-governance initiative has a tremendous administrative and functional value and needs recognition by all the departments of the government and its agencies.

Limited e-Governance Rights

If on one hand sections 4 to 8 recognise true spirit of e-governance in India by advocating e-governance rights, then on the other, it is section 9 of the IT Act, which *limits* e-governance rights. This section *does not* confer a right upon any person to insist that any Ministry or Department of the Central or State government (or any authority or body) to accept, issue, create, retain or preserve any document in the form of electronic records or to participate in any monetary transaction in the electronic form.

Thus the onus is on the department/institution – whether to follow sections 4 to 8 of the IT Act? That is, whether to *opt out* or to *opt in*? It is imperative that the department/institution must assess its IT strengths and weaknesses and take a call accordingly.

Conclusion

The Information Technology Act, 2000 and the subsequent Amendments have brought into focus e-governance law and practices. The law provides a road map for use of electronic records and electronic signatures in Government and its

agencies by promoting efficient delivery of Government services. Basically e-governance is a step towards better administration by facilitating transparent, speedier, responsive and non-hierarchical system of governance. Better administration leads to effective management of delivery of governmental services and this comes from managing e-governance processes.

(Vakul Sharma, Advocate, practicing in the Supreme Court of India & the High Court(s); Member of the Expert Committee, appointed by the Ministry of Communications & Information Technology, Government of India to amend the IT Act, 2000; Advising the Central Government & various State Governments on e-governance laws and practices. He can be reached at: vakulsharma@gmail.com).

FOUR

Audit Perspectives for e-Governance Projects

Neelesh Kumar Sah

Last decade has seen tremendous use of ICT by the governments to carry out their functions including public service delivery through what are called e-governance projects.

It may not be possible to arrive at a definite figure of the costs involved in the e-governance initiatives, but the estimates are astronomical. The Unique Identification Number project has been reported to cost around Rs.1.5 lakh crore. Realistic estimates are in the range of Rs.10000-Rs.20000 crore. This is just for enumeration of citizens of this country. The associated costs for other services to be provided can just be imagined. Therefore accountability in e-governance projects assumes relevance to ensure value for money for the governments, the taxpayer and the citizen beneficiary of the country. The other major fact is that use of ICT has potential for radical transformation in governance and modifications in work methods and processes. Such changes make the systems vulnerable and therefore the systemic controls and related accountability in the e-governance project become all the more important.

However, before embarking on the audit of e-governance projects, it may be worthwhile to understand the nuances of e-governance and associated issues.

- e-Government vs e-Governance
- What is e-governance?

A few definitions –

- ‘the action or manner of governing’. And the meaning of ‘Governing’ is – ‘conduct the policy and affairs of (a state, organisation, or people); control or influence; constitute a rule, standard, or principle’;

- A more direct definition of Governance is ‘a way of describing the links between government and its broader environment – political, social, administrative.’¹
- And when ‘e’ is put before the word ‘Governance’, we are looking at ‘Governance’ facilitated by ‘e’, i.e. ‘electronic’. Most of us will know that the media ‘e’ also has led to strategic advantages and possibilities to the organisations the world over by making it possible to govern in a totally different manner.

Then what is e-government?

- ‘The governing body of a state; the system by which a state or community is governed; the action or manner of governing a state, organisation, or people’²
- ‘A government is the body within an organisation that has the authority to make and enforce rules, laws and regulations.’³
- ‘Government’s foremost job is to focus society on achieving the public interest’¹
- As in the case of governance, as we put ‘e’ before government, we are looking at the government facilitated by ‘e’.

There is a need to understand that the Government is a means to govern and governance has a much wider connotation. Government is involved in program design and service delivery and has the characteristics of superstructure, decisions, rules, roles, implementation and outputs. This takes the form of electronic service delivery, electronic workflow, electronic voting and electronic productivity. Many of the e-governance programmes today are addressing these only. The electronic consultation, electronic controllership, electronic engagement, networked societal guidance, transparency, responsiveness and accountability, with a focus on functionality, processes, goals, performance, coordination and outcomes, that could give the citizen a better participation in governance and thus address their specific requirements in being governed are yet to be addressed in a holistic manner.

¹ e-Government vs. e-Governance: Examining the difference in a changing public sector climate- International Tracking Survey Report '03 – Number four, May 20, 2003.

² Compact Oxford English dictionary

³ <http://en.wikipedia.org/wiki/Government>

Thus there is a continuum between the e-government and e-governance. We will find the e-governance projects are at different stages of this continuum.

e-government

governance

In this backdrop, when we attempt to audit, the focus is on the government and thus on e-government. Audit of e-governance requires more inclusive and expansive approach which we will attempt to address at the end of this chapter.

However, when we audit e-government, it is not to be assumed that e-governance is not being addressed as e-government still remains the enabler of any e-governance service delivery and the aspects of e-governance vary from project to project.

Audit of e-Governance

Approaches

Audit of the e-government can have different approaches as follows:

- With respect to the architecture of the project:
 - Systems review approach
 - Process review approach
 - Controls review approach
- With respect to stages of development
 - System development life cycle review approach
 - Post implementation review
 - Concurrent audits
- With respect to the benefits accrued
 - Value for money review
 - 3 Es (efficiency, economy and effectiveness) review approach
 - Performance review approach
 - Specific circumstances or requirements
 - IS security
 - Forensic audits

- Code reviews
- Audit of contracts and agreements
- Manpower audits etc.

In practice, we may end up adopting a mix of the above approaches, especially, those with respect to the benefits and the architecture of the systems. The use of other two approaches with respect to the stage of development and special circumstances will depend on requirements of specific audits.

Objectives

While conducting audits with the above approaches, the following objectives with respect to an application utilized for e-governance project are addressed:

- Ensures asset safeguarding – ‘assets’ which include the following five types of assets:
 - Data, Application Systems, Technology, Facilities, People
- Ensures that the following seven attributes of data or information are maintained:
 - Effectiveness, Efficiency, Confidentiality, Integrity, Availability, Compliance, Reliability of information
- The IT assets or resources are utilized by IT processes while complying to the seven information requirements in delivering the service.
- Further, we may like to also find out the value for money or 3Es or the controls built into the systems and ultimately the service delivered from the projects to the citizen.

We may sum up with a definition for audit of e-governance as –

‘audit of e-governance projects is all about examining whether the IT processes and IT resources combine together to fulfill the intended objectives of the government or governance to ensure 3Es in its operation while complying with extant rules, thus deriving the value for money and the citizen service delivery’.

Challenges

Audit of the e-governance systems throw up, however, a lot of challenges. Audits are basically done with a set of benchmarks or criterion to which compliance is

sought during the audits. For e-governance projects there are no standards prescribed to be followed in India though efforts are in the pipeline to evolve such standards. Some policy guidelines for specific situations have been framed like the website policy by the Department of Administrative Reforms and Public Grievances (DARPG), or implementation guidelines for projects like the Computerization of Land Records and the e-District mission mode projects under the National e-Governance Plan etc. Many state governments have also come up with their own IT policies and specific guidelines for the projects implemented within their domains. The IT (Amendment) Act 2008 addresses the needs of e-commerce and thus the cyber and network security issues. Moreover, in most cases the institutional mechanisms are still evolving.

Frameworks

There are set of best practice frameworks available internationally, though, like CoBIT (Control objectives for Information and related Technology), Val IT (based on CoBIT), ITIL (Information Technology Infrastructure Library), CMM (Capability Maturity Model) or (Capability Maturity Model Integration), PRINCE2 (Projects in Controlled Environment), ISO 27001(International Organisation Standard for Information Security Management Systems) etc, but no one framework will be comprehensively addressing all the requirements of an e-governance implementation and thus while auditing such implementations, audit is also required to adopt a mix of these frameworks for their baseline reference.

Coming back to audit of the e-governance projects in this context, the focus of audits thus becomes more on the 'e' aspect of the e-governance where the systems and processes are evaluated. The impacts and benefits which are majorly intangibles require different approaches to assess the requirements, involvement, experience and perceptions of the citizen/beneficiary, achievement of overall societal upliftment.

Issues for Audit Examination

We now discuss the issues that concern the e-governance projects and are relevant for audit examination.

1. **Alignment of e-governance objectives with the governance objectives –** Implementing e-governance projects has the risk of loss of sight of the governance requirements while making the objectives of implementing the e-governance

project itself as an end. Further, identifying the requirements and translating them into system delivery mechanisms is a crucial task that may not always be best performed. Audit examines the overall achievement of the governance objectives through the e-governance projects, especially the tangible benefits.

2. Integrated approach – Many e-governance projects require seamless integration of various government departments and other players. But these prefer to maintain their own domain, even though not required in changed circumstances, leading to inefficiencies in the operation of these systems and non delivery of required service levels to the citizen. An example is the land registration and land record computerization (CLR). The CLR apart from maintaining data also carries out the mutation of land property. The process of registration could be integrated to CLR where the mutation could happen online without the applicant being required to apply again. Audit could identify such opportunities and recommend for integration.

3. Process reengineering – It is one of the most important aspects that could enable efficiencies accruing into the e-governance projects as well as better citizen services. Most of the e-governance projects have computerized their present work methods and procedures. But to derive the benefits of computerization, relook at the processes is required with a view to streamline them for better service delivery. This also requires the integrated approach spanning various service wings of the government. Audit has a great opportunity here to identify the possibilities and suggest for improvements in the processes with the citizen service focus.

4. Ownership – Any e-governance project is conceived to deliver some citizen service. The government has more often than not lack of expertise in the ‘e’ part of the e-governance. And sometimes it also needs to bridge the funding gap. The unique model that the government has evolved in this scenario is to outsource the development and implementation of the projects. However, this has always the associated risk of abdication of ownership and responsibility of the function being carried through the e-governance project. The related issue that it throws up is that of duplication of efforts and redundancy of the official mechanisms. In audit of the e-governance projects the ownership of projects in practice and the accountability of the government or departments to the citizens have to be examined.

5. Business models – As mentioned above, citizen service delivery is outsourced in many e-governance projects under various business and revenue

models. It is a common understanding that the citizen is ready to pay for services if he gets quality services. The revenue models thus have inbuilt charges for the service delivery which, hitherto, the citizen was not supposed to pay or had to make nominal payments. But when compared to her incidentals to get the service delivery in the normal existing circumstances, the citizen is supposedly saving on these. This raises the question that for the services that the government was supposed to be freely delivering or at a nominal cost, the citizen has now to pay higher service charges. Thus the citizen is paying partially for the inefficiencies in the service delivery mechanisms as existed. The basis of cost of the services under the revenue model arrived at is not clear and generally arrived at only through the bid process with very few players in many cases. This is an area that audit could address.

In many cases, this outsourcing is 'layered' with a state level body created under a statute which does the outsourcing. These bodies may even be out of the purview of the accountability bodies like the C&AG. With ownership of the projects compromised, the accountability for these projects is surely an issue. This has been, somehow, addressed through the Regulations for Audit and Accounts, 2007, under the C&AG (Duties, Powers and Conditions of Service) Act, 1971.

6. Approach to computerization – Any e-governance project should have a systematic development approach. However, it is seen in many cases that the system development methodologies are not followed and an adhocism creeps into the system development. The objectives of the computerization may itself be not clearly laid out. Such efforts are bound to fail or be ridden with persistent problems of inadequate functionalities or coverage. Audit may examine the evolution of the project through a system development life cycle approach.

Another issue that crops up at this juncture is the involvement of audit in the system development stage. System development involves the following stages:

1. Project initiation stage
2. Feasibility stage
3. System design stage
4. Detailed design stage
5. Implementation stage

6. Installation stage

7. Post-installation stage

The audit of Systems Under Development has three main thrusts: first, to provide an opinion on the efficiency, effectiveness, economy of project management (Project Controls) and capability of the design to deliver; second, to assess the extent to which the system being developed provides for adequate audit trails and controls to ensure the integrity of data processed and stored (Data Controls); and third to assess the controls being provided for the management of the system's operation (System Management Controls).

7. Involvement of users/stakeholders – Any e-governance project involves multiple stakeholders, the citizen, the officials of the department supposed to be providing the service, the third party players (vendors, consultants, etc), academia, politicians, etc. In many projects, it is seen that one of the stakeholders, vendors or the officials of the concerned departments end up dictating the scope and functionality of the projects. Audit may examine the involvement of all these stakeholders in the process of development of the projects and incorporation of their requirements.

8. Senior management involvement – The success of an e-governance project which entails a systemic change can be possible with involvement of the top management in charge of governance. Audit can examine such involvement of the top management. As an example, in the US, through e-government laws Office of Electronic Government with Office of Management and Budget has been established in the President's Office, thus ensuring involvement of top management of the country.

9. Project management – The system development for any e-project is a time consuming process. However, the availability of the funding for the acquisition of hardware and the application happens simultaneously. This fund is also supposed to lapse at the end of the financial year. This leads to a tendency of immediately utilizing the funds. More often than not it is the hardware that is purchased which in absence of a worthy application remains idle with only possible utilization as a word processor. Further, normally, with no sacrosanct time lines, the application development is delayed in many cases. This makes the initially acquired hardware redundant or incompatible to the application requirements.

Early obsolescence of the hardware and application software is also a contributing factor leading to their non serviceability after a certain period.

Apart from harmonizing the acquisition of the hardware and application software, the aspects of coordination of other activities in the project like capacity building, changes in the work methods and processes, communication of the same to all concerned, site preparation, etc are to be identified and monitored for successful implementation of a project. Audit may examine the project management practices that may have been cause of delays in the project.

At this stage audit may also examine the aspects of propriety, compliance, regularity and sanctions in the acquisitions as in any other expenditure audit which will also be reflected in the following – Contracts and agreements.

10. Contracts and agreements – Laying the most comprehensive and appropriate provisions in the contracts and agreements is a major challenge for the executive. These provisions lay the foundations of a sustainable project. The service level agreements lay the ground for performance and monitoring of the e-governance projects. An adequate monitoring mechanism built in to the performance measurements and appraisal ensures timely detection of below par performances. Deficiencies in these lead to deficient service levels and non compliance to the desired outputs or outcomes from the service provider. Lack of clarity on the responsibilities of the service provider and the owner of the projects further accentuates the problems. Ultimately, absence of will to take penal action may lead the organisation to be burdened with an inappropriate project and service provider. Audit may examine and evaluate the complete contract life cycle to arrive at conclusions and suggest improvement in the existing contracts or the future ones.

11. Change from legacy system to new system of governance – Change from a legacy system to a new computerized system requires all round coordination and involvement. The issues of capacity building, institutional framework, system migration, data migration, testing procedures, pilots, parallel runs of the old and new systems, ownership of the change management etc need to be individually addressed. Failure to address any of these could lead to existence of the old and new systems in tandem or the new system being deficient. All through the involvement of the stakeholders is crucial for ensuring incorporation of their requirements and also ensuring subsequent acceptance. Due diligence in the acceptance procedure would ensure foolproof system being put in place.

Audit has its role in establishing that the above were adequately addressed and stakeholders were engaged.

12. Security – Even in manual systems, there is a system of access control on records and facilities in governments which is mapped with the segregation of duties. Any e-governance project is bound to fail the transparency and confidentiality tests if it does not have a defined access control hierarchy and implements the same diligently. Technology further complicates the access control with involvement of networks and ultimately the internet. An understanding of the technology, architecture of the system, network, database and system configurations come in to play while ensuring a secure access to and from a computer on a network. With devices like the biometric tools, concepts like encryption, digital signature, public key infrastructure etc, the audit of security assumes a distinct place for itself for any e-governance project. More often than not, due to the complexities involved, lack of understanding and the culture of the organisation, security concerns take a back seat. Audit needs to address the security issues especially when compromise in security could lead to tremendous leakages during implementation of social sector schemes. It could be seen if a risk assessment has been carried out by the organisation and resultant strategy framed. A recourse to the ISO 27001 could also be made.

Absence of audit trails and log maintenance indicate a deficient system design and implementation which needs to be first tackled at the system development stage and later during implementation for capturing information as intended. Non maintenance of this information on the pretext of space constraints or performance compromise needs to be critically examined in audit.

13. Applications controls – This is from a systems and controls perspective. The application controls include input, process and output controls. We can examine these separately as below:

- a. *Input controls* – The input controls ensure the entry of data into the applications which involve data entry through operators or data capture through other means like online capture, optical character reader (OCR) etc. The principle of GIGO (garbage in – garbage out) operates here. The errors at this stage may also happen not just because of incorrect entry or capture but inefficient design of the input forms in the application or the source document for the data. The correctness of data could be assisted by validation of data which needs to be built in at the time of

design of the application. With respect to creation of the master data, apart from the above controls, codification of the data ensures uniformity of data that assists in processing of data and better data management. Audit needs to examine for the completeness and correctness of both transaction and master data in the system.

- b. *Process controls* – Processing controls ensure complete and accurate processing of input and generated data. They also ensure that the processed data is transmitted to correct files. The process controls can best be ensured at system design stage and thereafter at the testing stage. The process controls also ensure business process mapping in the applications. Audit needs to assure that the process controls are adequately built in.
- c. *Output controls* – These controls are incorporated to ensure that computer output is complete, accurate and correctly distributed. It may be noted that weakness in processing may sometimes be compensated by strong controls over output. A well-controlled system for input and processing is likely to be completely undermined if output is uncontrolled. Reconciliation carried out at the end of the output stage can provide very considerable assurance over the completeness and accuracy of earlier stages in the complete cycle.

14. Business continuity – Continuity of the business as usual for any e-governance project is paramount for its sustainability, especially at the transition stages as it could undermine the confidence of users in the system. Thus the business continuity is ensured by adequate service level agreements with the third parties involved, ownership of data and applications, maintaining escrow accounts for the applications and data in certain cases involving proprietary solutions backed by bank guarantees, backup strategy, disaster recovery plans, alternate disaster recovery centers adequate training to the involved users.

15. Internal control mechanisms – We find in most of the cases that internal control mechanisms have been deficient or even non-existent in many government organisations. Very few organisations have their own internal audit wing and if present, with adequate mandate to carry out their functions. In the age-old manual system, these were built in the office procedure manuals or the departmental regulations and associated organisation structures. But with change to a ICT-based system, these may not undergo revision or remodeling as per the new requirements. With a new system devoid of control mechanisms, the system

becomes vulnerable. Further, the systems are also devoid of opportunities to improve or learn from its own experiences. Audit, especially, external audit, could point out to the absence of such mechanisms but it will be difficult to replace internal control mechanisms completely with short period engagements of the external audits.

16. Non utilization of the systems developed – At the end of it, it may be found that the systems developed do not have mechanisms to provide appropriate reports or information to the management. Such situations are a result of inadequate involvement of the management in the system development process, testing and acceptance. Non utilization ultimately renders a system redundant or it ceases to improve. Audits can suggest the improvement in information collation and also point out the non utilization of available information by the management.

The audit issues above may not be exhaustive and address only the e-government but they definitely cover the major aspects of the e-governance projects today. However, examination or rather assessment of e-governance by audit will require innovative approaches which utilize the techniques of interview, survey and statistical conclusions. More importantly, issues like corruption, transparency, equity, trust and inclusiveness etc require careful determination of their evaluation criteria in a country of diversities like India where these depend on specific requirements, experience and perceptions of the citizen. The results of the impact assessment carried out by Department of Information Technology, Government of India, in association with Indian Institute of Management, Ahmedabad bears testimony to this. Nevertheless such assessments need to be carried out with inclusion of the stakeholders in determining the evaluation criteria itself in the beginning which could be moderated by social scientists.

Audit on its part has to develop capacity to deal with such issues of governance in due course as it has its place in the scheme of governance to assure the society and the citizen of the accountability of the executive to them.

The above approach to audit of the e-governance projects provides an opportunity for audit to add value to the e-governance projects and their implementations through its involvement in the complete life cycle of the evolution of such projects – from conceptualisation, development, implementation to evaluation and enhancements.

(Neelesh Kumar Sah, Director, Information Technology Audits, O/o Comptroller and Auditor General of India, International Centre for Information Systems and Audit (iCISA), NOIDA, U.P. – 201301, sahNK@cag.gov.in).

References

Audit of e-Governance projects by the C&AG of India

Reports on IT Audit placed on floor of Parliament and State Legislatures can be seen at <http://icisa.cag.gov.in/itaudit.aspx>.

The C&AG conducted the National Seminar on e-Governance on 21-22 July 2009. The details of the seminar can be seen at http://icisacag.com/Seminar_e_gov/index.html which is also supposed to be a compendium on e-governance issues.

Evaluation of e-Governance Initiative at District Level in India: Andhra Pradesh Experience

R K Bagga, Pranav Kumar Vashista, K S Vijaya Sekhar and Piyush Gupta

Background

Computer Society of India (CSI), as a leading professional body has been encouraging the Government sector by giving special awards in the area of e-Governance since year 2000 for using Information and Communication Technology (ICT) to improve their effectiveness. The categories and evaluation process has evolved during the decade, wherein apart from Projects, the Awards were extended to States and Departments. During one of the reviews of CSI Special Interest Group on e-Governance (SIGeGOV), it was felt that CSI with its reach in India must recognise the basic unit of Administration at grassroot level i.e. District. There is an inescapable need to encourage use of ICT at District level to benefit the rural India, where 70% of India's population resides. A special Research project was given to International Institute of Information Technology, Hyderabad (IIIT-H) by CSI to recommend suitable framework for evaluation of District for giving annual awards under CSI Nihilent e-Governance Awards.

Hypothesis

The hypothesis of the Research Project on e-Governance Initiative in India at District level is:

“The fruits of technology have not reached the rural masses because the current planning process is controlled at Centre and State levels. This can only be corrected, if ICT can make a serious effort at Districts, as they form the basic unit for all interactions with citizen.”

Methodology

With limited resources in time and finance, it was decided to use Andhra Pradesh Districts (mix of Backward and Developed), for field study and results could be extrapolated to other parts on India. Major scheme have been launched at National and State levels for employment generation, Agriculture, Health care, Education and other essentials sectors, with rural population, as the major beneficiary. Apart from literature study, the essential part of the research was to include field visits by the researchers to have real feel of the ground truths on relevance of ICT and e-Governance at Districts.

Conduct & Results

The Research work was carried by student community of IIIT-H during the year 2008-2009 and findings are covered in this paper. Part 1 gives the historical evolution of Districts in India with major recommendation from Administrative Reforms Commission and National Knowledge Commission. Part 2 covers the complexity of Districts and various gaps due to multiple agencies handling various Government initiatives like NeGP, NREGA, and BRGF. Part 3 gives the experience in Andhra Pradesh with multiplicity of projects. Part 4 gives the final framework based on Result-Enabler model for use for future Awards process.

Part 1: Districts Framework

Introduction to District Dynamics

India is one of the oldest civilizations with a kaleidoscopic variety and rich heritage. Twenty Eight States and Seven Union Territories (UT) span the length and breadth of the Country, marked by diversity in culture and geography but bound together by a common chord of Nationalism. There are 626 Districts in India administered by their respective State/UT Government.¹

The district as a unit of administration and the focal point for the field level activities has been an integral element of our society for ages. Notwithstanding many operational changes occasioned by the prevailing situations, it has continued as the most important pivot of field administration, the contact point between people and the government.² Districts are the de facto front-end of government where most G2C interaction and bulk of citizen centric services are delivered.³

¹ From <http://districts.nic.in> as on April 1, 2009;

² From the back cover of *District Administration: Theory and Practice*, N P Nawani, Publications Division

³ From <http://sitapur.nic.in/edist/emain.html> as on April 1, 2009

Notion of a District, its Etymology

Etymologically, the term 'district' originates from the Latin word 'districtus' '(territory of) jurisdiction' from *distringere* 'draw apart'. The *Imperial Gazetteer 2 of India, 1909*, volume 4 on The Indian Empire, Administrative, in page 48 says the following:

The system of administration in both regulation and non-regulation Provinces is based on repeated subdivision of territory, each administrative area being in the responsible charge of an officer who is subordinate to the officer next in rank above him. The most important of these administrative units is the 'District'; and the most accurate impression of the system may be gained by regarding a Province as consisting of a collection of Districts, which are usually split up into sub-divisions and these again into smaller circles.

It is instructive to note that though the obsolete meaning of 'district' as an adjective meant 'strict or exact', there is nothing strict or exact about the nature of 'district' as an administrative unit, but for a broad idea that a collection of them makes up a province or a state, though it is regarded as the most important unit both during the British rule as well as in Independent India.

The nature of a district of India is difficult to be ascertained. The variations are way too many. Be it the size, soil type, vegetation, topography, population, culture, language – the variation is huge. Wide variations in socio-economic and demographic indicators are also common. The variations also extend to the sub-divisions of the district – the number of revenue divisions, sizes of the revenue divisions, apart from the other parameters. Further, given that India is an electoral democracy, the political map of India is made of electoral constituencies. A district may be part of a couple of Lok Sabha constituencies; the number of assembly, parliament constituencies varies from district-to-district.

To quote a few numbers: there are 626 districts in the country and 543 Lok Sabha constituencies whereas there are 23 districts and 42 Lok Sabha constituencies in the state of Andhra Pradesh. Sheohar district in Bihar has an area of 443 sq. km. while Mahabubnagar district in Andhra Pradesh has an area 41 times larger (18432 sq. km.). Upper Subansiri in Arunachal Pradesh has a population of 39590 whereas South 24 Parganas in West Bengal has 147 times greater population.⁴ It is important to note these wide variations as they are

⁴ From Chapter 4, 2nd Report of the Administrative Reforms Commission

essential in understanding and evaluating performance in governance aspects at the district level.

National Knowledge Commission's Recommendation

National Knowledge Commission (NKC) in its letter of recommendations to the Prime Minister on e-Governance states (emphasis added by the authors of this report):

Government process reengineering before any computerization – At present the e-Governance efforts are primarily based on *computerizing age-old processes left behind by British Raj and compounded by a plethora of new layers and silos by Indian bureaucracy, each working within departmental boundaries and pet-priorities*. As a result we are computerizing cumbersome processes and hence not commensurately benefiting from it. Simply digitizing the existing government processes merely adds an additional layer of expense, complexity, delay and confusion. In our judgment, **now is a unique opportunity in the history of India to leave behind the British Raj and re-engineer and modernize Government processes to build a new India of the 21st century**. Hence it is essential that we first redesign the government processes keeping the citizen at the centre, providing hassle-free enablement of citizens, businesses, producers and consumers, **replacing the old mistrust and control regime from the British Raj**. This redesigning of government processes will drastically reduce the numbers and duration of successive steps required to obtain services. It will also provide traceable records; enable enforcement of individual performance, accountability, efficiency, productivity as well as transparency of policies and processes.⁵

It is in the context of this strong desire and hope expressed by the National Knowledge Commission, that a look at the concept of a district became necessary for the researchers. That is where the point that district has no clear-cut characteristic also needs to be kept in mind. What does it mean to leave behind the British Raj? This is a serious question that requires concerted effort to understand the processes and the systems that the British built and to assess the efforts required for countering them. It is widely believed that technology has a great role to play in this process and it is important that due emphasis is on the ground-work to be done to make the best use of technology.

⁵ <http://www.knowledgecommission.gov.in/downloads/recommendations/e-GovernanceLetterPM.pdf>

For Jawaharlal Nehru, the first Prime Minister of India, the most powerful indicator of the harm done by the combined impact of the East India Company and the British Raj was that ‘that those parts of India which have been longest under British rule are the poorest today’, picking out Bengal, Bihar and Orissa for particular mention.⁶ An important consideration to be given due importance is that – even after Independence, the structures and the systems of governance at the District level of the British era have been mostly continued. It is in this light that one must understand the NKC’s recommendation. CSI must acknowledge the fact that change is must at grassroot level.

CSI-Nihilent e-Governance Awards

Buoyed by the successful conduct of CSI-Nihilent e-Governance Awards over consecutive years starting from 2002, and having tested waters on assessment of e-Government projects, formation of Special Interest Group on e-Governance and in the process developing models for the same, it was felt that to understand the “real” state of governance and the impact that e-Governance is making – one must go down to the districts as they are considered as the point of contact between the citizen and the state. Further, since a collection of districts makes a State – district assessments could be a direction taken to have an assessment of a state – though even in this case, the assessment of the state could involve more than the sum of the assessment of the districts it constitutes. In the event of complete decentralization, with devolution of powers and responsibilities down to the lowest unit of administration – here – a village – it would be perfectly meaningful to say that the assessment of governance at the state level is the sum of assessments of governance in individual districts. Since there is a wider consensus being built on decentralization and devolution of powers following the spirit of 73rd and 74th amendments of Constitution of India, in the effort to realize one of the Directive Principle of State Policy enshrined as Article 40 in the Constitution – it is all the more important to see what it means to have an assessment at district level.

Observations on District Complexity

While the notion of a district in itself is hazy, our project is about the assessment of e-Governance initiatives at the district level with a special emphasis on backward districts. This is probably the first attempt towards creating a model for the assessment of e-Governance initiatives at the District level. The focus on backward

⁶ From, “The Discovery of India”

districts follows from the consensus that is present that they are the ones that require special attention and all the efforts that are meant to address the backwardness are to be well directed. These efforts include appropriate use of technology wherever required, and creating enabling environments for development, in which technology may play a major role. This is where the role of e-Governance is expected. This part of the paper is structured in the following manner where in Section 2, the difficulty in assessing a district and the gap present between the desired state and the current state of affairs is elaborated; Section 3 covers, District e-Governance Initiative across the country and the Andhra Pradesh experience along with our field visit experiences has been detailed. Finally, Section 4 presents the suggested Assessment Framework for the District e-Governance initiatives.

Part 2: The Difficulty and the Gap

National e-Governance Plan (NeGP)

Vision of NeGP states: *“Make all Government services accessible to the common man in his locality, through common service delivery outlets and ensure efficiency, transparency & reliability of such services at affordable costs to realize the basic needs of the common man.”* Basic needs of common man include access to livelihood (includes availability of sources for livelihood – which manifests itself in various forms including support for agriculture, which is a major source of employment), proper health (includes access to clean water, food in adequate quantities, sanitation) and health care (medical – hospitals – and allied facilities), basic education (public schools – primary and secondary education), enforcement of rule of law and justice. These (public schools, hospitals, clean drinking water etc.) are basic minimum services that a welfare Government is expected to provide for. In India – providing for livelihood, health and health care facilities, education are considered as development topics, considering the fact that vast majority of the country does not have the access to these basic minimum services.

In a constitutional democracy, Government, to fulfill its Constitutional mandate has to ensure that it has proper registration and certification facilities of the various resources in the country – be that human (which is where citizen identity, birth, death registrations, caste certification, voter registration etc.) property (land registration, house registrations etc.). There are some activities which require authorizations – e.g. for driving, one needs appropriate driving

license, to possess a weapon for self-defence, one must have appropriate arms-license etc. These are provided by the respective departments of the Government. Further, in a country like India, where overcoming poverty and hunger is a major task which Governments of the day give great importance to, having targeted programmes that reach the people Below the Poverty Line (BPL) are not uncommon. Identification of the targeted population is a major certification activity. Providing information about Government programmes, providing grievance relief to the citizens, postal services, transport services, providing security – both internal as well as external — these are all several services provided to the citizen by the Government.

Providing for all these services is a major task, given that the scale at which these services are to be provided in a country like India is huge. With over a hundred crore population, that is as diverse as one can expect, and in different places with varying levels of development, it is in fact a daunting task. Use of appropriate technology to address this task to achieve the best possible result is a natural expectation. It is in this background, that one must look at the use of Information, Communication Technologies (ICTs) for the tasks outlined.

e-Governance and Indian Context

The Second Administrative Reforms Commission (ARC), in its 11th Report that focuses on e-Governance, expresses a sentiment that runs through the report that e-Governance is more about governance than the ‘e’ part of it. That is, the focus must be more on what and how ICTs are being used, rather than on the usage of ICTs in itself. To make the best use of technology, simplifying the processes by re-engineering or at times even reforms to the process are to be initiated before moving on to a system using ICTs is another broad consensus that can be found from amongst its recommendations. In the 6th Chapter of 11th Report of ARC, it is mentioned that: that “a major part of e-Governance is ‘governance reforms’ and only a small part is ‘ICT.’” In the 8th Chapter of this report on Legal Framework for e-Governance, ARC recommends that it should contain “*Definition of e-Governance, its objectives and roles in the Indian context*”.

The operative phrase in the recommendation is the “Indian context”. What does that mean? In a sense, since India is one of the Commonwealth countries and has procedures that are continued from the earlier Colonial rule, one way of imagining things would be that e-Governance in Commonwealth countries have

a common platform, and that may set the context.⁷ On the other hand, there is this strong feeling that India should leave behind the British Raj procedures, and usher into the 21st century. Furthermore, there are concerns about the compatibility of the prescribed context to the culture and ethos of ancient civilization like India.

While these considerations may take time to come to a conclusion, realizing that even the simplest form of usage of ICTs – that is by computerization can help great deal in improving efficiency for computers are fast at information processing, several initiatives in terms of the use of ICTs are taken up at different levels of the Government. Other than the basic minimum services outlined above, Government services being provided through e-Government are broadly classified as G2C (Government to Citizen), G2B (Government to Business), G2G (Government to Government), G2E (Government to Employee) services – and in fact, efficiency, transparency and reliability of these services is in turn, ultimately going to benefit the citizen. The “Indian context” could be set by the economic, socio-demographic indicators. It is here that one may have to take a closer look at backward districts.

Backward Districts

Planning Commission of India took up the Backward Districts Initiative under the Rashtriya Sam Vikas Yojana (RSVY) to have “focused development programmes for backward areas which would help reduce imbalances and speed-up development.” The backward district identification here was done based on an index of backwardness three parameters with equal weight to each: 1) value of output per agricultural worker 2) agricultural wage rate and 3) percentage of SC/ST population of the district. RSVY also considered those districts that were affected by Left extremism.

RSVY was later subsumed into another programme Backward Regions Grant Fund (BRGF), which was designed so as to provide funds to bridge critical infrastructural gaps, improve the functioning of Panchayats through capacity building, helping them with professional support, among other things.⁸ Whereas the control of RSVY funds could have been in either the hands of District Administration/Panchayat Raj Institutions (PRIs), BRGF is given to the PRIs in the spirit of 73rd and 74th amendments to the Constitution. The plan as per

⁷ <http://www.electronicgov.net/index.asp> – The Commonwealth Center for e-Governance

⁸ BRGF Final Guidelines PDF from <http://brgf.gov.in>

BRGF is to *“integrate multiple programmes that are in operation in the district concerned and therefore address backwardness through a combination of resources that flow to the district. This will be done without giving any schematic overlay to BRGF that would be subversive of the principle of local prioritization in planning.”* BRGF’s focus on participatory planning, and implementation at local level through Central funding is to be noted.

As per BRGF, there could be different criteria for backwardness, as was identified by the respective States. The sense in which backwardness is understood may differ from State to State. One parameter that may be considered as constant would be chronic poverty. It may not be an exaggeration to state that BRGF is considered as part of Additional Central Assistance (ACA)⁹ and the States would like to have as many districts labeled backward (there certainly are definite reasons to believe they are backward) so as to get the fund amounts. Our study of backward districts started off by noting the RSVY guidelines on backward districts as the project proposal indicates. In the process of our literature survey on backward districts, the 2nd Report of the Administrative Reforms Commission (ARC) was of great use.

2nd Report of ARC Focusing on NREGA

The 2nd Report of the ARC titled “Unlocking Human Capital: Entitlements and Governance – a case study” focuses on study of institutional, administrative and financial management systems of National Rural Employment Generation Act (NREGA), which is a path-breaking legislation providing for the Right to Work in the rural areas. In this report, a special emphasis is laid on the implementation of NREGA in the backward districts. The fourth chapter of the report is titled “Special Problems of Backward Districts” talks of the challenges that are to be overcome to ensure that development schemes reach the targeted population and make an impact on their lives. The problems faced and the experiences gained from the implementation of NREGA provide for rich ground to gain an understanding on the kind of problems that one might face in the event of implementation of e-Governance initiatives too.

NREGA was implemented in the identified 200 backward districts, in the first phase, and then rolled out to include the rest of the districts in the country.

⁹ The other forms being: fund transfers for the Centrally Sponsored Schemes – such as National Rural Employment Generation Programme, Sarva Shiksha Abhiyaan, Midday Meals Programme, Drinking Water Mission, Total Sanitation Campaign, National Rural Health Mission, Integrated Child Development Services, National Urban Renewal Mission

Of these identified backward districts too, it is instructive to note that there is no uniform backwardness across the district. The backward district identification is based on select criteria taken from the primary census abstract from the Census of India, 2001, for each of these districts. Chapter 3 of the 2nd Report of ARC, mentions the special challenges that are to be tackled in backward areas as follows:

As a first step, the programme is being implemented in 200 districts of the country which represents areas with high concentrations of poverty. Admittedly, these are the most difficult districts to implement the programme due to weak governance structures, low organisational capacity and highly stratified social and economic power structures. In addition, most of these districts are located in difficult terrain with poor accessibility, and poor infrastructure.

In other words, they are most backward in terms of rural connectivity, spread of banking, the nature of rural power structure, and the quality of governance.

Of the 200 backward districts chosen for the first phase implementation, 64 are plagued by extremism, 69 districts are included in the Scheduled Areas and Tribal Areas. 94 are covered under Drought Prone Area Programme and 8 districts are covered under the Desert Development Programme. 98 districts of these have the proportion of SC population more than the national average of 16.2%. 116 districts have more ST population than the national average of 8.2%. A considerable number of these districts have majority ST population. Most of these are primarily agricultural districts and in 115 of them, the percentage of agricultural laborers in the total rural working population is higher than the national average of 33 percent.

NREGA is built on the learning from earlier Employment Guarantee Schemes and some of them are: 1) Inadequate Planning for Assets must be avoided 2) People's Participation must be enhanced 3) Active role of Local Panchayats is important to have the schemes function better 4) To enable active role of panchayats – they must be trained and lack of capability must be overcome 5) Avoiding leakages must be a priority and could be done by effective use of technology.

Chapter 4 of the 2nd Report of ARC dealing with the special problems of backward districts, gives the following list of problems: 1) Panchayats are non-existent; No regular and dedicated functionaries of the Panchayats 2) Difficult and varied topography 3) Wide-spread poverty 4) Most backward regions in terms

of connectivity and spread of banking and post office infrastructure 5) Socio-economic indicators are below the national average 6) Mismatch between devolution of powers and concomitant transfer of funds and functionaries.

It further states the following:

There is ample evidence that the delivery of basic public services, particularly those intended to benefit the poor and weaker sections, has functioned relatively ineffectively in these backward districts, even when funds have not been a constraint. It has therefore to be recognised that availability of funds, though necessary, is not sufficient for the successful delivery of basic public services. The capability of the administrative system to optimally use funds and realize results on the ground is equally important. Delivery of public services in these backward districts has suffered due to, on the one hand, weak administration, understaffing, and lack of motivation and on the other, large-scale leakages. The reach of the administrative network is weak, leading to difficulties in implementation of most development schemes, e.g. in the North-eastern states, in many areas funds are channeled through autonomous district councils despite the fact that elections have not been held to the councils for a long time. It is therefore, necessary that the issue of strengthening the administrative apparatus is addressed on priority.

The following concluding statement in this chapter is important to note in the attempt towards coming up with an assessment model:

Backward districts pose implementation challenges that are as varied as the terrain is inhospitable. Given the heterogeneity and spatial dimensions of the constraints in these two hundred backward districts, the approach of “one-size-fits-all” is not feasible. In the ultimate analysis, the approach should be one that takes into account the heterogeneity, specific problems and constraints, peculiar to each district.

Backward Regions Grant Fund (BRGF) & NREGA

An important point to note here is that the implementation of NREGA or the works under the BRGF respect the *principle of subsidiary*, which shall be discussed in the following paragraphs. National Commission for the Review of the Working of the Constitution (NCRWC), in its report, Volume 1, Chapter 6 recommends

that it is high time that *district be considered the unit of development, administration and planning*. The following is an excerpt from the same:

What is urgently required at this juncture is a straightforward recognition at the highest policy level that a district is a basic unit of planning for development—social, cultural, economic and human. Functions, finances, and functionaries relating to such programmes would have to be placed under the direct supervision and command of elected bodies at the district levels of operation to give content and substance to the different programmes of development and public welfare. This would to a substantial degree, correct the existing distortions and make officials directly answerable to the people to ensure proper implementation of development programmes under the direct scrutiny of people.

Land is the most valuable natural resource whose planning and development offer major prospects for increases in output and incomes for the people, especially for those who are near or below the poverty line. For efficient land planning and optimum use, it is essential that there be clarity and certainty about title to land. In India, land records are in a very poor shape and there is maximum litigation in the rural areas about ownership. It has been estimated by reputed agencies that India loses 1.3 per cent economic growth as a result of disputed land titles, which inhibits supply of capital and credit for agriculture. It is therefore exceedingly important that a fundamental change is brought about in the way land records are maintained. At present land records are presumptive in character. In August 1989, the Supreme Court stated that “revenue records are not documents of title”. Millions of productive man-hours are lost in time consuming litigation. The Commission recommends that we move to a system where the State guarantees the title to land after carrying out extensive land surveys and computerizing the land records. It will take some time but the results would be beneficial for investment in land. This will be a major step forward in revitalizing land administration in the country as it would enable Right to access, Right to use, Right to enforce decisions regarding land. Similar rationalization of records relating to individuals rights in properties other than privately held lands (which are held in common) would improve operational efficiency which left unattended foment unrest. The Commission is of

the view that a coherent public policy addressed to the modern methods of management would contribute to better use of assets and raise dynamic forces of individual creativity. Run away expansion in bureaucratic apparatus of the State would also get curtailed by new management system.

It is not very surprising to see the hesitance or reluctance if that may be called so, that there is a question as to whether a block should be a unit or a district that comes across from the NCRWC recommendation on district and the above observation from ARC. While this is on one side, paragraph given above from the NCRWC report stresses on introduction of modern methods of management of data, which definitely includes computerization of land records. This is precisely the place where e-Governance comes into picture. The following is an extract from 2nd Report of ARC on the use of technology for NREGA implementation:

NREGA and Technology

The key objectives that technology can facilitate in the implementation of NREGA are efficiency, expediency, accountability, transparency, prevention of leakages and flexibility to different administrative demands. Use of Information Technology would be the best way to provide for robust monitoring systems. In fact, Chapter 5 of 2nd Report of ARC talks of assessing the effectiveness of implementation through a Ranking based on outcome-based monitoring for the districts where NREGA is taken up. These rankings are meant to be announced annually, and the following are some of the criteria listed for the same: 1) Average Annual income of households 2) Prevalent market wages for agricultural labor 3) Average number of days a family migrates in search of labor 4) Productivity of small and marginal land holdings 5) Quality and contribution of assets.

To be in a position to come out with this kind of monitoring or ranking, it is highly essential to have data coming from the grassroots. The points of relevance that ARC recommends in its 2nd Report are as follows: National Sample Survey Organisation to be given the task to develop district and sub-district level data; to make Block/Mandal as nodal, fully electronic point where all information from lower levels gets digitized; over which there will be a District-wise aggregation. We will now detail the principle of subsidiarity with a discussion on ARC Recommendations from their 6th Report on Local Governance. The role that is envisaged for technology and ICT intervention in this agenda is significant.

The following is an indicative list of recommendations from the 6th Report of ARC: Para 3.10.1.2.

Information and Communication Technology should be utilized by the local governments in process simplification, enhancing transparency and accountability and providing delivery of services through single window.

– **Space Technology**

- a. Space technology should be harnessed by the local bodies to create an information base and for providing services.
- b. Local governments should become one point service centres for providing various web based and satellite based services. This would however require capacity building in the local governments.

– **Information, Education and Communication – IEC**

- a. A multi-pronged approach using different modes of communication like the print media, the visual media, electronic media, folk art and plays etc. should be adopted to disseminate information and create awareness about Panchayati Raj. It should be ensured that there is a convergence in approach to achieve synergies and maximise reach.

– **Resource Centre at the Village Level**

- a. Steps should be taken to set up Information and Communication Technology (ICT) and space Technology enabled Resource Centres at the Village and Intermediate Panchayat levels for local resource mapping and generation of local information base.
- b. These Resource Centres should also be used for documenting local traditional knowledge and heritage.
- c. Capacity building should be attempted at the local level by shifting the currently available post school generalistic education to a skill and technology based system having focus on farm & animal husbandry practices, computer applications, commercial cropping and soil and water management.

For better resource utilization, extensive use of Geographical Information System (GIS) maps is also suggested. Given the emphasis on local level planning, the requirement of basic statistics at the local level is necessary. The following is

from a Report on the High Level Expert Committee on Basic Statistics for Local Level Development:

Basic Statistics for Local Level Development: System of Data Collection, updation, compilation and transmission from local level upwards to block, district, state and national level is feasible.

The Panchayati Raj system should be implemented in full functional form in all states. The full financial and administrative power must be given to all panchayats uniformly all over the country. The variations in the Geographical coverage of intermediate and district panchayats have significant bearings on district level planning and data management. This coverage should be uniform. The Gram Panchayat should consolidate, maintain and own village level data.

The village level information may be collected uniformly by using the Village Schedule (Annexure XI)¹⁰. The following sets of data can be collected using this schedule:

- (a) Availability of basic facilities in the village.
- (b) Information on Assets available in the village viz. number of factories, business establishments, bridges, declared forest area, orchards, roads etc.
- (c) Distance of the village from nearest facilities.
- (d) Demographic status of villagers, including population, births, deaths, morbidity, migration, marriages etc
- (e) Educational status of the villagers
- (f) Land utilization statistics
- (g) Data on livestock and poultry
- (h) Number of market outlets
- (i) Employment status of the villagers

Reliable data capture is a serious problem, and this requires major effort to be put in. This requires capacity building at local level. Once the data is captured, to have planning done at the local level is another task that requires heavy deal of capacity building. If one has to summarize the six modules of Training

¹⁰ Please see the Report on the High Level Expert Committee

Programme on District Planning and Human Development – then it would be as good as saying: how does someone look for solutions to a local problem by placing it in the context of global thinking about the problem and its solutions. There is an effort made to have this ‘glocal’ thinking rubbed off through the training programme. But, in any capacity building programme, things are easier said than done; and further the devil is in the details.

Further, one of the basic minimum services that the Government can think of providing is to assist in addressing the livelihood concerns of the people. This chapter began with such a discussion. Here is an excerpt stating the requirement as understood by National Commission for Enterprises in the Unorganized Sector as stated in their report on ‘Definitional and Statistical issues related to the Informal Economy’:

“..Indian economy is sharply divided between the informal and formal sectors and our estimates show that 86 percent of the workforce is employed in the informal sector whereas 92 percent of the work force is in informal employment. We find that there has been considerable increase in the informal employment between 1999-2000 and 2004-05. The availability of reliable statistical information about the (Unorganized) sector on a regular basis is therefore of significant priority so that the trends in employment changes can be monitored closely. A number of recommendations are therefore included in this report to improve the quality of employment data and the contribution of the informal sector to GDP which, in our view, would enable more informed policy formulation for this sector.”

In the concluding remarks, the report says: “India has built up, over the years, an elaborate and competent statistical system both in terms of institutions as well as professional manpower. However, given the complex nature of the economy especially with reference to the co-existence of different systems of organisation of production, it is important that we further fine tune and strengthen the statistical system to meet the challenges of growth and development in the 21st century.”

This only underscores the necessity of good data coming from the ground level. The operative word in the above excerpt is “reliable” – if the principle of subsidiarity is in operation, the reliability of the matters on ground is expected to be much higher. This comes from the assumption that representatives at the

local level have better appreciation of the conditions of their locality – and hence can estimate the accuracy of the data better. The other reason being, since the scale of operation is small, there can be greater focus on getting rich data.

It is necessary that systems and structures undergo changes/transformations that can bring to fruition the desired goal of principle of subsidiarity as envisaged through the suggested amendment to Articles 243G and 243W. In the context of having no strict understanding of the notion of a district, we bring the following discussion to the fore. Once there is clarity over the same, then technology can be used effectively and in an appropriate manner to get better results and improve the delivery systems for the citizens.

Political Geography and Districts

In India, the first tier of democracy is formed by public representation structure at the national level, second tier of democracy is formed by the public representation structure at the state level, and the third tier of democracy is formed by the public representation structure at the local level. Districts form an important part of the local level structures. Panchayati Raj Institutional structure is a three-tier structure – where the highest Institution is the District Panchayats. The other two structures are Intermediate Panchayat (at Mandal/Block level) and at the lowest level – Village Panchayat.

Harmonious functioning of the entire public representation structure at various levels is possible only when the structures enable such a thing. As on today, the relation between a Parliamentary Constituency and a District; or an Assembly Constituency and a District is not clear. Further, the relation between an assembly constituency and the local constituencies is also not clear. There is no easy geographical matching of constituencies with districts, with data usually available for the latter, not the former. When data is collected in a bottom-up fashion, this lack of data would not be an issue. But, from administrative ease point of view, having definite clarity on the district-constituency relation shall be of great help.

District Administration and e-Governance

At the district level, there is district administration under the District Collector/ District Magistrate (DC/DM), line departments under the respective departments like health, roads and buildings etc., local self-governing institutions at the district level, intermediate level and the village level, there are other Institutions/ organisations that are floated by the Government for special tasks, the Institutions

and Organisations may be related to banking, finance and insurance related, co-operative societies, cultural, health & medical organisations, educational, public sector & joint ventures, scientific & research, sports, tourism and hospitality. In addition to these there are various non-governmental organisations and private industries.

Structures for District Administration under the District Collector/District Magistrate (DC/DM) carefully nurtured over the years by the British in the colonial era and that also formed the nodal points for all activities at the district level till recently. The role of the DC/DM has gradually been on the decline but nevertheless the role played by the DC/DM is still very significant going by the current day situation in the district.

In spite of diminishing importance of the DC/DM post, it may not be an exaggeration to state that as on today, it becomes difficult to list down all the tasks that are assigned to the DC/DM. Broadly speaking the DC/DM is responsible for the maintenance of law and order in the district along with the Superintendent of Police (SP) of the district. DC/DM is at the apex of the district administration and he is also an executive magistrate and responsible for grievance redressal relating to all the tasks under his head. The role of implementing a number of developmental projects is directed through the office of DC/DM at the district level, even today, in a number of states. DC/DM is the head of the revenue department – which is assigned the important task of certifications and authorizations such as those described in the above.

There are a number of areas that directly affect citizen's life which arise at the district level, and end at the district level. The NCRWC extract earlier in the chapter referred to land records. Land records registration, maintenance begins and ends at the district level. Birth/Death registration is another thing that is entirely at the district level. Almost all the delivery channels for the development programmes are at the district and sub-district level – with district being the nodal point.

NeGP identifies several Mission Mode Projects (MMPs) whose focus lies with the operations at the district. The total number of MMPs are 27. The MMPs are divided as Central MMPs, State MMPs and Integrated MMPs depending on who takes the ownership of the projects. By MMP, the following is meant: *Implementation in Mission Mode implies that the objective and scope of the projects would be clearly defined, they would have measurable outcomes*

(service levels) and they would have well defined milestones and timelines for implementation.

Central Government Ministries/Departments take up responsibility for implementing Central MMPs in pursuance of National e-Governance Plan (NeGP), under the overall guidance of respective Line Ministries. State MMP under NeGP refers to those MMPs for which the Nodal Central Line Ministry/Department would frame the broad policy guidelines and facilitate project formulation but the actual implementation would be done at the State level and the State would be the ultimate owner of the project.

Most of the State MMPs and Integrated MMPs like the Common Services Centers have their focus at the district level. The following is a list of State MMPs with direct bearing on operations at district level: 1) Land Records 2) Property Registration 3) Agriculture 4) Municipalities 5) Gram Panchayats 6) Police 7) Employment Exchange 8) e-District. Central MMPs such as the National Citizen Database (or the Unique ID project) also have to do a lot of interaction with the district level resources.

The following recommendation from 6th Chapter of 11th Report of ARC on e-Governance is relevant for our discussion here:

Government organisations/departments at Union and State Government levels need to identify e-Governance initiatives which could be undertaken within their functional domain, keeping the needs of the citizens in mind. Such initiatives may be categorized as follows:

1. Initiatives which would provide timely and useful information to the citizens.
2. Initiatives which would not require the creation of a database for providing useful services to the citizens. This may include initiatives where database may be created prospectively without waiting for the updation of historical data.
3. Initiatives which allow for making elementary online transactions including payment for services.
4. Initiatives which require verification of information/data submitted online.
5. Initiatives which require creation and integration of complex databases.

At the district level, a district website may be considered part of Category 1. Computerized Birth/Death registrations may be considered part of Category 2. Payment of electricity, water bills would be part of Category 3. Caste certification, BPL certification would form part of Category 4. Land Records would be a case for Category 5. Of all the MMPs, the e-District MMP, by its very name signifies its focus on the district.

e-District MMP

The following is the description of e-District MMP as per the e-District guidelines document: e-District is a State Mission Mode Project under the National e-Governance Plan. The Project aims to target certain high volume services currently not covered by any MMP under the NeGP and undertake *backend computerization* to enable the delivery of these services through Common Service Centers. *The implementation strategy of e-District would suitably take into account the infrastructure currently being created under NeGP such as the SWAN (State Wide Area Network)s, SDC(State Data Center)s, CSC (Common Service Center)s and State Gateways.*

eDistrict aims at providing support to the basic administrative unit i.e. “District Administration” to enable content development of G2C services, which would optimally leverage and utilize the three infrastructure pillars, to deliver services to the citizen at his doorstep. The project is formulated on the premise:

- a. Districts are the primary unit for delivery of bulk of the citizen services
- b. Quality and content of Government Service Delivery can significantly improve with an integrated approach to service delivery.
- c. Capacity building of the district administrative functions and processes will enhance efficiency and accountability in service delivery.
- d. The services to be delivered would require automated work flow, data digitization, and involve significant process redesign.
- e. A Central data repository would be created at the district level, wherein data and information would be collected, stored, retrieved, used and exchanged in an efficient manner at all levels.
- f. Enabling backend computerization for delivery of G2C services will ensure optimal leveraging and utilization of the core and support infrastructure

such as Common Service Centers, State Data Centre, State Wide Area Network (SWAN) and Service Delivery gateway at the SDCs.

The kind of services envisaged under e-District MMP include: 1) Certificates – Caste, income, residence, birth, death etc. 2) Social security pensions – old age, widow, handicap 3) Public Distribution System – Issue of ration cards and related services 4) Grievance Redress 5) Police: FIR registration, Character verification 6) Utility payments: House tax, property tax etc. 7) RTI applications and their status display.

Earlier in the section, we remarked the difficulty associated with capacity building and reliable data capture. We also made a few comments regarding the process redesign. With the knowledge that such an MMP as e-District is on the cards, with the knowledge of what is the status of the core infrastructure such as SWAN, SDC and CSCs in the state of Andhra Pradesh (except for the SDC, the other two are not yet in place), we ventured to make a visit to one of the listed backward districts under the RSVY – Chittoor.

The gap between the expectations that are set for the e-Governance initiatives and the structural clarity and systemic overhaul that is needed for the same is huge. This chapter dealt with some of these issues. Over and above this, the gap between the stated goals and the ground situation is equally huge. This shall be detailed in the next chapter. Given this gap, one could say that districts are not yet mature to be evaluated for their efforts in improving governance through e-Governance. We take the other view, given the situation, how can one come up with an assessment pattern which can incrementally encourage the efforts at the district level to move towards the stated goals. The stated goals could be locally chosen – as decided by the local governments or the district administration, as the case may be.

e-Governance projects such as the e-District MMP or the various other projects that have to do with operations at the district level may all be assessed as individual projects, for which in the earlier part of the report assessment methodology is explained. The nature of assessment at the district level would be more than the sum of the parts of the assessment of the e-Governance projects taken up at the district level. This spirit must be visible through the assessment of e-Governance at the district level. Maintaining this is a difficult task, for in the first place, governance itself is a complex and difficult thing.

Part 3: Evaluation of District e-Governance – The Andhra Pradesh Experience

CSI Research project for evaluation was extended to cover Districts to have a feel of ground realities at grassroot level and to ascertain, if ICT has matured to a level to be effectively implemented. Some Districts in Andhra Pradesh, easily assessable to Researchers were short listed for their study with a short span of 9 months. Understanding the administrative set ups and viabilities of ICT was under estimated, keeping researches from IIIT-H. Within the constraints of time and resources, best effort was put to come out with suitable model which can be tried out during CSI e-Governance Awards at District level. Chittoor District field visit provided the ideal location for real life experience for the team.

The sharing of Best Practices has to do with knowledge-sharing and has got to do with collection of such information and its dissemination. It is natural to see the role for ICTs in both information collection and dissemination. At the district level, one of the direct sources of information and knowledge-sharing is the district website. There are a number of districts that host their websites, providing an overview of the district. Of the 626 districts, 559 of them have websites. If face is the index of mind, then a website would be the ICT face of a district, and the content of the website is its index. One could imagine the district websites playing the role of providing with local knowledge to the entire world. As on today, this role of the district website is not yet realized, and it requires major improvement in content creation.

One of the first indications that there is a lot to be desired in the use of ICT at a district level is the score that one may give to its website, in terms of the audience that it caters to, with the content that it provides. Not many of the websites in the list of district websites give a positive feel on this regard. Chittoor district website happens to be one such. In a sense, the reason for the lack of focus on how the district website is an indication of the priorities that the people at the district give. The reasons for the same could be as varied as the e-readiness quotient being low for the district, lack of skilled people who can execute the task, the targeted audience not being clear.

Andhra Pradesh is in Level 1 as per India e-Readiness Report – but the e-Readiness need not translate down to the fact that larger section of the population is going to make use of the facilities thus provided through the usage of ICTs. The presence of capability is only a necessary condition but not a

sufficient condition, for it also requires the active participation that needs to be encouraged and built as a culture amongst the people for that to happen. Further, e-Readiness Report being a report based on aggregate analysis done on various parameters thus chosen, has its drawbacks which exactly relate to its inability to cater to the details, which one finds when, say, one goes down to the lower levels of governance structure – such as the district or mandal or a village. In fact, one of the key features of the e-Readiness Report was the use of Social Accounting Matrix to assess the impact of ICT on social dimensions such as poverty through the manner in which ICT impacts GDP growth as well as that of the generated employment. But this, being an aggregate measure cannot capture the details – which is what we can look for when assessing a district.

Furthermore, from the implementation status of the projects in the NeGP which is available from the DIT website time to time, it is clear that Andhra Pradesh, though has been one of the first mover in the area of e-Governance has not yet built the capability to have a SWAN (State Wide Area Network) and the Common Services Center notion is still far off, in spite of instances of such a thought being worked out by the district administration of West Godavari district through the Rural e-Seva¹¹ project. This is one of the strong reasons why there is no great expectation in terms of ICT usage for better governance at the district level in Andhra Pradesh. This feeling rubbed off on us as we thought of doing a field visit to the Chittoor district.

As mentioned in previous chapter, our goal was to come up with an assessment model for e-Governance initiatives at the district level such that the process of assessment should help bridge the gap between the stated goals and the status quo. Since we have not much idea about how things happen on the ground, we planned for an exploratory study at a district to meet up with various actors in the act of governance at the district level.

Chittoor District – Overview

The state of Andhra Pradesh has been geographically divided into three regions (Telangana, Coastal Andhra, Rayalaseema) in that Chittoor District forms South-Eastern part and is one of the four districts of the drought prone Rayalaseema region, constituted as an independent district in the year 1911. The district was divided into three revenue divisions and 15 taluks for the purpose of administration

¹¹ <http://www.westgodavari.org/Default.htm>

until 1985. From 1985 onwards the 15 taluks have been regrouped into 66 mandals in three revenue divisions of Chittoor, Tirupati and Madanapalle.

The District handbook was a source for rich information. It had a brief history of the district, its geographic profile, composition of the district in terms of the mandals and revenue divisions, its economic resources, places of historic and tourist importance, sources of livelihood in Chittoor and programmes and policies implemented by the Government in Chittoor for its economic development. The handbook ends with interviews of the then Collector (Mr S S Rawat) and the then Superintendent of Police (Mr V V Gopalakrishna). In his message at the beginning of the Handbook, the then Chief Minister Dr. Y S R Reddy, hopes that the handbook would be of use to attract entrepreneurs to look forward to investing in the district.

A quote from the handbook which is relevant to our discussion: “Chittoor district was not a homogeneous administrative unit in the past. Most parts of the district were under the control of various principal dynasties at different periods of time. They include the Mauryas, Satavahanas, Mughals, Asaf Jahis, Marattas, and Hyder Ali and Tipu Sultan, besides minor dynasties such as Renadu Cholas, Bans, Vaidumbas, Nolanbas, Western Gangas, Yadavarayas and Matlis, Mayana Nawabs of Western Cuddapah, and Nawabs of Arcot.” Chittoor is bounded by Anantapur and Cuddapah districts on the north, Nellore and Tiruvallur district of Tamil Nadu on the east, Dharmapuri and Vellore districts of Tamil Nadu in the south and Kolar district of Karnataka on the west.

Terrain in Chittoor district is highly uneven, with most of the district covered with hills and mountains. The Eastern Ghats which are predominant in the Western region of the district gradually bend towards the sacred Seshachalam hills of Tirupati. Approximately 30 per cent of the district is covered by forests. There is no perennial river flowing through the district, and most of the rivers remain dry throughout the year. This is a main cause why the district is drought-prone. A unique feature of the district is that it has three autonomous panchayats: two in Madanapalle revenue division – Horseley Hills and Arogyavaram and one in Tirupati revenue division – Tirupati. Chittoor has a number of pilgrim centers, most prominent among them being Tirumala, Sri Kalahasti and Kanipakam. Temple town of Tirumala attracts maximum tourists to the district.

Chittoor district has a population of 37.46 lakhs, distributed across 1540 revenue villages and 15 towns as per 2001 census. This constitutes 5.2 per cent

of the State population. The geographical area of the district is 15.2 sq. kms, constituting 5.5 per cent of the total area of the State. The net sown area in the district formed approximately one-third of the total geographical area of the district in 2003-04. The cultivable waste constituted 3 per cent of the total geographical area. The net area irrigated as a proportion of the net area sown was 35 per cent which was lower than the State average in 1993-94. Large part of the irrigated area is dependent on minor irrigation sources.

The demographical characteristic of Chittoor district also adds to the complexity of its poverty. In the total population of the district, the rural population was about 80 per cent in 1991, and so is the case even after ten years, in 2001, with it being around 78.35% as per Census 2001. Secondly, the share of the disadvantaged SCs population was about 18.75 per cent while the corresponding State average was 16.2 per cent in 2001. As the majority of the SCs households are landless agricultural labour, it is a pointer to the higher poverty ratio in the district. Thirdly, the backward castes/classes are mostly small and marginal farmers, artisans; agricultural labour constituted about 31 per cent of the total population according to a survey conducted by the Government of Andhra Pradesh in 1983.¹² Though, comparable estimates are not available for the State, the higher percentage of BCs also points to the higher incidence of poverty in the district. The numbers are not very different as per estimates that can be made from 2001 census. The marginal workers, cultivators, agricultural labourers, and people in household industry combined make up for about 40 percent of the population.

There are sharp intra-district disparities of SCs, STs and BCs as well as agriculture labour. SCs population in the Chittoor and Tirupati revenue divisions constitute about one fourth of the total, while in Madanapalle revenue division the share of SCs is about 21.5 per cent. The share of agricultural labour in the total population is higher in these two divisions, whereas the proportion of cultivators in the total population is higher in the Madanapalle revenue division in comparison with the other two revenue divisions.¹³ The literacy rate in the district is 66.8% and a low sex ratio with 982 females for every 1000 males as per census 2001. Chittoor town is mid-way between two big cities: Bangalore and Chennai on NH-4 and NH-18.

¹² Source: <http://www.rassarkvk.com/main.htm>

¹³ Source: <http://www.rassarkvk.com/main.htm>

In the following paragraphs, we give an outline of the livelihood options for the people in the district; education and health facilities available in the district; water and irrigation status and a word on the law and order and security situation in the district. We then give the e-Governance initiatives at the Chittoor district.

Livelihood Options

Agriculture is the major livelihood option for majority of the people in Chittoor. As there are no live rivers existing in the district, the possibility of major irrigation projects is very limited. With the low and irregular rainfall and poor soil fertility status, farmers are accustomed to groundnut cultivation. Under well and tube well irrigation vast potentialities are available for agriculture and allied enterprises. The farmers of the district are highly enterprise oriented to take up new enterprises such as cultivation of aromatic and medicinal plants and protection of forest wealth.

The major crops in the district are groundnut, paddy and sugarcane. Other food crops grown are jowar, bajra and ragi. Vegetables like tomato are grown extensively in the district and are also transported to distant places including Mumbai, Bangalore, and Hyderabad. In horticulture, mango covers a major area followed by coconut and there is a possibility of taking up other fruit crops such as sapota, guava, seethaphal and amla. Agro-based industries such as fruit processing units (Amara Raja group's Galla Foods Pvt. Ltd is an instance) and by-products of horticulture and forest are another source for revenue that provides for livelihood options. There is vast potential in the district for development of floriculture, spices and plantation crops such as coffee, arecanut. For floriculture existence of pilgrimage centres like Tirumala, Sri Kalahasti and Kanipakam located in the district is an added advantage for its rapid cultivation. Breeding cattle and other livestock for dairy-farming, or poultry-farming are other allied activities that provide for livelihood.

Chittoor has good mineral reserves of iron-ore, gold, barytes, China clay – all of which if utilized resourcefully can result in generating good employment opportunities. Chittoor has a thriving granite polishing industry that provides for employment to a number of workers. Tourism is another industry which has great potential in the district. Temple towns in the district provide for great source of livelihood for a number of people. There is a proposed temple corridor project connecting the major pilgrim centers of the district that is announced which intends to generate lot of temple tourism. Apart from this, there are destinations

such as the Talakona Waterfalls, Horseley Hills, Chandragiri Fort which have their own attraction. Sericulture is another major activity in Chittoor district which provides for livelihood. Chittoor stands second in terms of silk production in the state of AP. Kalamkari textiles and art from Sri Kalahasti is very famous and is another source for livelihood.

Education and Health

Chittoor has five universities of which the largest is Sri Venkateswara University in Tirupati and there are Universities with special focus such as Rashtriya Sanskrit Sansthan in Tirupati and Dravidian University in Kuppam. It has 4 medical colleges. Besides 9 engineering colleges, there are 58 degree colleges, 3 pharmacy colleges, 1 agricultural college, 8 polytechnic colleges, 7 MBA colleges and 525 high schools that contribute towards education in the district.¹⁴ Chittoor also boasts of the famous Rishi Valley School, near Madanapalle started by philosopher-thinker Jiddu Krishnamurthy.

Details regarding the exact standards of education, and regarding the Universal Primary Education are not very encouraging, but if the question were about whether the district has structures in place for good education, the answer is yes. Public health system (including Sri Venkateswara Institute of Medical Sciences) in Chittoor is complemented by private initiatives such as the Apollo hospital and college in Aragonda. A T.B Sanatorium exists 5 kilometers away from Madanapalle, which is an autonomous panchayat as mentioned earlier. Christian Medical College in Vellore, which is famous across the country being close to the district, a number of patients prefer to take medication in this hospital. Public-private initiatives such as the 108 (EMRI – Emergency Management Research Institute) and 104 (HMRI – Health Management Research Institute) services providing emergency services and regular medical check-ups are going to boost the health-care scenario – across the state. 108 service is started in Chittoor, whereas 104 is yet to roll-out to the district.

Water and Irrigation

If there is one major drawback for the Chittoor district, it is the lack of water resources. Since there is no perennial river flowing in the district, and as there is no major irrigation project that has been completed, across the district, people rely on groundwater resources. The usage of groundwater is extensive so much

¹⁴ Source: Handbook of Chittoor District

so that it is at alarming propositions. Water scarcity is more pronounced in the Madanapalle revenue division.

The district's average groundwater level stood at 5.7 mbgl. The composite hydrograph of district average ground water levels and rainfall shows that the water levels are showing a declining trend of 8 cm per month. According to micro-basin-wise groundwater resource estimation, the annual ground water recharges is of the order of 53 TMC, while utilization is 50 TMC. That is, the stage of development is at 94% or "critical," which is the highest in the State. Of the 66 ground water micro-basins, 23 are overexploited (>100%), eight are critical (90- 100%), 14 are semi-critical (70-90%) and the remaining 21 are safe (<70%). Of the various irrigation projects in the pipeline, Telugu Ganga Project, Handri Neeva Sujala Sravanthi (HNSS), Galeru Nagari Sujala Sravanti (GNSS) are expected to provide some relief for the water scarcity in the district. HNSS and GNSS are lift-irrigation schemes which are expected to provide relief to more than 1 lakh acres each.

Law and Order, Security

Chittoor district being a border district between Andhra Pradesh and Tamil Nadu and Andhra Pradesh and Karnataka, there is a definite need for greater patrolling on the borders – to avoid smuggling, and illicit trafficking. Further, since the district has major pilgrim centers, and as Tirumala attracts lakhs of devotees, there is great number of floating population in the area. Providing security to the pilgrims is a major task. Apart from that, there are number of processions, and fairs and festivals held in the district, such as Ganga Jatara, which require special attention. Since there is vast forest cover in the district, smuggling of forest treasures such as red sandalwood across the borders of the state is another aspect which is a challenge.

e-Governance Initiatives in Andhra Pradesh

One of the first e-Governance initiatives started by the Government of Andhra Pradesh (GoAP) is e-Seva. Chittoor district has operating e-Seva centers at each of Revenue Division head quarters – that is, in Tirupati, Chittoor and Madanapalle. Other than this, in 21 Mandals necessary arrangements are made to start E-Seva Rural Kiosks.¹⁵ The rural e-sevas shall be run by SHGs (self-help groups). E-Seva centers offer several G2C and B2C services such as payment of electricity bills, telephone and mobile bills etc.

¹⁵ <http://www.rd.ap.gov.in/velugu/Veluguactionplans/districts/chittoor.htm>

Computer Aided Administration and Registration Department (CARD) project is also implemented in the district with all its sub-registrar offices cover under the same. This simplifies the registration process, provides transparent method of valuation of property and calculation of stamp duties among other things.

Through GO Ms. No. 13 dt. 24.04.2008 of Department of IT&C, Andhra Pradesh Government identifies Center for Good Governance (<http://cgg.gov.in>) as an agency which can be approached by the Government Departments to develop software solutions based on estimates provided by CGG. Prior to that, CGG has been implementing a programme known as DISA – Delivery of Improved Services in Administration – and as per GO Ms. No. 668, General Administration Department, dated 5.09.2007, the Departments can entrust any work under DISA programme directly to CGG. CGG has since then been involved in providing the backend support to building several web-based MIS for projects taken up by the GoAP and also has been providing softwares suitable for better administration and better monitoring efforts.

Experience Sharing

We now narrate a few of the relevant experiences of our visits to Chittoor, Mahabubnagar and Vizianagaram. All the visits were intended to get to have greater clarity on how issues are handled at the ground level. Our visit to Chittoor was the longest duration for ten days, whereas the other two were short visits for a day to Mahabubnagar and Vizianagaram to notice the difference that one would find in the learning from different districts. Since we spent maximum time at Chittoor, more details emerge from that visit.

Experiences at the District level (Chittoor, Mahabubnagar, Vizianagaram)

As mentioned earlier, Chittoor has three revenue divisions, each of whose conditions are quite different from the other. To get a feel of the district, it was felt that covering each of the three revenue divisions is necessary. Our aim was to meet the Collector, Jt. Collector, MRO (Mandal Revenue Officer) among other officers on the Revenue side; meet MP, MLA, ZPTC (Zilla Parishad Territorial Constituency) Members, MPTC (Mandal Parishad Territorial Constituency) Members, Gram Sarpanch from the public representatives' side; Mandal Parishad Development Officer (MPDO), an officer from the Zilla Parishad executive wing, among other officials involved with the execution of development projects in the PRIs to know from them how things happen, and to ascertain their thoughts on

how things should be. We intended to meet the Superintendent of Police and the District Judge as well, but could not.

Our first visit was to Tirupati, the town at the foothills of the autonomous panchayat of temple town Tirumala. The Tirumala-Tirupati Devasthanams (TTD) Board makes use of ICT to handle the huge rush of pilgrims by introducing an online-booking and token system that gives the darshan time for the pilgrims, thereby streamlining the process, and easing the situation for long distance pilgrims. Apart from this, Tirumala has extensive security apparatus in terms of modern surveillance systems and closed-circuit televisions (CCTVs) for the protection of the site, as well as the pilgrims.

Tirupati

TTD has a decent website that provides with information on various aspects of interest related to the work of TTD with a feature for online remittances of offerings to Lord Venkateswara. The site also provides information regarding temples, variety of prayers conducted at Tirumala, and of festivals, of Tirumala-Tirupati. Tirupati, on account of its importance as being at the foothill of the important shrine, has been on a rapid development path, as opposed to the rest of the places in the Tirupati revenue division. Most of the work that is done at the Municipal Corporation of Tirupati is in the process of being computerized. At the level of planning for the development of Tirupati town, satellite images and GIS-based mapping is being used.

Tirupati revenue division has one of the largest SEZs in the country that spreads over the Satyavedu and Varadayypalem mandals called SRI City. Tirupati has a separate Land Acquisition wing associated which takes care of land acquisition for the start of this SEZ. The land acquisition wing has been provided with necessary software for drawing survey maps. We attended a meeting conducted by the Joint Collector reviewing the land acquisition for the SEZ at Satyavedu mandal. The mandal office had a single computer on which simple processing tasks were taken up by the officials. Land records have not been computerized. In a conversation with a Survey Inspector working on the job of surveying land for acquisition, in spite of being trained on the software for drawing survey maps on the computer, was hesitant to use it and on pushing him further, he revealed that he found it easy and he is skilled at working on drawing the maps on paper by himself. He went on to point out that, in general, at the times he preferred to work, the computer (as mentioned earlier, only one computer was present) was

occupied for some other task or the office was closed, and he did not feel like disturbing the person at work or work in the office at nights. The reluctance of people to work on ICT solutions can have several reasons.

Collectorate Deliberations

In a conversation with a former collector of Chittoor, we mentioned that the Madanapalle revenue division with more than 30 mandals was twice as big as the rest of the two revenue divisions, and asked him if there were any attempts in the past to create another revenue division for administrative ease. Then, he told us that there was a proposal at least 20 years ago to add another revenue division carved out of the Madanapalle division with Palamaner as its head quarters. But this could not take place as the thought got buried in the files. It appears that there are a number of such thoughts/ideas that come up towards bettering administration and governance, and when an initiative is taken to convert it to action, it may get buried, because of various reasons. One of the good things to do in such a circumstance would be to maintain a record of all such initiatives, so that they will be of use to the later generations, to understand how to address a problem. Such information can act as a ready reference for policy makers – and public representatives towards what needs to be done.

In the same spirit as above conversation, in another conversation with a resident of Chittoor district for all his life of almost sixty years, on its development and the causes for its backwardness, our interviewee said that Chittoor cannot be called backward, for it has all the resources that can cause its development. Our interviewee has worked in various industries in the district, and was currently working with a private granite polishing company. He pointed out that there was proposal in the early '60s, or '70s for a railway line connecting Chennai and Bangalore via Chittoor. Since the granite polishing industry is surrounding Chittoor that would have meant a lot of freight travelling through the railways which in turn results in development. Even today, the trains between Chennai-Bangalore travel via Katpadi junction (Vellore), and that meant that the freight from granite industries has to travel to Katpadi from where it gets exported. We could not verify the facts that he stated about the case, but it is easy to notice that in Indian circumstances, it is a definite possibility. As per the Constitution of India, Railways falls under the Union List in the Schedule VII, and though there are requests from States and lobbying by MPs from each state for better railway links laid through their constituencies, a number of such requests get

turned down. Rail Connectivity is certainly a great boost for industries that generate a lot of freight. Today, there are hopes that the proposed Chennai-Bangalore industrial corridor would cause development to Chittoor district, though if it gets routed through Vellore, it may again cause disappointment to the sentiment expressed by this resident.

In a meeting with the Collector of the district, we were told that Chittoor has not yet taken to computerization of its Collectorate and other administrative offices. Computers, though, are used for simple processing tasks. The Collector however informed us about the use of teleconferencing, video-conferencing at the district. All districts in Andhra Pradesh have video-conference facility and the Chief Minister monitors the progress and state of things at the district level regularly through video-conferences with the District officials. The Collector, as well as all the other officials that we got to meet were available on mobile/phone and do respond to them. One of the mandatory declarations of RTI Act was to give all the contact numbers of the officials.

In our conversation with the Collector, speaking of the e-Governance initiatives it was mentioned that they shall serve a great purpose in improving the efficiency because they provide better means of monitoring various schemes, and programmes taken up at the district. When we mentioned that the creation of MIS could as well act as a decision support system, he corrected us that may not be for decision-making, but certainly for monitoring. This appears apt since the focus on administration is on effective implementation and hence monitoring is of utmost importance to them, whereas a thought from the side of planning would make the information sources suitable for decision making.

Andhra Pradesh GO Ms. No 77 Revenue, dated 22.01.1968 and subsequent 25 GOs issued thereon lists the distribution of work among District Collectors, Joint Collectors and District Revenue Officers. It says that as per GO Ms. No. 144, General Administration (Special) Department, dt. 03.11.1967, Government sanctioned one post of Joint Collector in the senior time scale of IAS for each District as to relieve District Collector of the Revenue and Civil Supplies work and enable him to devote himself entirely to Development work. In our conversation with the Joint Collector, when pointed out that the tasks listed under e-District MMP fall under his purview, he mentioned that the inefficiency caused because of lack of use of technology is so high so much so that in several cases, proper monitoring of the tasks that are to be monitored – e.g. excise control or forests management, are beyond his scope. The same appears the case

with the Collector who also happens to be District Magistrate – and since he is also entrusted with the implementation of development projects, a number of grievances come to his attention, every day. The Joint Collector explained showing a huge file in front of him that normally, licenses for arms; guns etc. are given for a particular duration after which the license elapses. It is not possible to keep track of when a particular license elapses and to remind the person with the license to renew it or to stop using the gun/arms – unless one goes through the pile of files. Whereas it is clearly feasible to have an alert system programmed to indicate the elapsed licenses, and have reminders sent.

Praja Patham

Dr. Y S R Reddy's government conducts a programme named *Praja Patham* which is a platform for interaction between the district officials and people to address their problems. *Praja Patham* provides a platform for knowledge sharing where a number of government schemes related information, agricultural and allied activities related information is distributed using printed pamphlets. In the meeting that we attended, loans were distributed to several SHGs. Chittoor district has a very positive experience in terms of women run SHGs. As part of Andhra Pradesh District Poverty Initiatives Programme (APDPIP), several women SHGs were formed, and several kinds of social mobilization programmes were taken up. Though initially it was difficult to mobilize people, gradually things picked up and it was felt that the lessons learnt and the best practices of the community efforts should be documented and since it may not be possible for someone from outside the community to observe this and do, it was necessary that such a thing happens from within the community. That was when a newsletter by name 'Navodayam' with the purpose of putting to action 'Information for Empowerment' was started by the SHGs. This newsletter started off as a quarterly newsletter, but went on to become a monthly newsletter that includes a number of items, all related to poor women and their successes. The publication of the newsletter is totally managed by the reporters, identified and trained from the project area.¹⁶ The APDPIP project monitoring report and best practices can be found at this link: <http://www.rd.ap.gov.in/IKP/BSindexsept06.htm>. The groups of women who work on 'Navodayam'¹⁷ have taken up projects such as Community Radio for information education communication.

¹⁶ Source: <http://www.rd.ap.gov.in/IKP/CSctr.htm#news>

¹⁷ <http://www.thehoot.org/web/home/searchdetail.php?sid=1468&bg=1>, http://archive.gulfnews.com/gnfocus/india_jan2008/more_stories/10184754.html

At the end of our field visits, we concluded that most of these districts – backward or otherwise, have not yet made much progress in terms of a coherent, cogent and integrated development of systems using ICTs, and most of the e-Governance initiatives have been individual projects taken up at the State level that have been deployed at the district level, with computerization of records taking place at the district level. Project evaluation has been dealt with separately in this report, and district e-Governance initiatives cannot be assessed without taking into consideration the integration of the various e-Governance initiatives improving the efficiency and efficacy of the government or the impact that it had to improvement in governance in the district. The question to be asked in case of district e-Governance assessment would be – on the implementation of a certain e-government project, if one is able to save some time, then how has this time been gainfully employed to solve an issue which otherwise cannot be solved using technology.

We decided not to go towards a field visit further, after the visits, because in our conversation with the Collector of Chittoor (who, a six months ago was Collector of the adjacent Nellore district), when asked as to the difference between administering Nellore and Chittoor – his reply was that 90 percent of the work remains same, except that in Nellore, the focus was on flood management, whereas in Chittoor it is drought management that is the area to be focused. As far as any further visits to a district is concerned, we realized that we will be dealing more with the details that are of local importance more than the structural aspects of governance. The local issues are better dealt by the local people is a learning that is impressed up on by the spirit of principle of subsidiarity. How should local issues be incorporated while assessing e-Governance initiatives at the district level? This may be done, by considering the analysis of the reasons for failure of the initiatives taken up at the district level where the initiatives considered are more in terms of the basic minimum services.

Expert Group Report

The Tenth Five Year Plan recognised that better governance holds the key to achieving effective results for the development programmes initiated by the Government. This perception has led to articulation of a nation-specific paradigm of governance, different from an international perspective. The latter is interpreted to mean policies that will attract foreign capital, enforcement of contracts, protection of property rights, replacement of state agencies by independent

regulatory agencies for smooth operation of business and rule of law. *Good governance in our national context has been elaborately conceptualised, so as to focus on decentralization implying devolution of authority, financial and administrative, strengthening of district level planning, etc.* The poor implementation of social sectors in government programmes has been attributed to the lack of mobilization and accountability, the absence of performance appraisal, non-existence of a system of incentives and penalties, understaffing, poor working conditions and large scale leakages. These maladies can be corrected by bringing in improved transparency, greater accountability and streamlining the structures of Government.

Notes from Expert Group Report on Development Challenges in Extremist Affected Areas: Almost all of the extremist affected areas are amongst the backward areas. There are a number of villages in India without electricity. As per Census 2001, only 42% of households in India have access to electricity. The situation is much worse in the areas inhabited by the scheduled tribes. The improvement in the situation of access to electricity is a definite and compulsory enabler for the e-Governance initiative at a district level.

Good governance for a citizen in general, and good governance for socially excluded groups such as the SCs/STs can be different. Their concerns and problems with administration go beyond the concerns listed for citizens in general. This is not to underestimate the efforts at improving governance on lines formulated by central government which may also yield some positive outcomes for these sections as well. But the difficulties they encounter are chiefly rooted in the lack of sensitivity to problems of these communities in all organs of Government (legislative, executive, judicial), and at all levels, and deep seated social bias against these groups. These biases are a hang-over of the dominant traditional social order, which even religious minorities have internalized in their social behaviour. This attitudinal trait colours behaviour of persons in decision making and implementing positions, and has the effect of denying these communities the benefit of laws, policies and programmes. Good governance in their context has to be conceptualized taking this dimension in view. The strategy for Governance outlined above would have to be multi-dimensional. It should have elements of protection, development, participation, effective administration, accountability, inclusive politics and a paradigm shift in the approach to violence. The development paradigm and the consensus that comes about amongst the

influential majority may not be sympathetic towards the marginalized communities. One of the prime areas where this comes out is when displacement occurs from their natural habitats.

Displacement, which is, in fact, enforced eviction of people from their lands and natural habitats, has for long been a serious problem. Displacement is a multi-dimensional trauma, with far-reaching impacts, which cannot easily be compensated. A task for which ICTs must be used is to have an official database of persons displaced/affected by projects is not available. While these basic minimum services are yet to be provided, Planning Commission has come up with a Manual for the Integrated District Planning which foresees a significant role for the ICTs for district planning.

A Fresh Approach to Participative District Planning

We are at a unique juncture where participative decentralised planning is gathering momentum. Side by side, innovations in Information and Communication Technology (ICT) have made it possible for the vision of participative planning, articulated over a long period, to be effectively implemented on a countrywide scale. The time is now ripe for grounding participative planning from the grassroots level upwards led by local governments, so that plans relevant to the local area are prepared, with local communities and their local governments gaining a strong sense of ownership. This alone will lead to better outcomes and results. Participative district planning is multidimensional, and therefore calls for following a clearly organised sequence of steps to arrive at a meaningful plan. The participative district planning design process, led by local governments, needs to take numerous factors into account, the foremost being the duality that exists between the constitutional and legal aspects of the framework that governs rural and urban local governments.

The next most important feature consists of the several levels within the local government structure; the three levels of Panchayats in rural areas and the wards that exist and Area Sabhas that are envisaged under each municipality. Then comes the multiplicity of development sectors to be addressed (health, education, nutrition, sanitation, livelihoods, etc.), a variety of funding sources (Central, state, Centrally sponsored, local, etc.), an intertwined group of departmental and programmatic machinery and a broad spectrum of stakeholders, each seeking fulfillment of their own expectations (which may sometimes conflict with each other) from a district plan.

Harnessing ICT for Better Participative Planning

There are several reasons for putting a strong emphasis on using ICT tools to anchor and thereby considerably enhance the quality of decentralised planning from the outset. ICT solutions make it much easier for support institutions to capture, integrate and analyze baseline data. ICT enables much more meaningful data display to decision-makers at all levels, from the DPC, through Panchayats and municipalities, to gram and Area Sabhas.

Providing data spatially, graphically and by using animation can considerably improve decentralised decision-making. In particular, ICT will enable better recording of budget envelopes, prioritising selected projects and works, linking these to budgets, generating, modifying and finalising plans, projectisation and monitoring of implementation. Most important, ICT can throw open the entire planning process to public view and bring life to the ideal of decentralised planning. There are several initiatives blossoming across the country in IT enabling of decentralised planning. The Manual for the Integrated District Planning has a number of relevant points that must be taken note of while thinking of assessment at a district level.

We conclude this chapter by noting that the attempt in the first three chapters has been to try to make an effort to understand the complexity of the task of assessment of e-Governance initiatives at the district level by pointing out several dimensions of the task at hand. This is still a partial effort, for, at the district level, one come across people, and as the number of people increases, so does the complexity. The attempt made here is to cover the trends that are there in note as to the kind of e-Governance initiatives are being taken up, as well as bring to the fore issues from the ground level that must be kept in mind while coming up with assessment models.

Part 4: Assessment Framework for District e-Governance Initiatives

Goal for District Awards

The stated goals of the CSI-Nihilent e-Governance Award for Excellence for taking up e-Governance Initiatives at the District are given below:

- a. Study the level of development in all critical parameters affecting the quality of life of citizens

- b. How far ICT is being applied at present and their plan for the future
- c. Effective implementation of ICT at district level
- d. Evaluate the nominated districts based on Result-Enabler Model by the selection committee using all possible inputs available.

Comprehensiveness is something which is not possible when evaluating under severe constraints of resources that include time, money and people. As pointed out in Part II, where we mentioned the constraints under which Project Awards are carried out, the same constraints hold in the case of District Awards too. At best, one is to evaluate based on the information provided by the district officials and all of it is secondary data. The kind of information collected for the evaluation can be both qualitative and quantitative. Qualitative inputs should be in terms of narration of experiences – best practices for the success, or the causes for failures for chosen areas of focus as per the local understanding.

District/Block as Basic Unit of Government Administration

At the district level, the structures that are part of governance effort include: district administration, local self-governing bodies, line departments, community-based organisations, cooperative societies, agencies for specific tasks, e.g. ITDA – Integrated Tribal Development Authority, banks. It forms the basic unit for Government Administration including Revenue generation from British era. ICT, one may consider any of the information communication technologies – including televisions, computers, radios, internet, telephones, mobile phones, and print media. One can imagine the use of ICTs in Information Dissemination, for Monitoring, in Data Collection, Collation, Verification, and Dissemination. ICTs for Planning – Environmental + Holistic Planning is an important function and can be used to develop efficient MIS. However, the current usage of ICTs for Complex processing tasks such as integration of databases and for easier and better Citizen Services is becoming popular.

Backward Districts & ICT

What kind of usage of technology is valid for backward districts? Technology must surely be used for better planning so as to ensure near optimal resource utilization if not optimal. This is a must as far as any backward district is concerned. To have good planning done, one should be able to collect reliable data that reflects the ground situation. This requires mapping of resources, and those of which can be collected by the use of advanced technologies such as

space technology can be collected easily, whereas most of the details of human resources are not properly traced. The emphasis in our assessment model is given to the presence of such reliable data in computerized form, so that planning can take place over it. Backward district certainly require a good functioning public distribution system (PDS) because one of the major problems to be addressed is hunger. As per the report by Bibek Debroy and Laveesh Bhandari titled “District-level Deprivation in the New Millennium”, three out of every 100 people go hungry and are undernourished in as many as 69 districts of the country. The population estimated to go hungry is to the tune of 27.5 million. Any use of technology to improve the PDS is to be welcomed. Identification of the BPL families becomes a very important concern in this case.

ICT for Monitoring e-Gov Projects

ICTs for monitoring of government schemes so as to have effective implementation and reduce leakages are another key requirements in a backward district. This is where MIS building comes into play. With the advent of cheap technology for video-capture like mobiles with cameras, it is now possible to imagine MISs containing image, and video data – that can be shown as proof for every asset that is built as part of a government scheme. They can serve as proofs of the completion of the work.

ICT for Grievance Redressal

Grievance redress in backward districts is of high priority. Grievances could be of several kinds and some of the grievances could be related to the development wishes of the people at the place, e.g. in the recent elections, a village in UP decided against voting unless electricity is provided to them. Some grievances could have to do with even more structural changes that are to be thought of. For example, Andhra Pradesh Human Development Report 2007 indicates that as far as livelihood options are concerned, there were not many options beyond agriculture in AP.

The state was at a relative disadvantage in terms of manufacturing activity in the non-household sector unlike some states which were ahead of the rest in terms of industrial development even at the time of Independence. For instance, A.P. does not have a strong background and tradition of industrial development, like the neighbouring state of Tamil Nadu in terms of entrepreneurship, technical skills and infrastructure. Industry is predominantly a central subject in the Indian

Constitution. As a result, the relatively underdeveloped states rarely had a separate industrial policy, at least in their early stages of development. In A.P., the first-ever industrial policy statement was announced only in the early 1990s.

Some of the concerns and grievances of people in the backward districts may have to address issues which are beyond the scope of the local district level officials, and it has to gain the attention of the people's representatives in the Lok Sabha so that a new look at the law of the land by the Constitution of India may take place. One such area certainly happens to be the division of areas of focus under the Schedule VII in the Union List, Concurrent List and the State List. All the grievances may not be directly addressed satisfactorily, but the grievances may require to be highlighted so as to catch the attention. This can be done by maintaining a database of the grievances and how their redress or response to the grievances has been given, that is periodically monitored to notice the issues of concern to people. This is of high priority in a backward district.

Resources Monitoring

It is noticed that Common Property Resources (CPRs): land, water, vegetation resources like community pastures, common dumping and threshing grounds, watershed drainages, village tanks, rivers and rivulets and drainages. Poor depend on CPRs more. Shrinking CPRs – since colonial period are a cause for concern. This brings to focus the identifying mechanisms to develop CPRs and this has to be done in a coordinated manner, which is where technology can be handy.

Basic Information for Districts

The basic information useful for District to be collected for evaluation based on the observations made above is given below:

- a. What is the relevance or the priority on a scale of 10 that the district website gets? Who are the target audience? How frequently is it updated?
- b. What is the predominant problem that hinders the district's development? (e.g drought, floods, extremism etc)
- c. Provide the information on funds allocated and funds received by the district from various sources towards ICT usage for various purposes that could be for information dissemination, monitoring purpose, planning purpose, or for citizen services: Centrally Sponsored Schemes – scheme-wise; Additional Central Assistance; State quota; Local resource

mobilization; Institutional finance; Investment by public enterprises; Other sources.

- d. List of State MMPs that are undertaken in the district and their status of implementation.
- e. How authentic is the source of your data? What is the percentage of accuracy that you attach to the data provided?
- f. Status of Common Services Centers, State Data Center, SWAN in the state
- g. e-Readiness quotient in the district
- h. If there has been any special focus put on by the district officials/PRI's to address a task relevant to livelihood or education or health in the district, what is it?
- i. Any relevant experiences that you may like to share regarding the success/failure of your efforts and the learning that you take out of your experience.
- j. Extent of decentralization, devolution of functions and finances in the state.
- k. A note on extent of Integration across various data sources in the District.

Results and Enabler Indicators

With respect to each of the following results indicators, give the details of the attribute concerned with respect to the status in the district highlighting the difference between the previous year and this year. The details given may focus on the presence/absence of the data suggested, details of the nature of the data, and aggregate data about the attribute. In case there is any use of ICTs in any of the attribute, it may be mentioned.

Refer to Report submitted to the President, CSI, which contains all suggested Results and Enabler Indicators for Evaluation of districts.

Conclusion

Research project on Evaluation of an e-Governance Initiative as extended to District was successfully completed by a team of student researchers from Indian Institute of Information Technology, Hyderabad, under the guidance of CSI professional volunteers from SIGe-Gov. It is unique project where the research

work was being continuously applied to the ongoing CSI Nihilent e-Governance Awards from 2006 to 2008!

(R K Bagga, Pranav Kumar Vashista and K S Vijaya Sekhar, International Institute of Information Technology, Hyderabad-500032,

Piyush Gupta, National Institute for Smart Government.)

References

- CSI Research Project Report, 2009. 'CSI Research Project on Evaluation of e-District Initiatives in India' (RPEDI). A Final Report submitted to CSI Headquarter on 5 Jun 2009 by IIIT-H.
- K.S.Vijaya Sekhar, 2009. 'Challenges in usage of ICT at District Level: Andhra Pradesh Experience – An Overview'. Paper accepted for oral presentation at World Congress on ICT for Development to be held in Beijing, China from 10 – 12 Sep, 2009.
- K.S.Vijaya Sekhar 2009. 'CSI Research Project on District Governance: Chittoor Experience'. Paper submitted to 44th CSI Annual Convention (CSI-2009) to be held at Pune, India from 8 – 10 Oct 2009 (awaiting acceptance).

Approach and Methodology for Project Assessment CSI-Nihilent e-Governance Awards 2008-09

Piyush Gupta, R K Bagga and Sridevi Ayaluri

1. Introduction

Electronic Governance (e-Governance), and National e-Governance Plan (NeGP) in India are moving ahead with wide participation of Government, industry and general public. Government of India is taking special measures to create awareness on NeGP for the benefit of common citizens. There are lot of parallel efforts happening to build common infrastructure like State Data Centre (SDC), Common Service Centre (CSC), State Wide Area Network (SWAN), State Service Delivery Gateway (SSDG) and State portals. The standards on e-forms, developing portals, etc are prepared and shared across the states to tackle the issues like scalability, replication and interoperability. These initiatives are happening simultaneously across the States/Union Territories(UT) and challenges continue on replication and not to reinvent the wheel. The projects which are proved to an extent in providing the services to the stakeholders to their satisfaction, and sustainability are to be judged on some of the important factors that contributed to the success. Evaluating and assessing a project at different phases will help to take corrective measures if need be, monitor the progress and the direction. If it is felt that the project is not going to achieve the expected objectives over a time period, or a fault in the design is diagnosed it is better to shelve the project at once instead of prolonging and completing the project without any objectives being fulfilled. The project should be built around a sustainable model, keeping in view the people and change management issues. The audit and testing is equally important to any project sustainability and

preparedness for the unpredicted occurrence of the events. Another visible gap is with respect to project documentation. The success of the project shall depend on the extent of clarity and awareness amongst the Government officials and consultants who are involved in e-Government project conceptualisation.

There are many organisations/institutions working on recognizing the good initiatives and motivate the project implementers in the form of awards. The Computer Society of India, CSI and Nihilent, are striving for many years to motivate the champions and project owners to share their projects with rest of the world. In this regard, awards and recognition is offered to the successfully implemented projects departments, districts with reasonably good offerings to its stakeholders. Having set out with a broad set of meta-theoretic considerations and following the previous years' CSI-Nihilent e-Governance Awards experiences, we have tried to work towards addressing some of the issues in the e-Government project assessment exercise. Here we share our experiences on the project assessment methodology adopted for the CSI-Nihilent e-Governance Awards 2008-09. The following have been the judging factors kept in view for short-listing the projects for CSI-Nihilent awards:

1. clarity in the vision and objectives
2. services to be provided
3. the business model adopted
4. how well the project is streamlined with negligible interference at various levels
5. how well the processes are reformed
6. leadership backing and how the people issues were dealt
7. what are the capacity building measures undertaken to ensure the usability &
8. whether the project has achieved the objectives and is producing the anticipated results.

A simple four step process was followed while assessing the projects nominated for CSI-Nihilent e-Governance awards.

Step 1: Online Nominations

Since we are talking about giving away awards in the e-Government domain, it is but natural that the nomination process happens through an online form. The website designed (<http://csinihilent-egovernanceawards.org>) for accepting the online applications gets updated every year to cater to the needs of the nomination process. All the announcements and the updates are posted on the website from time to time. The physical and soft copies of the award announcement brochures were sent to all the State/UT Secretaries of IT Department, Secretaries of Mission Mode Projects, District Collectors across India, along with a dedicated website designed to suit the user needs like easy access and navigation. Various templates along with the guidelines were made available on the website so that the nomination forms available have a standard format, consistency and all the requisite data. This will enable the evaluator to adopt uniformity in marking grades/numbers. The evaluation process was very transparent and was shared on the website so that the project owners can emphasize what is required to be stressed upon. This is a good platform where the project owners can share about their projects, and the other states who intend to initiate similar projects can take a clue from the existing projects or replicate certain components. Researchers get an opportunity to study in detail their areas of interest. This way all the related best practices can be shared and comparative study can be administered if the need arises.

The Project Owner (PO) was required to register as a first step towards nomination process. A unique registration ID will be sent to the email id provided during registration for verification and activation of the registration ID. Thereafter the registration ID was used to fill and submit the nomination in one or more categories. The PO enjoys the flexibility of entering the data or uploading the required documents in parts at their convenience before the closing date for nominations. There was a provision to edit the data, or rewrite as per the choice and need of the PO. With the same registration ID the PO can submit any number of projects or submit the nominations in any category of awards i.e. project category, department category, district category and state category.

The PO was provided with a standard template for each nomination category (Project, Department, District, State). It is mandatory that the PO use this template to fill the date and submit in the prescribed format. Illustrations of these nomination formats are given in Annexure I.

Step 2: Short Listing Based on Nominations

After the date is closed for accepting the new nominations or modification of any kind in the uploaded document, the assessment exercise begins on parameters mentioned in the nomination submission template. Since each parameter carries some weightage/marks, furnishing the data for each and every parameter is very important. Once the completeness of nomination forms was checked, the information submitted for each nomination under the pre-defined assessment parameter was studied very carefully and marking was given appropriately. A cumulative score was taken for each project. A minimum cut-off score was decided by the core selection group for qualifying into the next step of assessment i.e. field visits.

Step 3: Field Visits

One of the challenges experienced during previous year's field visits was the wide variation in scoring pattern by the different selection committee members during their field visits. In order to minimize this variation, a set of scoring pattern was evolved to help the field visit teams. The main objective of field visits is to validate the correctness of the information submitted in nomination entry. Second objective is to have a first hand exposure on the benefits of the initiatives for its stakeholders.

The Project Owners are informed well in advance on the visits to make all necessary arrangements for meeting and visits to project sites. Most of the visits are for one day duration when the teams study the project in detail, meet the necessary stakeholders, validate the information submitted in nomination entries. Field visit is an important step of the overall assessment process as it gives a fair chance to both the PO to showcase the benefits of the project and the assessment team member to understand ground realities. The Team collectively assesses all the information submitted by the PO and assign scores accordingly.

Step 4: Presentations

Final Step in the evaluation process is presentations of all the short listed nominations for field visits. However, there may be nominations when a project is found not suitable for presentation. Presentations are made to the selection committee, and individual scores are given by each member. The scoring is based on the assessment parameters specified in the nomination form.

The combined scores of steps 1, 2, 3 and 4 are taken to finalize the award winners.

2. Concluding Remarks

The approach to assess projects, departments, and districts based on Result and Enabler indicators and pre-defined attributes has given a new dimension for assessments. The feedback from project owners has been encouraging and has appreciated the process being adopted over a period of years for the CSI-Nihilent e-Governance Awards. The need to submit nominations in a structured manner has resulted in creation of good documentation which was not present earlier. The field visits by the experts have been seen as a value addition to the overall evaluation process. The challenge that remains is the time and resource constraints for these field visits since all members in selection committee and others supporting the process are volunteers.

One of the observations over a period of three years for these awards has been lack of clarity on the project outcomes to be achieved, and there are very few clear measurable pre-defined outcomes. The first level short listing is based on the quality of information submitted in the nomination form. The assessment indicators shall be defined to holistically look into all aspects of a project, which becomes a constraint as many of the projects are not structured around these indicators. Therefore, at times it becomes difficult to assess and evaluate the nominations around the Result Enabler set of indicators.

3. Additional Reading

1. Ashok Agarwal, M.P. Gupta, & Jaijit Bhattacharya (2007), "Evaluating E-Government". In Ashok Agarwal (ed), e-Governance Case Studies.: Universities Press. p. 1-56.
2. Piyush Gupta, Pranav K Vasishta and R K Bagga, (2007) "Approach and Methodology for Project Assessment – CSI-Nihilent e-Governance Awards 2006-07", in R K Bagga and Piyush Gupta (ed), Compendium of e-Governance Initiatives: Universities Press (2007), Chapter-4.
3. Thomas L Saaty (2005), "The Analytic Hierarchy and Analytic Network Processes for the Measurement of Intangible Criteria and for Decision-Making". In Figueira, Jose; Greco, Salvatore; Ehrgott, Matthias (Eds.), Multiple Criteria Decision Analysis: State of the Art Surveys: Springer, p. 345.
4. E-Governance Assessment Frameworks (EAF 2.0)

5. URL: Stockholm Challenge Award 2008 www.stockholmchallenge.se
6. URL: www.csinihilent-egovernanceawards.org
7. URL: IIMA 1,2 <http://mit.gov.in/default.aspx?id=853#assment>

These inputs are based on reports submitted to e-Governance Practice Group of the Information Systems Division, World Bank, Washington DC and Department of Information Technology, Government of India and shared by IIM-A at the Workshop on Building Capacity for Impact Assessment held on February 26-27, 2007.

8. URL: Workshop on Building Capacity of Impact Assessment, February 26-27 report available at: <http://www.iimahd.ernet.in/egov/WorkshopsAndTraining.htm> (1st October 2007).
9. CII Exim-Bank Award for Business Excellence Application Brochure 2006.
10. Piyush Gupta, Challenges and Issues in e-Government Project Assessment, ICEGOV 2007, Macao.
11. Piyush Gupta and Pranav Kumar, An Approach for e-Government Project Assessment, ICEG 2007, Hyderabad, India.

ANNEXURE I**Appendix A****Nomination General Guidelines for CSI-Nihilent
e-Governance 2008-09 Awards**

The Computer Society of India has instituted a series of awards for recognizing the contributions made in the field of e-Governance in the country. These awards have been sponsored by Nihilent Technologies Ltd. The awards are given for recognizing the efforts made in e-Governance area at the State, Department, District and Project level. The nomination process continues to be online as in the previous years. The judging process is exhaustive to cover the understanding at various stages of nominations. The selection committee members have been drawn from all the stakeholders covering Government, Industry and Academics. The nomination process starts from 2nd April 2009 and the final Award winners will be felicitated at the CSI National Convention on 9th October 2009 to be held in Pune.

Award Categories

Nominations for the year 2008-09 Awards are being accepted for the following four categories:

- **Award of Excellence – State Category**

States will be judged based on their overall performance in e-Governance initiatives during the year 2008-09, especially with respect to policies, infrastructure, capacity building, projects, etc.

- **Award of Excellence – Department Category**

Central and State Government Departments who have demonstrated excellence in the area of e-Governance during the year 2008-09.

- **Awards of Excellence – District Category**

Outstanding efforts demonstrating excellence in e-Governance during the year 2008-09 at the District level.

- **Award of Excellence – Project Category**

Projects that have been implemented or enhanced during the year 2008-09 and delivered benefits to its stakeholders will be judged in three sub-categories, namely G2C, G2B, and G2G/G2E.

Note: Depending on the number of entries, winner/runner-up may be chosen in each category. The committee may appreciate an effort taken by an organisation, in addition to the above listed awards. The decision of the selection committee will be final.

Conditions for Entry

- Entry for sending nominations is open to all Government agencies in India (both Centre and State/UT Governments, down to District level). All the Government Organisations & Semi-Government Corporations, District Collectorate, Municipal Corporations, Autonomous Bodies including Public Sector Undertakings are welcome to apply.
- Entries should fall in one of the specified Award categories.
- Entries under Project category are only for those projects which have been implemented in India.
- Nominated initiatives must have been implemented on or after 1st April 2008.
- In case of project category, at least 75% of the services being delivered should be Government services.
- Awards for year 2008-09 will consider the initiatives implemented during 1st April 2008 to 31st March 2009. Special incremental efforts or enhancements to the earlier initiatives will also be considered.
- To encourage fresh e-Governance efforts, the Initiatives that have been recognised and awarded by CSI in the last 3 years may not be considered by the Selection Committee for recognition.

Judging Process

- Nomination to each category will be judged by the Awards selection committee, consisting of members from Government, Industry and Academia.
- The judging process shall be based on:
 - Online nomination submission
 - Field visits to short listed entries by Selection Committee/nominated members

- Presentations by short listed entries to the Selection committee
- Final Award list is generated based on the combined evaluation at different stages as above.
- The selection committee reserves the right to seek additional information from the nominated entries during the evaluation process.
- The final recommendation of awards will be made by the selection committee on the basis of the information available to them in the nomination form, on-site visits and presentations made by the applicants.
- The decision of the selection committee will be final and binding on all applicants.
- Nomination process opens on 2nd April 2009 and closes on 30th June 2009.
- Award winners will be felicitated during the CSI Annual Convention to be held in Pune on 9th October 2009.

Evaluation Criteria for the Awards

- The evaluation criterion is based on two indicators i.e. Results and Enablers. The attributes considered for **Result indicator** are mainly in terms of outcomes and the attributes for **Enabler indicator** are in terms of the processes in place so as to achieve the desired results. Keeping in consideration the constraints on time and resource, for the purpose of these Awards, only the key attributes are being considered for these awards.
- The quality of content submitted by the applicants for the nominations will be the most important part of the evaluation process. The information should be as per format and restricted to the prescribed page length defined in the respective “**Nomination Submission Template**”. The information provided in the nomination form should contain the crucial and important aspects only.
- The key indicators and attributes being used for evaluation under each award category are given in subsequent pages. A brief explanation of each of them is given in the respective “Nomination Submission Template”.
- Each nomination entry should accompany with not more than half a page, a “**Statement of Intent**” stating the reasons for nominating the entry to CSI-Nihilent e-Governance Awards 2008-09.

Evaluation Criteria

Award of Excellence – State Category Evaluation Criteria	
Result Indicators & Attributes	Enabler Indicators & Attributes
1. Key Performance <ol style="list-style-type: none"> No. of State Mission Mode Projects as per the NeGP and MMPs initiatives started No. of MMPs implemented as pilots and roll-out State portal implementation with single window G2C/G2B information and transaction services. 2. Government Efficiency Improvement Initiatives <ol style="list-style-type: none"> Initiatives under G2C Initiatives under G2B Initiatives under G2G and G2E. 3. Innovation and Best Practices <ol style="list-style-type: none"> Specific innovative ideas implemented in eGov area Best practices implemented. 	1. State Policy & Strategy <ol style="list-style-type: none"> eGov/ICT vision roadmap eGov roadmap Implementation plan Sharing of common infrastructure Capacity building plan Policies related to open standards, architectures, website standards, security 2. Support Infrastructure <ol style="list-style-type: none"> SWAN State Data Center CSC – Rural and Urban 3. Capacity Building <ol style="list-style-type: none"> Leadership support & visibility Training plan implementation Institutional structure for training Key challenges and learning's from existing implementations
A statement of intent stating the reason for nominating the respective entry for the CSI-Nihilent e-Governance Awards 2008-09.	

Award of Excellence – Department/District Category Evaluation Criteria	
Result Indicators & Attributes	Enabler Indicators & Attributes
1. Key Performance <ol style="list-style-type: none"> % of overall working, services delivered and covered using ICT Initiatives under G2C, G2B, G2G and G2E Stakeholder wise services and benefits of ICT/eGov initiatives Implementation coverage (geographical areas covered under pilot, roll-out, next steps) Financial model for the initiatives (funding pattern, business model, PPP, etc) 2. Efficiency Improvement	1. Policy & Strategy <ol style="list-style-type: none"> eGov/ICT vision roadmap eGov roadmap Implementation plan Sharing of common infrastructure (national, state, other department; delivery channels) Technology standardization 2. Process Reengineering & Legal Reforms <ol style="list-style-type: none"> Major front end process changes Major back end process changes
<i>Contd...</i>	

<i>Contd...</i>	
<ul style="list-style-type: none"> a. Time and cost efficiency improvements in the working & delivery of services b. Specific innovative ideas implemented in eGov area; best practices implemented c. Initiatives integrated with other departments 	3. Capacity Building <ul style="list-style-type: none"> a. Leadership support & visibility b. Change management strategy c. Capacity building plan d. Program Management Teams (full time department officials/ consultants)
A statement of intent stating the reason for nominating the respective entry for the CSI-Nihilent e-Governance Awards 2008-09.	

Award of Excellence – Project Category Evaluation Criteria	
Result Indicators & Attributes	Enabler Indicators & Attributes
1. Key Performance <ul style="list-style-type: none"> a. Stakeholder wise services and benefits of ICT/eGov initiatives b. Implementation coverage (geographical areas covered under pilot, roll-out, next steps, % of total services covered under the lifecycle of projects processes, % of total branches/departments covered by the project) c. Financial model for the initiatives 2. Efficiency Improvement <ul style="list-style-type: none"> a. Stakeholder b. Time and cost efficiency improvements in delivering the above set of services c. Time and cost savings for the key stakeholders to avail the above set of services d. Specific innovative ideas implemented in eGov area; best practices implemented e. Initiatives integrated with other departments 	1. Project Roadmap <ul style="list-style-type: none"> a. Vision defined b. Objectives defined c. Measurable objectives d. Project milestones 2. Process Reengineering & Legal Reforms <ul style="list-style-type: none"> a. Major front end process changes b. Major back end process changes 3. Project Sustainability <ul style="list-style-type: none"> a. Financial model (funding pattern, business model, PPP, etc) b. Technology maintenance c. Disaster Recovery Center d. Project management team (full time department officials/ consultants) 4. Change Management <ul style="list-style-type: none"> a. Change management strategy b. Capacity building plan c. Leadership support & visibility 5. Project Monitoring <ul style="list-style-type: none"> a. Monitoring & Evaluation process b. User feedback, project assessment mechanism c. Third party overall project audit mechanism
A statement of intent stating the reason for nominating the respective entry for the CSI-Nihilent e-Governance Awards 2008-09.	

How to Apply

- Visit the CSI-Nihilent e-Governance Awards website at **www.csinihilent-egovernanceawards.org** for nominating your entries.
- All entries should be submitted online through the CSI-Nihilent e-Governance Awards website at **www.csinihilent-egovernanceawards.org**. Entries sent by email will not be entertained, unless and until extra information is sought on the entries by the Selection Committee.
- Emphasis of the Awards is to encourage the States/departments/districts/projects which have contributed well and deserve recognition. As such the nomination entries will be accepted from the head of the respective Government departments or State IT departments. Entries should be supported by an “Authorization Certificate” as per prescribed format, duly signed by the respective head of the nodal Government Department/Organisation. A scanned copy of the same should be submitted along with the online nomination process. **Entry submissions by the implementing agencies will be discouraged.**

Online Nomination Process


- **Firstly, register** by providing the contact details of the entry nominating authority and contact official for the purpose of these entries on the website.
- An acknowledgement email will be sent to the contact email id and only after getting the **return email confirmation** the system will provide **access to login** and **submit entries**.
- Using one registration id, user can submit multiple entries under different category of awards.
- The following documents should be submitted online after getting the login ID
 1. Main nomination document, as per template.
 2. Scanned copy of “Authorization Certificate” from the nominating authority.
 3. Other essential supporting document/s, if any.

- Entries will be accepted, strictly as per the respective category “Nomination Submission Template” and general guidelines, and entries with deviations may not be accepted.
- **It should be ensured that the entries are submitted as MS-Word file of not more than 10 A4 pages, as per prescribed format given in the respective category nomination template.**
- Anytime before the close date of nomination i.e. 2000 hrs 30th June 2009, the entry information can be modified by the authorized official. After the said date provision for editing will not be available to the users. The selection committee if desires necessary may make changes in the dates and inform on the website.
- Please ensure complete contact details for all further communication related to awards.
- As part of the CSI-Nihilent e-Governance Awards, the selected entries are published in a book to be released during the Award function, therefore it will be desirable that the correctness of language in the entries is checked by the nominees before the close date.
- **In case of any problems faced during the online nomination process, please contact us at csiegovawards@gmail.com with copy to sigegov@csi-india.org**

Appendix B

CSI-Nihilent e-Governance Awards 2008-09

Recognizing e-Government Initiatives in India

	<p>Project Category <name of Project></p>
---	---

Important Instructions

- (1) Read the “Nomination Submission General Guidelines” before starting on this nomination submission.
- (2) This document should not be more than 15 pages.
- (3) Font to be used should be Verdana. Running text in point size 10, single spacing.
- (4) This is the Cover page, the 2nd page should contain the required contact details and Subsequent pages details on the nominations.

Visit www.csinihilent-egovernanceawards.org

Presented By



Computer Society of India



TITLE

Title of Nomination, not more than one line.

Statement of intent stating the reason for nominating the entry for CSI-Nihilent e-Governance Awards 2008-09:

This should not be of more than half page.

Nomination Details

I) Overview

This should give a brief background of the District in terms of the development and economic agenda. Not more than one page.

II) Result Indicators

The Result Indicators are primarily the outcomes and key achievements of the project. For the purpose of these Awards the Results are being evaluated on selected attributes listed below. The nominations should address the required information as per attributes below, and if desired important additional information for the purpose of this Award may be given.

1. *Key Performance*

- a. Stakeholder wise services and benefits of ICT/eGov initiatives
- b. Implementation coverage (geographical areas covered under pilot, roll-out, next steps, % of total services covered under the lifecycle of projects processes, % of total branches/departments covered by the project)

2. *Efficiency Improvement*

- c. Time and cost efficiency improvements in delivering the above set of services.
- d. Time and cost savings for the key stakeholders to avail the above set of services.
- e. Specific innovative ideas implemented in eGov area; best practices implemented.
- f. Initiatives integrated with other departments

III) Enabler Indicators

The Enabler Indicators are primarily the processes that are implemented to achieve the above mentioned results. For the purpose of these Awards the Enablers are being evaluated on selected attributes listed below. Nominations should address the required information as per attributes below, and if desired important additional information for the purpose of this Award may be given.

3. *Project Roadmap*

- a. Vision defined
- b. Objectives defined
- c. Measurable objectives
- d. Project milestones

4. *Process Reengineering & Legal Reforms*

- a. Major front end process changes
- b. Major back end process changes

5. *Project Sustainability*

- a. Financial model (funding pattern, business model, PPP, etc)
- b. Technology maintenance
- c. Disaster Recovery Center
- d. Project management team (full time department officials/consultants)

6. *Change Management*

- a. Change management strategy
- b. Capacity building plan
- c. Leadership support & visibility

7. *Project Monitoring*

- a. Monitoring & Evaluation process
- b. User Feedback, project assessment mechanism
- c. Third party overall project audit mechanism

IV) Contact Details**1. *Contact details of the entry nomination authority***

Name:

Designation:

Department:

Contact address:

City:

State:

Telephone no. (land line with STD code and mobile), FAX no.

email:

2. Contact details of the official for this entry

This official will be contacted for any communication from CSI for the purpose of this Awards nomination. In case this official is different from the above give details below.

Name:

Designation:

Department:

Contact address:

City:

State:

Telephone no. (land line with STD code and mobile), FAX no.

email:

Appendix C

(To be typed on the official letter head of the Nominating Authority)

Nomination for CSI-Nihilent e-Governance Awards 2008-09

Authorization Certificate

Ref: Nomination Entry ID:

(As provided at the time of online submission)

Nomination Entry Title:

(As provided at the time of online submission)

This is to certify that the information given in the nomination application/enclosures are correct to best of my knowledge. I recommend it for consideration for the CSI-Nihilent e-Governance Awards 2008-09.

I also have no objection in sharing it with CSI or other authorized officials as permitted by CSI. Permission is also given to publish the said content as desired by CSI or its nominee.

Name:

Designation:

Department:

Date :

Signature
(with official seal)

Appendix D

CSI-Nihilent e-Governance Awards 2008-09
Score Sheet for Project Evaluation during Field Visits

Project Name:
State:
Date of Visit:
Authority/Contact:

No.	Assessment Indicators	Marks/Grade
	A---- RESULT INDICATORS (100)	
1	KEY PERFORMANCE (50) 1.1 Stakeholder service/benefits -20 1.2 Implementation Coverage -30 Geog Coverage (7), Services % (15), Br/Deptt % (8)	
2	EFFICIENCY IMPROVEMENT (50) 2.1 Time & Cost improvement-delivery -20 2.2 Time & Cost-Key stakeholders -20 2.3 Innovation/Best practices -10	
	B----- ENABLER INDICATORS (100)	
1	PROJECT ROAD MAP Vision def (4) Objective def (4) Measurable Objectives (10) Proj Milestones (2) -20	
2	PROCESS REENGINEERING & LEGAL Front End (10) Backend (10) Process Changes -20	
3	PROJECT SUSTAINABILITY Fin model (7) Tech Maintenance (4) Disaster Recovery (4) Project Management Team (5) -20	
4	CHANGE MANAGEMENT Strategy (8) CB Plan (7) Leadership Support & Visibility (5) -20	
5	PROJECT MONITORING Monitoring and Evaluation (7) User Feed Back Assessment Mechanism (7) Third Party Overall Audit Mechanism (6) -20	

Names of Team Members

Signatures

1.

2.

Team Coordinator

SECTION II

E-GOVERNANCE DEPARTMENT INITIATIVES

SEVEN

MP State Education Portal

M Vinayak Rao

I) Project Overview

The main modules/features of the Portal are as under:

- Portal facilitates a single source of live and authentic information related to school education for all stakeholders.
- **Portal facilitates a single sign on for all role-based, work flow based e-Governance applications.**
- Portal facilitates creation and updation of online and related databases of key-entities of the school education sector – Schools, Teachers, Students, enrollments, School/Classrooms infrastructure.
- **Online E-Service Book, HR and Payroll** for 3.5 lac employees to track the movement due to transfers/resignations and ensure posting of the alternate teacher as replacement. Linking of databases of Schools and Teachers using online HR application. This ensures the live data on the availability of teacher in every school of the State.
- **Online Registration, Redressal and Tracking of Grievances** of staff, students & public
- **Online Learning Enhancement Program** – is a facilitative system for improving the academic achievement levels of 1.6 crore children by online monitoring of the results of the subject-wise/class-wise/teacher-wise monthly tests.
- **Civil-works Monitoring** – Online Monitoring of more than 1.10 lac civil works that are being carried out in the various schools for construction of buildings, additional classrooms, and other facilities.

- **Out of School Children** – Online registration of more than 1.6 lac Out of School Children, tracking of follow-up action for their mainstreaming and enrollment in schools for formal education.
- **Children With Special Needs (CWSN)** – Personalized follow-up and tracking of assistance provided to more than 1 lac Children With Special Needs (CWSN).
- **Online Enrollment in Schools** to facilitate enforcement of recommended Pupil Teacher Ratio (PTR).
- **Online Inspections Management and their Follow-up** – Online availability of the shortcomings reported in School Inspections and their follow-up.
- **Online Village Education Register** to facilitate computerization of the data of the household survey conducted for verifying the enrollment status of the children between 3-14 years. Based on the family-level survey, a village education register is prepared. The village education register of 100000 habitats shall facilitate the Government to ensure the schools and other infrastructure required for the enrollment of all the children between 3-14 years.
- **Online Comprehensive Content Management System**
- The portal also facilitates online collection, dissemination & flawless flow of transaction information generated by key processes at a faster rate to facilitate the implementation and monitoring of large number of activities, prompt services and transparent and effective management of such large number of stakeholders/beneficiaries.

II) Result Indicators

1. Key Performance

The educational challenge in MP has been to universalize the provisioning of basic schooling and ensure quality education in schools by building up capacity of teachers, students and education managers. The strategic planning for this is placed within a policy of decentralized participatory governance coupled with the use of modern technology resources, especially information and communication technology. Today, Information and Communication Technologies (ICT) project is transforming not only education but also the governance of schools, finances and providing online facilities to various

stakeholders. Teachers, students, educational managers and public representatives have access to more information, more ways to interact, collaborate and more approaches to take informed decisions based on Online Decision support system. In the education sector, the portal application is being used for improving the achievement levels of students, teacher trainings, monitoring of educational activities, maintaining a database of educational indicators, provision of a series of online facilities and better financial support system. All these initiatives directly or indirectly are assisting in maintaining the quality of education.

2. Stakeholders

- Beneficiaries – **1.60 crore students**
3.5 lac teachers/staff
1 lac Children with Special Needs
1.6 lac Out of School Children
- Establishments – **1.10 lac schools** located in the remotest corner of the State
- Other Stakeholders – Parents, Education Managers/Administrators/Planners

Implementation Coverage

The project influences more than 80% of the families of the State whose children are undergoing education in State and covers every Village/habitat located in the remotest corner of the State.

The project has successfully been implemented in the following

- **1.10 lac schools, most of which are located in rural areas of the State**
- **3500 HSS Principals (Drawing and Disbursing Officers)**
- **50 District Education Officers**
- **50 District Project Officers of Sarv Shiksha Abhiyan (SSA)**
- **318 Block Education Officers**
- **318 Block Resource Centre Coordinators**
- **6182 Jan Shiksha Kendras Officers**

Stakeholder-wise Services***Benefits/Services for 3.5 lac Teachers and Staff***

- Allotment of a unique ID to be used for all official matters
- Timely payment of salaries, Online availability of pay-details, pay-slips & other details
- Online submission of application for transfer
- Online registration and redressal of grievances
- Online availability of all orders, circulars, training announcements
- Online availability of staff position in other schools for planning transfers, deployment and reallocation of schools and teachers
- Online Service Book.

Services to 1.5 crore Students & their Parents

- The portal facilitates effective learning & enhancement of achievement levels of students by online monitoring of their performance in the monthly tests and availability of the teachers
- Online Application ensures timely availability of all assistance like Free textbooks, Uniforms, Cycles, Scholarships to the children as per their eligibility
- Online availability of textbooks and learning material
- The Parents can submit online demand for more teachers to ensure proper Pupil teacher ratio. Based on the demands received, the administration can engage the services of the Guest Teacher as per the norms
- The Parents can now submit online demand for the facilitation of the basic infrastructure and amenities like classrooms, drinking water, toilets, kitchen sheds etc in the school and submit their grievance online in case of any shortcomings
- The portal facilitates the students with online availability of various welfare schemes of the Government and the procedure to be followed for availing the same

- Students and parents can now view the details of the teachers and other related staff that is drawing the salary from the school and can register the complaint if the teacher is not visiting the school or is working else where
- Parents can now Scrutinize and Monitor the Civil Works being carried at the school.

Services for more than 1 lac Children With Special Needs (CWSN)

- The Persons with Disabilities Act, 1995 provides for access to free education in an appropriate environment for children with disabilities till they attain the age of 18 years. The educational needs of disabled children are to be covered through a range of interventions
- The application facilitates the department to register the CWSN child and online tracking of the assistance being provided to the child to ensure personalized follow-up
- All the information on the above is also made available to public for social audit/transparency.

Services for 1.6 lac Out of School Children

- The portal facilitates the automation of various processes involved in the identification of the OOSC, their registration and efforts being made for their enrollment and mainstreaming
- The portal also facilitates the Citizen to register online any OOSC with in their locality and work area
- Portal facilitates Online follow-up and tracking of efforts being made by government for the personalized follow-up and mainstreaming of the child
- Improvement in the quality of the services being rendered to OOSC and proper and transparent utilization of the budget and resource.

Services for 3500 Drawing and Disbursing Officers (DDOs)

DDOs are responsible for drawing salary of their own school as well as of the schools in their jurisdiction or cluster. Each DDO has to draw salary of more than 100 to 250 teachers/staff.

- Elimination of existing repetitive and time-consuming manual system of preparation of pay bills. There is saving of 15 man days per month for DDO
- Automation of various processes and functions facilitates effort-less and online preparation and generation of all types of pay-bills and related schedules
- Continuous updation of the database of the schools, teachers and staff as it has been linked with the pay.

Services to District Education Officers (DEO) and District Project Coordinators (DPC) and Other Field Staff/Authorities

- The portal provides the facility to monitor the academic performance of the schools, teachers, students
- The portal provides the list of classes and schools with poor academic performance of students and the responsible subject teachers. Based on this report, the DEO can now take necessary corrective action to augment the school with more teachers or upgrade the skills of the poor performing teacher or change the teacher
- Effective Human Resource Management
- Facility to monitor and manage teachers, employees and schools and ensure recommended Pupil Teacher Ratio
- Facility to view and process, transfer applications submitted by the staff on the portal
- Facility to effect and endorse transfers
- Tracking of the distribution of textbooks, uniforms, scholarships
- Facility to view circulars, orders, training announcements and other information uploaded by the Govt., CPI, CTWD and RSK and upload the same for the staff.

Services to State Level Offices on Online Basis

- Facilitation of a common platform for all school education related applications/documents/information

- Availability of live and updated relational database of following key-entities/ stakeholders of the education system and their linkages
 - Schools
 - Enrollment
 - Teachers & staff (Regular, Contract, Guest)
 - Civil Works under progress
 - DDOs
 - Jan Shiksha Kendras
 - Blocks
 - Districts

The database of the above core entities are used by all the modules and hence are updated as soon as any change takes place.

- Effective control, superior HR management, monitoring and timely access of all relevant information to all stakeholders
- Updated E-Service book of 3.5 lac employees facilitate better planning and shall help in minimization of grievances
- Checking and controlling unauthorized shifting/transfers of teachers as the new payment authority at the new place of posting cannot draw the salary until and unless the competent authority endorses the transfer and shifts the teacher to a new payment authority
- Rationalization of the teachers by shifting the excess staff to the understaffed schools for ensuring proper Pupil-Teacher Ratio in schools
- Generation of the requirements of the new teachers and staff based on the live enrollment data
- Online availability of vacancy position at various schools for timely manpower planning/appointments/transfer of teachers/staff e.g. providing guest teacher
- Registration of transfers and new appointments
- Online availability and analysis of Pupil-Teacher Ratio

- Online availability and analysis of Classroom-Student ratio
- Information based planning and rationalization of facility creation (toilets, electricity) and additional rooms in the schools
- Transparency in all operations/decisions
- Facilitation of Social Audit in all processes and functions
- Online availability of the data of Inspections and IT based system for timely and effective follow-up.

3. Efficiency Improvements

Almost all the major functions, processes and services related to all the stakeholders have been automated and facilitated by ICT intervention and various applications facilitated by the portal. This has resulted in substantial improvement in the productivity of the staff.

The portal facilitates role based applications. All the staff have been provided with the authorization and access to use the portal to discharge their functions online. In most of the cases, the transactions are being captured and all the related reports and other processing is being taken care by the applications.

The time spent by the staff in the following activities has been eliminated

- Preparation of pay bills, schedules, bank advice and other reports
- Compilation of data at JSK, Block, District levels
- Manual Preparation of reports related to the schools, employees, students etc

III) Enabler Indicators

1. a. Vision Defined

To design and implement a suitable ICT solution to facilitate the education department achieve its objective of facilitating quality education in the State of Madhya Pradesh

b. Objectives Defined

Design and development of a web-portal with following features/modules

- The portal should be designed and developed as a work flow, role and authority based suite of applications with roles for various stakeholders like Students, DDOs, School's Head, Employee, Block/District Functionaries and the Public.

- The focus should be on capturing the basic transactions of the processes for generating the desired reports on the fly & eliminate repetitive processes
- Should facilitate single sign on for all applications
- Role and Authority based – User to be allowed to use various applications and functions as per the Role & Authorization (Authority can be – DDO, DEO, DPC, BEO, BRC, Public, Teacher, staff)
- Should facilitate automation of key processes, information based online monitoring, analysis and dissemination of live information
- Dynamic and database driven – All analytical reports and queries are dynamically generated on the fly
- Should facilitate interdepartmental collaboration and coordination
- Should facilitate online mechanism implementing the feedback/response/grievance processing by the concerned authority as per the type of feedback/grievance, district of the applicant etc
- Flexibility of adding more roles, authorities as per the requirement
- Localization – Bi-lingual/Hindi support using Unicode and intuitive interface
- Scalable architecture to accommodate more applications and users
- Usage Reports and Statistics – All kinds of usage reports and statistics are generated and made available on the fly.

c. Project Milestones

Development and implementation of the following has been completed

- **Portal Framework**
- **Online e-Service book, Pay-Roll and HR Management** – The application facilitates online pay-roll system, online e-Service book, and various HR management functions to manage the 3.50 lac teachers/staff of the department. This has substantially reduced the time consuming, manual and repetitive work that was involved in performing the above functions manually and have also brought transparency in the functions by District Education Officers, DDOs and other administrators.

- **Online Enrollment System** – facilitates the monthly updation and availability of caste-wise, gender-wise, class-wise enrollment figures in the schools of the State. The live data facilitates the department in deciding the posting of teachers to ensure the recommended Pupil-Teacher Ratio (PTR), planning of new classrooms and also transparent planning and distribution of various assistance being provided to students like Free textbooks, Scholarship, Free Uniform and Bicycles.
- **Subject-wise Monthly Tests** – Academic achievement levels of more than 1.6 crore students has been facilitated by online monthly test application that facilitates the capturing and analysis of the data of the subject-wise monthly tests that are carried out in various schools of the State to measure the achievement levels of the students. The application also facilitates the transparent and online measurement of overall performance of the subject – teacher, school and district. The results of the tests and performance of the teachers and schools is made available on the portal for public scrutiny.
- **Online Management of the Building & Classroom Infrastructure** of more than 1.10 lac schools facilitates the decision-making process required for the management and creation of infrastructure in schools to facilitate the proper student/classroom ratio.
- **Online Submission, Redressal of Grievances and Feedback of Staff, Students & Public** – This module facilitates the staff, students & public to submit their grievances/feedback online on the portal. Based on the category of grievance (establishment related, administrative, pay, facility etc) and the district of the teacher/student, the application routes the grievance/feedback to the concerned competent authority (DDO, DEO) of the concerned district for remedial action. The concerned authority has to update the details of the action taken so that the aggrieved staff/student/citizen can track the action taken on their grievance.
- **Online Tracking of School Inspections and their Follow-up** Monitoring of the 1.10 lac schools located in the remotest corner of the State is a challenging task. The department has implemented a policy of inspections to ensure the attendance of teachers, proper functioning of the schools. More than 50,000 schools inspections are being carried out by various designated officers.

The inspection report includes various important issues like

- Status of school (open/close)
- Absence of teachers
- Attendance of students
- Status of the distribution of various assistance like free textbooks, Cycles, Uniform, scholarship
- Availability of basic facilities in schools like drinking water, toilets
- Status of conduction of monthly tests
- Mid-day meals.

The competent authority has to take necessary corrective/follow-up action on the issues/shortcomings as reported by the inspector. Monitoring and follow-up/corrective action on the inspection reports at State and District level was very difficult and the basic objective behind the inspection exercise was not met.

The portal facilitates the following

- Online registration of the inspection report with the shortcoming found by the officer
- Online entry of the corrective follow-up action taken on reported problems
- Action on Absent teachers
- List of officers who are not conducting the inspections as per their specified quota
- List of the inspections where follow-up action is pending
- List of schools that have not been inspected since the specified period
- List of schools where same problem/shortcoming is being repetitively reported
- List of schools with shortage of textbooks, poor academic achievement levels of children, poor attendance of children
- List of cases where action is pending since the specified date.

- **Civil Works – Registration, Tracking and Monitoring of more than 1 lac Civil Works**

Rs.800 crores have been made available for constructing 40,756 new school buildings and up-gradation of existing school buildings and providing additional rooms for schools during 09-10 FY. Most of these school buildings are to be constructed in far-flung, hilly and remote locations making it very difficult to monitor progress of civil works at State levels and maintaining transparency in the expenditure on the work.

The applications facilitate the automation of entire life cycle of the civil work i.e. sanction, registration, monthly progress, revision of technical and financial sanction, inspections, completion and handover. The applications also facilitate the stage-wise upload of digital photographs of the works.

All the detailed information on civil works like progress and expenditure made on the work and the latest photographs of all the civil-works have been online for general public for scrutiny, social audit and to facilitate introduction of transparency in functions. Various administrative and analytical reports at block, district and State level have also been made available for informed decision-making.

Presently more than 1.2 lac works are being actively managed and monitored by the application.

- **Content Management System of Portal by Facilitating the Upload of Information**

Considering the large number of the staff, institutions and stakeholders, an online and database driven content management system for the magement and dissemination of the official contents have been designed and deployed. The system facilitates a common platform for various departments and agencies working for school education.

Following types of contents are facilitated by the portal:

- Category-wise Circulars
- Category-wise Government Orders
- Training courses and event announcements
- News clippings related to school education

- Press release
- Tenders
- Forms, Schemes, Procedures.

Any registered user can contribute and upload documents to the portal for dissemination to all. All the documents can be searched and filtered as per the date, categories, key words etc.

2. Process Reengineering and Reforms

- Govt. of Madhya Pradesh has issued orders making it mandatory to use the Portal for the generation of the paybill of the employees. Treasury offices have been ordered to accept only those paybills that are generated through the online HR applications
- Online Endorsement of Transfers on portal have been made mandatory by the Government
- Use of the Unique ID issued by the Portal has been made mandatory for all administrative purposes
- System of sending the reports/messages/data by e-mail/fax/CD etc have been discontinued and all the information flow is now happening only through the portal
- The Government shall gradually discontinue the manual system of maintaining the service book of the staffs and shall use the online e-service book.

3. Project Sustainability

a. Financial Model

- The online application has been developed in house and hosted by National Informatics Centre
- No expenditure has been made on the purchase of the hardware and system software
- No expenditure has been made on software development
- No financial burden to State Govt. exchequer for its operation

- The application is a role based application and all the individuals perform their function online and hence the workload is distributed amongst various functionaries
- Existing set-up of the schools/offices is being used for using the application
- The schools/users can also use the public Internet kiosks for using the services/modules of the portal
- The users in rural areas are using the application even in night as and when they get power supply.

b. Technology Maintenance

- The portal is a browser based application and requires a low-end PC with browser and Internet Connection
- User can also use Linux based computer systems.

c. DR Center

- The application is being hosted on the NIC data centers and all the DR related work is being taken care of by NIC.

d. Project Management Team

- Project Management team is headed by the Commissioner, Public Instruction, Commissioner, Tribal Development, Commissioner, Rajya Shiksha Kendra, and consists of the Officers of The NIC and staff of Education department
- The team meets regularly on every Tuesday to review the project and also plan the new modules/services on the portal.

4. Change Management

a. Change Management Strategy

The Portal has been designed and developed in such a manner that it benefits all the users and stakeholders.

- The online system betters HR management and timely payment of salaries to employees and hence all employees are ready to use the system

- The portal has minimized the manual repetitive work and hence all the users themselves want to use the portal applications and their work-load is considerably reduced
- Government Orders are issued to make the user of online system mandatory.

b. Capacity Building Plan

- A project resource person has been made available at all the 313 blocks and 50 districts
- Sufficient Trainings have been provided to all the users to use the system effectively to minimize their work load
- Training Sessions are also conducted through the Video Conferencing and EduSat facility
- A Manual in Hindi has been prepared and distributed to all the users.

c. Leadership Support and Visibility

- The project is personally being monitored by Secretary, Education, GoMP
- The project is also in the Chief Ministers priority list and agenda.

5. Project Monitoring

a. Monitoring and Evaluation Process

- The project is closely monitored by all the Senior State Level Officials including Secretary, Education, Commissioner, RSK, Commissioner, Public Instruction, Commissioner, Tribal Welfare and various authorities at various levels i.e. State, District and Blocks
- Details of the staff/districts/blocks who are not using the online system for their functions is available online for all the authorities/citizens for wider social audit
- Details of the non-performing DDOs, teachers, Schools are also available in public through the portal.

b. User Feedback, Project Assessment Mechanism

- The feedback received from various stakeholders is also analyzed very rigorously for planning the improvements/modifications in the application

- The State level authorities conduct weekly review meetings through Video Conferencing to interact with the users and field authorities to obtain their feedback and review their performance.

External Recognition – The ICT initiatives taken by the School Education Department have been recognised by Govt. of Madhya Pradesh. Govt. of MP has also awarded the project as *the best IT project under the IT for Masses category for excellence in e-Governance initiatives for the year 2008-09*.

(M Vinayak Rao, Sr. Technical Director and State Informatics Officer, National Informatics Center, Vindhyachal Bhawan, Arera Hills, Bhopal (MP), Telephone no. 0755-2551447, 9425681845, Email: sio-mp@nic.in).

EIGHT

Accounts – Online, Government of Goa

Archana P Nagvekar

I) Overview

Directorate of Accounts is one of the major departments of the State Government. It is a largest department with around 20 sections in the head office at North Goa and 5 sections in the branch office at South Goa. There are also two district treasuries, and 9 sub treasuries coming under the control of the Directorate of Accounts.

The DOA functions on the lines of Pay & Accounts Office. The DOA has to carry out dual functions i.e. pre-audit of accounts and post-audit of accounts. Though a system of “pre-check of payments” is prevalent in the state of Goa, it is virtually the Treasury/Accountant General system of Accounts administration that is followed with the formation of the State. The function of DOA is more in comparison to the AG office, since the latter only finalizes the accounts whereas DOA prepares, consolidates and finalizes the Appropriation & Finance Accounts of the State Government.

Apart from the above dual functions the DOA has the following functions:

- Administration of Treasuries
- Maintenance of individual General Provident Fund/Contributory Provident Fund/New Pension Scheme Accounts of Government employees.
- Scrutiny of pension cases and issue of Pension Payment Orders.
- Payment of pension to all retired government employees, teachers of aided schools, members of legislative assembly, freedom fighters etc.
- All transactions between Goa States and other State and Central government.

- Maintenance of government loans and advances taken by govt. employees.
- Accounting of all Works Divisions.
- DOA is the budget controlling authority of as many as eight Major Heads of Account.
- Maintenance of Budget Control Register of about 80 departments in Goa.
- Maintenance of service records of all gazetted officers in Goa.
- Examiner of Local Fund Audit
- Administration of common Accounts Cadre of Goa State.
- Statutory audit of local bodies.

Computerization activities have been going on over a period of time. The legacy systems have been redesigned to web-based systems, while striving for overall integration of various sections of the department as well as integration with other concerned departments. A lot of effort has gone into this whole exercise. And today Directorate of Accounts is the forerunner for giving SMART (Simple, Moral, Transparent, Responsive and Transparent) G2G and G2E services to Goa. It also provides instant up-to-date information to all the government departments and has a detailed reporting service for the decision makers of the government. The department feels that the efforts put in this project by all stakeholders; the implementing agency (NIC) and the staff of DOA should be recognised so that they are motivated to provide even better services.

II) Result Indicators

1. Key Performance

a. Percentage of Overall Working, Services Delivered and Covered using ICT

So far 85% of the services provided by the department, have been covered under ICT. The remaining 15% are under study or development.

b. Initiatives under G2C, G2B, G2G and G2E

G2G Services

- Integrated Bill Processing System (IBPS)
- MICR Cheques
- Compilation of Accounts

- Budget Processing
- Online Budget upload
- Treasury Accounting System
- Works Audit System
- Online Financial Information System
- Data Access to Auditor General.

G2E Services

- General Provident Fund System
- Contribution Pension System
- Advances Management System
- Loans Management System
- Pension Accounting System.

c. Stakeholder wise services and benefits of ICT/eGov initiatives

Stakeholders 1

- Directorate of Accounts,
- Finance Department – Govt. of Goa,
- Accountant General,
- Treasuries, and
- Other Government Departments

Services & Benefits

- **Integrated Bill Processing System (IBPS)**
 - Bills are cleared faster as compared to the manual system
 - Voluminous Budget Control Registers are maintained electronically
 - Income tax deductions data of gazetted officers is directly exported to Income Tax software. Previously this entry had to be done manually.
- **MICR Cheques**
 - Cheques data is maintained electronically.

- Printing of MICR cheques is computerized.
- Cancellation/Revalidation/Change of cheque details etc. are all done electronically.
- **Compilation of Accounts**
 - Closing of accounts is instantaneous.
 - Repetitive writing of registers is completely done away with.
 - Staff strength doing above work is reduced to one forth and they have been gainfully deployed elsewhere.
 - Voluminous compilation registers are swiftly generated.
- **Budget Processing**
 - Budget head balances of all departments are updated automatically.
 - Budget data from Finance Dept. can be uploaded electronically.
- **Online Financial Information System**
 - Demand wise, major head wise and head of account wise receipts and payment are available.
 - Treasury wise receipts & payments are available
 - Day wise cheques issued by DOA (N) & DOA (S) are available.
 - Annual Financial Statement (AFS) showing receipts & payments – revenue, capital, contingency & public account wise are available.
 - DDO can check budget allocation, balance & expenditure online.
 - DDO can check departmental challans online.
 - DDO can check pending bills status online.
 - DDO can reconcile accounts online.
 - AG can access all vouchers & cheques
 - Finance department gets up to date information on receipts and payments
 - Ministers and Secretaries can view financial status of the state at any time.

- **Treasury Accounting System**

- District Treasuries/Sub-Treasuries are connected through Intranet backbone.
- Cash Book is maintained electronically.
- Encashed cheques are verified against Cheque Issued details, thereby ensuring that there is no bogus encashment.
- View daily receipts/payments of District & Sub-Treasuries online.
- Daily receipts & payment figures are monitored from head office.
- Broadsheet maintained electronically
- Inventory of Judicial/Non-Judicial Stamp papers is done.
- Treasury data is available for Compilation instantly after closing of monthly treasury accounts.

- **Broadsheet**

- Since encashed cheques are verified and updated automatically, the need for a separate Broadsheet section is eliminated.
- Report for all unencashed and invalid cheques is generated.
- The earlier manual process of checking physical encashed cheques against issued cheques used to be cumbersome, time consuming and inaccurate.

- **Loans Management System**

- Loans taken by state government from various sources like LIC, NABARD, Central Govt. etc, are maintained electronically.
- State liabilities with respect to loan repayment are worked out automatically on yearly basis.
- Monitoring of loan payments can be done easily.

Stakeholders 2

Employees

Services & Benefits

- **General Provident Fund**

- GPF Accounts are maintained up-to-date for 35,000 odd employees.
- Yearly interest calculation is done.
- Sanctioning of Advance/Withdrawal is automated.
- GPF Slips are issued on time.
- Ledger of a given year can be viewed by concerned officials.
- Final settlement of GPF Account is done swiftly.
- **Pension Accounting System**
 - Pension records of 40,000 odd pensioners available online.
 - Finalization of new pension cases and calculation of retirement benefits is done electronically.
 - Transfer of pension is done electronically.
 - Revision of pension is done electronically.
 - Calculation of monthly pension done electronically.
- **Pension – Online** (This website is to be released to the public shortly. It has the following features)
 - View your pension case status.
 - Calculate your retirement benefits.
 - View your monthly pension.
 - Frequently Asked Questions.
 - Information on Retirement Benefits.
 - Downloadable forms.
 - And more...
- **Contribution Pension System**
 - CPS accounts of employees coming under the Governments New Pension Scheme are maintained.
 - Yearly interest calculation and CPS slips are issued on time.
 - Viewing of online Ledger of any account for any year is available.

- **Advances Management System**
 - Various advances like HBA, MCA and Computer etc. taken by Government employees are maintained.
 - Interest calculation is done or principal amount is recovered.
 - Viewing of principal/interest repayment for any given year is available.
 - Waiting list for various advances is maintained electronically.

Stakeholders 3

Banks

- **Services & Benefits**
 - Receipts received through the state governments Cyber-Treasury Scheme are electronically received from the banks, at the treasuries.
 - Encashed cheques data will be received from the banks in soft copy format.

d. Implementation Coverage (geographical areas covered under pilot, roll-out, next steps)

- Both the offices of Directorate of Accounts (North & South Goa) are computerized and are interconnected with 2 MBPS leased line connectivity with additional backup line.
- The 2 district treasuries (North & South Goa) are computerized
- All 9-sub treasury offices are computerized.
- The district treasuries and sub-treasuries are interlinked.
- Next steps: The 2 MBPS line will be upgraded to 1 GB. And all government offices including DDO offices will be connected via broadband.

e. Financial Model for the Initiatives (funding pattern, business model, PPP, etc)

- The infrastructure (hardware, software licenses, networking, site preparation etc) is totally self-funded by Directorate of Accounts.
- The application software & consultancy is provided by National Informatics Centre, Goa.

2. Government Efficiency Improvement Initiatives

a. Time and Cost Efficiency Improvements in the Working & Delivery of Services

- Funds are maintained under various budget heads electronically, thereby helping the auditors to check fund availability instantly.
- In case of unavailability of funds, bills are rejected at Bill Entry stage itself, thereby the bill does not have to go through the entire process.
- Bills are cleared faster as they are passed/objected electronically.
- Budget Control Register (BCR) is maintained electronically, hence eliminating the need to manually update the same.
- Voluminous manual cheque writing process is replaced with computerized MICR cheques printing.
- Broadsheet section is done away with, and the staff is re-deployed as the processes are carried out electronically.
- Book section account closing is instantaneous. In the previous manual system, the monthly closing of accounts used to take 3 months and all registers as well as closing had to be done manually. After computerization, the time required is reduced to 23 days. This delay is due to non-computerization of other (namely Works divisions) government departments. The staff strength too is reduced to one fourth.
- Bill status, BCR, Fund availability is checked online by the DDO's thereby reducing their trips to the DOA.
- On account of sub-treasury computerization, monthly account closing at District Treasuries now takes 3 days only, which previously used to take more than a month.
- Monthly reconciliation of accounts by the DDO is done online.
- Receipts/Payments details from treasuries are checked by Finance Dept. online. These reports were earlier compiled manually from various treasuries and used to take more than 2 months.
- The department wise expenditures are monitored by Finance Dept. online. Earlier these details were received from the departments and manually compiled by Finance Dept. to give the financial position of the State to the decision makers.

- GPF slips are issued yearly and on time. In the manual system the slips were not issued regularly. Staff from GPF section has also been redeployed as tedious work of maintaining department wise GPF records manually is now handled electronically.
- Settling of pension case is very fast as all retirement benefits are calculated electronically for pensioner.
- Pension case status can be checked online.
- Financial forecast for state loan liabilities can be done well in advance.
- Electronic maintenance of ledger of various advances has improved efficiency of the Loans & Advances section. The repayment details of advances for employees are available at the click of a button.
- Voucher wise data is made available online to AG for analysis.

b. Specific Innovative Ideas Implemented in eGov Area; Best Practices Implemented

- The applications implemented for the department are within a secure Intranet in the department and its district office and sub treasuries. While the Online Financial Information System (<http://egov.goa.nic.in/doa>) provides the front-end to view financial receipt & expenditure status of the state through Internet. A front-end like Pension-Online provides the pensioner with an interface through Internet to interact with DOA for all issues relating to Pension.

c. Initiatives Integrated with other Departments

- Budget prepared by Finance Department at the beginning of the financial year is uploaded electronically to DOA database.
- Conversely financial status of state available to Finance Dept through Online Financial Information System.
- Data (VAT & CST payments) from Cyber Treasury implemented in the State Portal of Govt. of Goa is available to Treasuries.
- Receipt & expenditure data of all departments is available to all DDO's.

III) Enabler Indicators

1. Department Policy & Strategy

a. eGov/ICT Vision Roadmap

To optimally utilize Information Technology to completely bring about process re-engineering in the way DOA interacts with other government departments as well as the citizen with an objective to providing SMART (Simple, Moral, Accountable, Responsive and Transparent) G2G and G2E services

b. eGov Roadmap Implementation Plan

- To utilize the GOANET (to be replaced by the Goa Broad Band Network (GBBN) providing a bandwidth of 1 GB, a first in India) to connect the DDO's with the DOA.
- The DDO will then be able to submit digitally signed bills online along with all necessary documents.
- To provide web-based and SMS-based G2G and G2E services along with traditional services.
- To utilize the Citizen Facilitation Counters (CFC's) to be set up by government on a PPP model, to deliver above services.
- To maintain a continuous state of IT savvy ness in its staff by regular trainings and upgradation programmes.

c. Sharing of Common Infrastructure (national, state, other department; delivery channels)

The Statewide GBBN will provide the common network backbone interconnecting all departments. Currently GOANET designed, implemented and maintained by NIC, Goa is being used for this purpose.

d. Technology Standardization

- After migrating to web based platforms, the database for all applications in DOA has been integrated. Oracle 10G on Linux platform is being used as the database for all applications.
- The front-end applications are developed and deployed using Microsoft .NET technology.
- All clients systems are Windows based.

2. Process Re-engineering & Legal Reforms

a. Major Front-end Process Changes

Process Re-engineering

- i. In the manual system, bills were received in the cash section, sorted and entered on registers and then sent to respective Pay Audit (PA) Sections, where they were diarized and again entered on registers. In the computerized system, bills are diarized at the entry level (in the Cash Section) itself and sent to PA sections periodically throughout the day, thus saving lot of processing time.
- ii. Inward/Outward of bills in sections is done away with as the bill moves electronically.
- iii. Entry of bill deductions was introduced at bill passing stage so that the gross, net and deduction amounts of the bill would tally.
- iv. In the manual system, the Book Section, which compiles final accounts, had to do entry of vouchers as well as deductions in registers. After computerization data entry with respect to bills is not required to be done at compilation as this is done in earlier stages (in different sections) of the whole process. This is possible because of integration of the entire database.

Legal Reforms

- All prescribed forms and registers are done away with as these are now maintained electronically.
 - Cheques are no longer manually written, they are printed from the computer on MICR stationery.
- v. To aid computerization and to help the DDO & general public to file receipts under correct heads, challans slips with different colors were introduced.

b. Major Back-end Process Changes

- i. Database is completely integrated. All sections in the department access the same database.
- ii. All applications use a common budget database.
- iii. Duplicate data entry is completely eliminated at any point.

- iv. Processes that are independent of each other go on simultaneously.
- v. For processes that are dependent, data from one process is made available to the next process in the line.
- vi. For example, bill & deduction data from Pay Audits is available for compilation in the Book section. Cheques printed data from Cash Section is available later to enter encashed cheques details to Treasuries.
- vii. DOA North & South databases are linked. This is useful for the following:
 - Encashed cheques details are updated against issued cheques irrespective of place of encashment.
 - Entering refund of expenditure challans.
 - Making available the consolidated DOA (South) account for compilation in Book Section.
- viii. Closed accounts are locked and thus unavailable for change of any kind, thus improving data consistency.

3. Capacity Building

a. Leadership Support & Visibility

- The leadership of DOA has always been supportive of its computerization process. Monthly review meetings are held with the implementing agency (National Informatics Centre, Goa) and all section heads of the department.

Visibility

- Technology enabled processes makes the department more efficient.
- Faster clearing of bills.
- Minimum time required for receiving cheque is 15 min.
- Financial details required by various other departments & Finance department are made available on the Internet.
- Yearly up-to-date GPF slips are given to employees.
- Pension case can be settled in 5 min.

b. Change Management Strategy

- Software changes required are communicated to NIC officially.
- NIC maintains a record of changes implemented.

c. Capacity Building Plan

- Two full time software programmers are hired who work under the instructions of NIC officers.
- Various vendors following the Warranty & AMC method give hardware support.
- A full-fledged computer section is set up, that takes care of all co-ordination activities and day-to-day maintenance.
- Almost the entire staff of DOA is computer trained.

d. Program Management Teams (full time department officials/ consultants)***DOA Team***

- Director of Accounts (over all in charge)
 - Joint Director of Accounts (Computer Section in charge)
 - Deputy Director of Accounts (Co-ordinator) 2 Accounts Clerks in Computer section
 - 2 Programmers in Computer section for maintenance
- Contract programmers as required

NIC Team

- State Informatics Officer (over all in charge)
- 2 Senior Systems Analysts
- 1 Programmer.

(Archana P Nagvekar, Scientist/ Senior Systems Analyst, National Informatics Centre, H-Block, Paraiso De Goa, City:Porvorim-Goa, Telephone no. (0832) 2410160, (0832) 2410816. The author can be reached at archana.nagvekar@nic.in).

Integrated Financial Management System (IFMS)

Tapan Ray

I) Overview

The major objectives of the Finance Department and the list of services provided by Finance Department to other State Government Departments and citizens are enlisted below.

Objectives

- Monitoring and control of state revenue and expenditure
- Effectively manage the state finances so that funds are optimally utilized for various citizen centric projects
- Effective & Improved delivery of services related to pension processing, provident fund accounting, HBA/MCA account maintenance
- Managing the total Budget process and timely release of grants/funds to Govt. departments/organisations
- Effective support and co-ordination with other departments specially for Budget process, disbursement of grants, Bill processing, PD/PLA account maintenance
- Active communication with Banks/RBI and AG office for finalization of state accounts, payments & receipt and managing grants/funds received from central govt.

Services

- Budget Processing and finalization
- Grant Release
- Payment services for Government dues (Treasury)
- Collection of taxes and other non-tax revenue
- Pension Processing and its Payment
- Pay Fixation of all state government employees
- Loans and Advances to employees
- Maintenance of PD/PLA accounts
- Letter of Credit account maintenance.

II) Result Indicators

1. Key Performance

Percentage of overall working, services delivered and covered using ICT. The organisation wise details of ICT applications are mentioned below:

Sr.No.	Name of Organisation	Name of Applications
1.	Finance Department	IWDMS, IFMS
2.	Directorate of Accounts and Treasury (DAT)	IFMS (e-Treasury, Cyber Treasury)
3.	Directorate of Pension and Provident Fund (DPPF)	IFMS (Pension Processing)
4.	Office of the Examiner, Local Fund Accounts	IFMS (Audit and Pay Fixation)
5.	Directorate of Insurance	PREMIA – Customised Insurance Solution
6.	Commissionerate of Commercial Tax	VATIS (Value Added Tax Information System)

The use of ICT covers more than 90% of the activities and services being delivered by the organisations.

a. Initiatives under G2C, G2B, G2G and G2E

Government to Citizen (G2C) Initiatives

- a. Computerization of Pension Processing and Pension Payment
- b. Online Pension Payment to pensioners

- c. Online payment of Taxes.

Government to Business (G2B) Initiatives

- a. Cyber Treasury for online payment of taxes
- b. VATIS (Value Added Tax Information System) portal

Government to Government (G2G) Initiatives

- a. Integrated Workflow and Document Management (IWDMS)
- b. e-Budget
- c. E-Treasury under Integrated Financial Management System (IFMS)
- d. VATIS (Value Added Tax Information System) for Tax administration

Government to Employees (G2E) Initiatives

- a. Automation of Pay Fixation as per 6th Pay Commission
- b. Integrated system for maintenance of HBA (House Building Advance)/ MCA (Motor Car Advance) accounts and GPF modules
- c. Integrated system for maintenance & operations of New CPF Scheme.

b. Stakeholder-wise Services and Benefits of ICT/eGov Initiatives

Government to Citizen Services (G2C)

There are more than 3 lacs pensioners who are paid monthly pension by Treasury offices. The services available to pensioners online are as mentioned below:

- Online status of pension case
- Pension History of individual pensioners
- Online facility for generation of Form-16 based on the online investment declaration by Pensioners
- Online submission of requests for change of Treasury/Bank for Pension Payment
- All forms and rules/regulations of State Government
- Online credit of Pension and other retirement benefits directly in the account of Pensioners
- Online facility for grievance redressal related to Pension

- Online Pension Calculator
- The system would also provide with alternate SMS and email services for status tracking of payment.

Government to Business Services (G2B)

The Cyber Treasury will be a portal with online payment of various taxes. The services to be provided through Cyber Treasury are as mentioned below:

- e-Communication: Communicate with the government authority by using Send and receive messages functionality. All kinds of confirmations related to transactions will be available.
- e-Payment: Online payment of all taxes using the net banking facility of the Banks. All transactions will be executed in secure mode using industry standard PKI (Public Key Infrastructure) technology.
- Reminder: Tax payer can set the reminder regarding important dates on which payment is to be made. As per setting, reminder will be sent automatically to tax payer.
- Profile Management: Tax payer can create and manage their profiles like change in phone number, email, username etc.
- The system would also provide with alternate SMS and email services for status tracking of such applications.
- Other services available specific to Taxation are as mentioned below:
 - Online application for registration and amendments thereto
 - Online application for refund
 - Online application for statutory forms like form C (for inter state purchase)
 - C-waybills for border check posts
 - Act, Rules, Schedules, Notifications and circulars put on website
 - Dealer search
 - List of cancelled and suspended dealers

Government to Government Services

In Government to Government services, following applications will be covered which will empower the user with timely information and effectively executing his/her duties.

- Budget Processing and Finalization
- Grant Distribution
- Online Bill Preparation
- Electronic submission of Bills to Treasury by digitally signing using Digital Signature for enhanced security
- Bill Processing in Treasury
- Pension Case Processing and Pension Payment
- PD/PLA & EMD (Earnest Money Deposit) Maintenance
- Stamp Processing
- LC (Letter of Credit) Account Maintenance
- Account Maintenance of HBA/MCA (Long Terms Advances) and GPF Accounting (Class-IV)
- Pay Fixation
- Audit of local bodies like District Panchayat, Taluka Panchayat, Village Panchayat, Municipalities, and Municipal School Board etc
- GPF Pre-audit of employees of local bodies

c. Implementation Coverage (geographical areas covered under pilot, roll-out, next steps)

Sr. No.	Name of Application	Pilot	Roll Out
1	IFMS	Ahmedabad Treasury Office, Pension Payment Office	All District Treasury Offices and Sub-Treasury Offices
2	VATIS	Ahmedabad Office	All District offices
3	IWDMS	Implemented in Finance Department, Secretariat	

d. Financial Model for the Initiatives (funding pattern, business model, PPP, etc)

All the projects/ICT initiatives undertaken by Finance Department are funded from the state government's own funds.

2. Government Efficiency Improvement Initiatives

a. Time and Cost efficiency Improvements in the Working & Delivery of Services

As a result of implementation of ICT based systems for the workings of all HoDs of Finance Department including the department itself, there is significant improvement in the efficiency as well as reduction in cost in delivering services. The major areas where significant benefits were realized as a result of improvements in time and cost efficiency are as mentioned below.

- **Reduce administration costs:** As all the applications (VATIS/IFMS/IWDMS) maintain the data and the documents in electronic form. The electronic storage facilitates quick, effective and timely analysis and thus substantially reduces the administrative costs.
- **Reduce transaction costs:** Due to online processing of bills/challans for payment and receipt, the cost per transactions has reduced drastically resulting into increase in efficiency. It eliminates the need for messenger for sending bills and collecting cheques with added overheads of verifying the identity of messenger.
- **Reduce cost of service:** Due to online availability of various services like tax payment, status tracking, grievance redressal, pension payment as well as information like notifications and circulars, amendment in act and rules, forms etc there has been a substantial saving in the cost of delivery of the services and providing information to the business owner and citizen at large.
- **Improved process efficiency:** The delay and errors in execution of the business process of the department has been reduced by using the IFMS application and Web portal (Cyber Treasury). Also the system will have single window interface (single portal based on single-sign on) across all functions with due exchange of data with external entities like AGO, RBI, Banks, and other departments and single access point to citizen.

This eliminates multiple times data entry, reduce errors and inconsistencies and expedite the overall process.

- **Improved service delivery:** Due to electronic delivery of services, the time and efforts of the business owner and citizen are saved as there will not be any need of multiple visits to multiple offices.
- **Increased accountability:** The IFMS application has increased the accountability by keeping the audit trail of all the changes in application data. Along with the changes the application also keeps the track of the user who has executed those changes. As the user information and the timestamp are recorded as part of the audit trail, it increases the accountability in the application.

b. Specific Innovative Ideas Implemented in eGov Area; Best Practices Implemented

Some of the innovative ideas/best practices implemented in various projects implemented by Finance Department are as mentioned below:

- Comprehensive dashboard with drill down facility and uniform DSS (Decision Support System) reports for decision making
- Electronic payment to pensioners eliminating the need to visit offices for payment
- Online receipt of various taxes with real time accounting in state accounts
- E-mail and SMS Alerts for citizen and business owners
- Digital signature: This is being incorporated for authenticating bills and also for ensuring security of crucial transactions.
- The architecture of solution is based on open, interoperable standard which is scalable and capable of delivering high-performance in varied conditions.

c. Initiatives Integrated with Other Departments

As Finance Department is the nodal department for finalization of Budget and its publication, the e-Budget application provides an integrated system for budget preparation by administrative departments, its consolidation at Finance Department level and generation of Budget Publications as per the standard template.

III) Enabler Indicators

1. State Policy & Strategy

a. eGov/ICT Vision Roadmap

State government has aligned its e-Governance vision with the vision of NeGP which is as mentioned below.

“Make all Government services accessible to the common man in his locality, through common service delivery outlets and ensure efficiency, transparency & reliability of such services at affordable costs to realize the basic needs of the common man.”

b. eGov Roadmap Implementation Plan

The State has formulated following implementation plan to implement e-governance in its various departments.

- All departments have prepared their IT Action Plan, which has a one-year focus and a five-year perspective.
- One percent of the State Government budget is committed to IT related activities, which is rose to 3% in the year 2005.
- To ensure quicker availability of funds, a separate IT sub-head is created within each major head. IT related funds are not subject to any economy measures and they are made available as far as practicable in lump-sum to the departmental heads rather than in the form of quarterly/monthly releases.
- To oversee implementation of IT strategies in the departments, each department has Chief Information Officer (CIO) who reports directly to Secretary of the department.
- All departments are in process of creating shareable databases of rules and other related information. This includes information such as budget, recruitment/service rules, plan achievements for various schemes etc.

c. Sharing of Common Infrastructure (national, state, other department; delivery channels)

Following infrastructure created by State Government will be utilized for all the e-Governance projects.

- **GSWAN (Gujarat State wide area network):** It is an end-to-end IP based network designed for the service convergence (Voice, video and Data) on the same backbone. It connects 7 Districts on 8 Mbps and 18 Districts on 4 Mbps to State Center at Gandhinagar using leased circuits provided by BSNL, Reliance and Tata Tele Services.
- **SDC (State Data Centre):** State Government has commissioned a State-of-the-Art data center in Gandhinagar which will be a centralized repository, either physical or virtual, for the storage, management, and dissemination of data. The DR (Disaster Recovery) site has been set-up in NIC, Hyderabad.

d. Technology Standardization

- GoG has taken a giant step towards technology standardization across its various functional units i.e departments. An integrated information system based on open standards, J2EE architecture has been implemented across various departments and in HoDs. With the adoption of open standards technology, interoperability of different systems has resulted into a truly integrated system with excellent reporting framework and easy integration with other e-government solution which might come up in future.

2. Process Re-engineering and Legal Reforms

The details of major process changes/process re-engineering initiatives implemented as part of IFMS project are as mentioned below:

a. Major Front-end Process Changes

1. *Online Bill Preparation and Digital Token assignment*

Original Scenario

- Employee/Department (DDO) prepares physical bill for incurring various expenditure/employee claims and submits physical bill to Treasury. Treasury on receipt of Bill issues Physical Token to DDO as acknowledgment.

Process Re-engineering

- DDO prepares Bills electronically for the employee claims and also for incurring expenditure under various schemes. Due to this, there will not be any requirement of data entry. DDO signs the Bill digitally using his Digital Signature and sends electronically to Treasury. Treasury generates

Digital Token on receipt of electronic bill and sends electronic intimation to DDOs for the same. DDOs can track the status of their Bills online using Digital Token.

2. *Cyber Treasury*

Original Scenario

- Major share of the State Government revenue comes from various taxes like VAT, CST, Motor Vehicle Tax, Stamp Duty, Electricity Duty, and Entertainment & Luxury Tax. Tax payer has to physically prepare the Challan in multiple copies and submit to Bank along with the payment by cheque/DD/cash. Also in the back-end, Bank has to send one copy of Challan to Treasury for Receipt Accounting. Due to the manual process, there may be delays in accounting the State Government Receipt. Also there is chance of tempering the physical challan resulting into loss of revenue for the State Government.

Process Re-engineering

- A portal is conceptualized in the name of Cyber Treasury through which taxpayers can make online payment using Netbanking facility provided by various Banks. Taxpayer can prepare the challan online and same data will be transferred electronically to Bank website which will obviate the need to prepare multiple copies of challans. Also once payment has been done through Netbanking, electronic receipt gets generated for the taxpayer and challan details will be transferred to Treasury officer for Receipt Accounting. As the challan data is transferred electronically, there is no chance of tempering and Receipt can be accounted in the state accounts almost instantaneously.

3. *Pension Payment Processing*

Original Scenario

- The processing of the pension cases of retiring employees are undertaken manually and details of PPO (along with other documents related to Gratuity, CVP etc.) is sent to Treasury for making pension payment. In Treasury, details of pension payment are maintained and monthly disbursement is made by sending cheques to various Banks where pensioners have accounts. In some case, payment is made through money

orders also. Due to this, there is lot of delay in getting the pension payment and there is chance of misplacement/loss of documents.

Process Re-engineering

- The processing of the pension cases will be done electronically so that accurate database of the pensioner can be maintained. Also DPPF (Directorate of Pension and Provident Fund) will generate electronic PPO and other related documents which will be sent online to the Treasury office resulting into saving lot of time of data entry and reduce chance of error. Also based on the Bank details provided by pensioner, monthly pension payment will be disbursed electronically using ECS (Electronic Clearing System) facility of the bank. Due to this, pensioner will get pension in time without much hassle and there will not be any need to visit Treasury office multiple times to get the status of payments as electronic intimation in the form of SMS is provided to pensioner.

b. Major Back-end Process Changes

1. *Elimination of Cardex verification using Digital Signature Interface*

Original Scenario

- Treasury officer verifies the signature of the DDO against the specimen signature available with the Treasury officer in the form of Cardex card of the DDO. In Treasury, the Cardex card of all the DDOs have to be maintained and searched manually whenever any Bill received from DDO for signature verification.

Process Re-engineering

- DDO signs the Bill digitally using his Digital Signature which can be verified by the Treasury officer electronically. Due to this, verification of specimen signature is not required which saves lot of time of Treasury officer while searching the Physical Cardex cards.
- Electronic Reconciliation of Receipt/Expenditure

Original Scenario

- In the Book Branch of all the Treasury offices, detailed entry of all the vouchers and challans are done for generating Treasury wise Expenditure and Receipt data. As all Treasuries are Bank Treasuries, the payment and

receipt are made through bank only and Bank sends physical scroll mentioning the list of cheques cleared and list of receipts accepted on behalf of Government. The reconciliation of the cheques and challans (sent by Bank) are done manually by matching the details of Bank scroll with the Voucher/Challan details entered by Treasury.

Process Re-engineering

- Bank sends electronic scroll (e-Scroll) to the Treasury office which will be reconciled electronically with the Treasury data of voucher and challans saving lot of paper work and data entry efforts. It will also reduce the probability of error and faster reconciliation of the data.
- Number of levels of collection of data and security for services delivery are reduced to make the process of granting registration and statutory forms much faster than the manual process adopted earlier.

3. Capacity Building

a. Leadership Support & Visibility

Every department has set-up an IT committee under the chairmanship of Department Secretary/Principal Secretary for monitoring all e-Governance initiatives, provide necessary policy level support and guidelines, provide overall direction and guidance to the operational team for ensuring success of e-Governance initiatives.

At the state level, Hon'ble Chief Secretary regularly reviews all the e-Governance initiatives and gives necessary suggestion/feedback to department secretaries so that project achieves its state objectives and progresses towards achieving its vision.

b. Change Management Strategy & Capacity Building Plan

The Critical Success Factor for the IFMS project would be managing the change process involved in the project. The main participants in this process are the FD & its various HoD's employees. There would be an apprehension regarding the new method of working and change in work culture. To overcome change management issue, phase wise implementation was adopted complemented by capacity building of the employees so that fear of new system can be minimized and confidence in the system can be improved.

IFMS pilot-run was carried out in Ahmedabad Treasury Office and Pension Payment Office, Ahmedabad. All the changes suggested by the users during actual use of the system were incorporated. Prior training was imparted to users of these two offices with the main focus on getting employees accustomed to the application usage as early as possible.

The overall capacity building plan will be designed keeping in view the following group of users.

1. DDO (Drawing and Disbursing Officers): 3500 DDOs across the departments will be trained to give them an overview of the functionality and operational understanding of IFMS. They will be trained to prepare all bills online and send it electronically to treasury offices for payment.
2. End Users: The users handling the systems at various levels in the FD and its related offices will be trained on the usage of application software.
3. FD (Finance Department)-Core IT Team (In house capacity building): This training will cover performing technical tasks such as system administration, minor troubleshooting, proper escalation of issues etc.

c. Program Management Teams (full time department officials/ consultants)

Finance Department, GoG has constituted a committee under the chairmanship of Director, Accounts and Treasury to oversee the implementation of IFMS in all treasury and sub-treasury offices. The committee meets regularly to discuss all operational and technical issues and resolves all issues in timely manner so that project is implemented in a time bound manner.

All policy related issues and project related issues which need to be escalated to senior management are discussed and resolved in the IT Committee meeting of Finance Department. As part of state government directive, every department has formed IT committee for preparation of IT Action plan, conceptualizing eGov projects, selection of vendor for eGov projects and implementation of e-Governance projects.

(Tapan Ray I.A.S., Principal Secretary (E.A.), Finance Department, Block No. - 4, 6th Floor, New Sachivalay, Sector - 10, City: Gandhinagar -Gujarat, FAX no. - 079 232 50603. The author can be reached at secea@gujarat.gov.in).

Rajasthan VAT IT Implementation Project

Ramesh C Sharma

I) Overview

Commercial Taxes Department of Rajasthan (CTD) administers indirect taxes of the State in terms of Value Added Tax, Central Sales Tax, Entertainment Tax, Luxury Tax, Entry Tax, Profession Tax and Electricity Duty. This department is the largest contributor to the tax revenue collected by the State Government and accounts for more than 50% contribution to the State Exchequer. Primary activities of the department are to frame acts, rules and make necessary provisions for administration of above taxes, regulation and facilitating trade and business in the State from compliance perspective. Main responsibilities of the department to carry out tax administration are: registrations of taxpayers, processing returns, collect taxes, issue of necessary documents permitting traders/dealers to carry out their businesses, assessments, tax recovery from defaulting dealers, enforcement operations, monitoring of incoming and outgoing goods, audits, etc.

Objectives of Department

1. Widening of tax base & clearer tax segmentation
2. Fostering voluntary compliance and better taxpayer services through better service delivery and effective communication strategy
3. Taxpayer facilitation
4. Effective and efficient expenditure control
5. Strengthening internal audit and control
6. Improving integrity, fairness and transparency.

7. Increase levels of Automation & Integration
8. Shared services and more efficient processes
9. Improvement in management control systems

Responsibilities and Functions

S. No.	Responsibilities	Functions
1.	Collection and Monitoring of Tax Revenue for State	Implementation of Tax Statutes and administration for compliance and facilitation of trades and industry
2.	Prevent Revenue Leakage	Registration related services – new, amendments, cancellations, etc.
3.	Create an Environment for Voluntary Compliance and Payments	Returns and Payments processing – Receipt and verification of the returns
4.	Facilitate Trade for Industry and Businesses	Issue of Statutory Forms (VAT, CST) & Other Documents to Dealers for enabling trades
5.	Streamline Business Processes and IT enable them	Assessment of Dealers
6.	Internal Capacity Building and Skill Development	Identification of returns and tax payment defaulters and recovery activities against them

CTD believes that for better & citizen-friendly tax administration, **Information Communication & Technology** tools are most important and necessary. Aim is that the IT implementation of the business processes of the department leads to greater efficiency and help department to focus its attention on its “core operations”.

II) Result Indicators

1. Key Performance

a. % of Overall Working, Services Delivered and Covered Using ICT

The department has carried out IT enablement of its tax administration functions. These include the back-office operations as well as services for citizens/taxpayers/dealers. Operations automated and services covered in this ICT initiative are explained below.

- Business Processes automated under new tax regime – VAT and Other Taxes

- Centralized **RajVISTA Application** (Rajasthan VAT Information System for Tax Administration) for Commercial Taxes Department – Rajasthan – online and being used at all offices across the State – Head Quarters, Zonal HQ, Circles, and Wards for managing the functions:
 - Extensive Management Information System and Dashboards for Decision Support
 - Registration Processes (New, Amendments, Change of Registration Categories, Cancellations, Dealer Management, etc.)
 - Returns Filing & Processing
 - Scrutiny & Assessments
 - Revenue Collections & Accounting
 - Penalties & Refunds
 - Enforcement
 - Appeals
 - Statutory Forms Management System
 - Electronic interfaces with Banks for Payments Processing
 - Fully Automated TINXSYS Information Interface.
- Web Portal for CTD – <http://rajtax.gov.in> – New portal for the department offering extensive information and electronic services to the taxpayers. Bouquet of e-Services rolled-out for the taxpayers:
 - electronic registration
 - electronic payment of taxes
 - electronic filing of returns
 - electronic refunds facility
 - electronic declaration for inter-state goods movement
 - electronic communication with the department
 - electronic profile
 - SMS-IVRS based goods declaration system.

- Automatic information collation and reporting from across the State – exhaustive Management Information System (MIS) available from RAJVISTA to all levels of Department Officials based on their designation and roles.
- Modern Infrastructure created across the State and effectively utilized – Data Centre Hardware, Wide Area Network (WAN) across 90 physical locations, Local Area Networks in each Office, Network Management System, Facilities Management System, and Enterprise Management System for controlling assets of the Department across the State.
- SLA driven data entry services operational.
- Disaster Recovery site setup outside the production site in a different seismic zone to create a stand-by facility for running the operations even if the main production site is down.

System Usage Statistics – RajVISTA – Intranet Back-Office Application		
S. No.	Item	Volume
1	No. of Registrations Generated from New System (Including Cancelled & Add Old TIN)	VAT – 62,745 CST – 46,514
2	No. of Amendments Carried out in New System	VAT – 22,010 CST – 15,874
3	No. of Returns Filed on New System	VAT – 9,11,905 CST – 53,284
4	No. of Challans Entered in New System	10,85,888 (All Taxes)
5	No. of Scrutiny Cases Initiated in New System	VAT – 3,30,196 CST – 24,367

System Usage Statistics – Web Portal		
S. No.	Item	Volume
1	No. of Hits on New Web Portal Till Date	17,11,000+
2	No. of Dealers Signed-Up on Web Portal	10,167+
3	No. of E-Payment Transactions Done on Web Portal	12,619+
4	e-Payments Facility Usage: No. of Dealers Utilizing e-Payments facility Payment Amount	2,329+ Rs.3,600 Crores
5	E>Returns Filed on Web Portal	8018+ Returns with 60,837+ Documents
6	Inter-State Goods Movement – VAT47A/VAT49A <ul style="list-style-type: none"> • VAT 47A Submissions • VAT 49A Submissions 	1410+ 1,30,700+

b. Initiatives Under G2C, G2B, G2G and G2E

Services provided under different categories are listed below:

S. No.	Govt. to Citizens (G2C)	Govt. to Business (G2B)	Govt. to Citizens (G2C)	Govt. to Employees (G2E)
1.	Extensive Web Portal with all information on CTD – available on 7X24 basis	Electronic Payment – available on 7X24 basis	Fully online, centralized and integrated system to provide real-time information on dealers, tax collections, returns filed, defaulters, assessments, etc.	Speedier internal process such as scrutiny, assessment and monthly report preparation with digitized data and automated triggers and work flows
2.	Downloadable Forms for all taxes	Electronic Returns Filing - available on 7X24 basis	Online tax deposits information to Finance Dept. Govt.	Spares time and effort for core work of leveraging tax-net and revenue generation
3.	Notification, Circulars, Orders issued on acts, rules, etc. and online information on procedures of department	Electronic Declaration of inter-state goods movement - available on 7X24 basis	Online Payment reconciliation and predictable revenue in-flow and refund forecast/planning	Availability of application guides and departmental information on 24X7 basis
4.	Information about a dealer (registered/ cancelled) for conducting trades w.r.t claims of ITC	Electronic Communication - available on 7X24 basis	Online reporting of revenue and returns	Time & Location Independence to a good extent
5.	Electronic Registration Facility for Prospective Dealers	Electronic receipts for documents submitted - available on 7X24 basis	Easy consolidation of revenue collection data at treasury level	User-friendly facilities to check the pendency and prioritize the work
6.	Electronic Communication	Online information on tax payments, returns, goods declarations, issuance of statutory forms, etc. - available on 7X24 basis	Dealer Inter-State Trades information to TINXSYS (National Exchange)	Inter-departmental communication cutting down manual letters and file based communication

c. Stakeholder-wise Services and Benefits of ICT/e-Gov. Initiatives

For the Dealer (Taxpayers)			
Action	Time/Effort required earlier	Time/Effort required NOW	Time/Effort saved
Registration -> e-Registration	Prepare registration documents, visit to tax office and submit – typically 2 days for visiting, submitting and obtaining acknowledgement receipt & then registration certificate	Entire process on portal - elimination of need to visit department office	<ul style="list-style-type: none"> • Time to visit department office and time spent there saved – 2 days minimum • Savings in costs associated with travel • Savings in costs associated with paper, stationery & printing
Manual Payment -> e-Payment	Travel to bank, fill up the challan(s) and deposit to bank with Cheque/DD/ Cash (higher tax amounts would usually pay via DD)	10 Minutes to make payment and generate online receipt	<ul style="list-style-type: none"> • Minimum 2-3 Person Days of Efforts per payment transaction • Savings in costs associated with travel • Savings in costs associated with bank DD, interest charges savings • Savings in costs associated with reconciliation of payment with department
Manual Returns Filing -> e-Filing	Prepare return documents, visit to tax office and submit - typically 1 day for visiting, submitting and obtaining acknowledgement receipt	Entire process on portal - elimination of need to visit department office	<ul style="list-style-type: none"> • Time to visit department office and time spent there saved - 1 day minimum • Savings in costs associated with travel • Savings in costs associated with paper, stationery & printing
<i>Contd...</i>			

Contd...			
Manual Purchase & Declaration of forms for Goods for Inter-State Movement -> Free E-Declaration	4-5 Days to visit the department office, collect the forms, fill it and send to consignee/consignor for exports/imports respectively	Entire process of filling electronic declaration takes 10-15 minutes per form	<ul style="list-style-type: none"> • 4-5 days to few minutes • Savings in costs associated with travel • Savings in costs associated with purchase of booklets of forms (VAT-47A and VAT-49A) • Savings in costs associated with reconciliation of forms with department
Refund Processing	Cross-checking with different returns, liabilities and tax offices required more than 2 to 3 months	Invoice match/ mismatch report available immediately upon return filing	<ul style="list-style-type: none"> • From 2 to 3 months to few days • Savings in costs associated with travel to department and banks

Government	Department	Citizen
<ul style="list-style-type: none"> • Cost effectiveness • Efficient tax administration • Better working capital management • Organisation Performance Measurement • Revenue projection • Information on policy & tax revisions • Transparency in operations • Better quality of services to taxpayers 	<ul style="list-style-type: none"> • Widening tax net • Controlling tax evasion • Higher compliance level • Integrated view across taxes • Widening tax net • Controlling net • Higher compliance level • Integrated view across taxes • Detailed and drill down MIS • Real time dash boards 	<ul style="list-style-type: none"> • Reduction of touch points • Location independence • 24x7 availability • Quick processing • Reduction of touch points • Data reliability • Ready availability of vital information • Quick remittance of refund • E-communication with the department for queries
Contd...		

Contd...		
	<ul style="list-style-type: none">• Employee Performance Measurement• Document Management and File Tracking System• Comprehensive repository of circulars and judgments• Proactive alerts• E-communication	

The service users can make various applications/transactions online saving their trip to the field offices, which otherwise the dealer from any remote geographical areas of the state may need to visit the nearest department office, carry along support documents as attachments and submit the application. A number of dealers actually use advisory services of tax practitioners/advocates, etc. so, many a times, the dealer as well as the practitioner need to visit the department office and invest lot of time. Few of the top services where the time saving has/would occur to the users are as follows:

d. Implementation coverage (geographical areas covered under pilot, roll-out, next steps)

Commercial Taxes Department, Government of Rajasthan has implemented this project. This department has its Head Quarters at Jaipur and 454 offices across the State in the form of Zonal Offices, Circle Offices and Ward Offices. Zones, Circle and Wards are the units of administration at different levels with zone comprising multiple circles and each circle comprising multiple wards. This project has been implemented across all the above offices of the department. The single, integrated tax administration software application is being used at each office. Dealers/Public at any location have access to CTD Web Portal and can avail of services provided thereon, irrespective of which town they have taken registration from/their assessing authority is situated. *RajVISTA (Rajasthan VAT Information System for Tax Administration)* is available online at all locations of Commercial Taxes Department in Rajasthan. This spans over 90 physical locations of State covering over 454 offices:

- CTD Head Quarters - 1
- CTD Zonal Head Quarters - 14
- Circle Offices - 111

- Ward Offices - 328

These offices are scattered across the geography of Rajasthan. Apart from this, project has a Disaster Recovery site at Hyderabad (Andhra Pradesh) connected online with Production Site at State Capital – Jaipur.

e. Financial Model for the Initiatives (funding pattern, business model, PPP, etc)

Funding Pattern

Presently complete funding has been arranged by the State Govt. Project has also been recommended by Finance Dept, Govt. of Rajasthan for funding from NEGP-CT-MMP Programme (National E-Governance Plan – Commercial Taxes – Mission Mode Project).

Total Investments Made in the Project Over Last 2 Years as on 31st March 2009		
Period (FY)	Expenditure (Rs. in Lacs)	
	CAPEX	OPEX
2008-09	1028.12	611.82
2007-08	1046.21	177.95
2006-07	631.17	7.26

3. Government Efficiency Improvement Initiatives

a. Time and Cost Efficiency Improvements in the Working & Delivery of Services

For the Dealer (Taxpayers)			
Action	Time/Effort required earlier	Time/Effort required NOW	Time/Effort saved
Payment Information – Information on tax collections	Getting the information from banks and treasuries on a daily basis by deputing manpower or telephonically	As soon as the information is fed, same is available across the State. Also with e-payments, credit information is instantaneously available.	From no. of days to few hours.
Identifying and issuing notices to Return/challan defaulters	Compiling the list of returns filed and then identifying defaulters – typically take a month to identify and issue notices	Data entry needs 1 day. Defaulter list is available immediately and notice can be generated online.	From 25 days to 1 day
Contd...			

<i>Contd...</i>			
Widening Tax Net by identifying unregistered dealers and monitoring registered dealers.	Whether a dealer is registered or not required letters to be sent to different tax offices.	Immediately available using online RajVISTA Application	Reducing from 5-6 days to click of mouse.
Detecting Tax Evasion by comparing return information with check post information.	Individual return files are to be opened and compared. Requires man-hours to do this.	On click of mouse using MIS reports.	Reducing from 8-10 days to click of mouse.
Trend analysis and revenue projections based on product/ industry classification of dealers.	Collecting data from 400+ Offices and then classifying to study trend requires huge effort and it is nearly impossible.	On click of mouse using MIS reports.	Reducing impossible task to click of mouse
Reduce administration costs	Larger human effort and man hours required	Human effort saved used for other productive work, core taxation activities, etc.	Cost of information collection and compilation drastically reduced.

b. Specific Innovative Ideas Implemented in e-Gov Area; Best Practices Implemented

Following innovative services/processes have been implemented during computerization of VAT operations by the department:

- **Unique Invoice Match/Mismatch System** – This is a core aspect of VAT regime and fundamental basis of allowing Input Tax Credits to Dealers. Invoice Match/Mismatch utility helps the department to identify any discrepancy in the information provided by dealers about their purchase & sales transactions and worthiness of their ITC Claims.
- **Dealer Profile Report** – This provides complete details of a dealer in one place giving the department user an entire picture of the dealer in terms of his registration & business information, returns details, taxes paid, penalty, refunds, etc. This helps in eliminating manual file-based searches.

- **Status Tracking** – Dealers can track the status of their using a unique identifying number for each of their application. Department officials can track the pending status of files easily through the IT System.
- **Intra-Departmental Communication** – Electronic Mode – CTD users utilize the RajVISTA Messaging System to communicate with each other on lot of matters – this reduces the need of letters, paper-work and telephone costs on one hand, and fostering an electronic work culture at all levels on another hand which indirectly leads to skills development, increasing self-dependence and bringing in more officials into the mainstream system of operations.
- **Citizen Portal & e-Services**
 - Online Registration in VAT & CST
 - Online Payments (E-Payments) for All Taxes with Reporting System
 - Online Filing of Returns (E>Returns) for All Taxes with Reporting System
 - Online Filling of Statutory Forms for Inter-State Goods Movement (E-VAT-47A/49A) with bar-coded PDF generation and Reporting System
 - Electronic Refunds for Direct credit of monies to dealer's bank account
 - Online Communication via Messaging to Department
 - Online declaration of Key Information for Inter-State Goods Movement (E-VAT-47A/49A) through SMS and IVRS system.
- **Automatic Upload of Challans Information from Banks** – Under this system, banks which are authorized by CTD to collect the payments from dealers send the information of tax deposits electronically which is loaded into RajVISTA System. This eliminates the need of data entry of challans and results in saving lot of efforts, time and costs in addition to reducing the data entry errors largely. Monthly volume of challans entered into the system is approximately 50,000 – Elimination of data entry of even 50% of these challans would clearly indicate the savings in time, efforts and costs.

c. Initiatives Integrated with Other Departments

- Interface with banks for the implementation of electronic payments system and for auto-upload of manual payments which are carried out by dealers in banks.
- Interface with banks for electronic refund processing for direct credit of refund money to dealers bank account.
- Interface with National Tax Information Exchange System for sharing the CST Dealers information and their trades with other States.
- These interfaces are automatic and need no manual intervention.
- From time to time, dealer information is also shared with Income Tax Department for their specific needs – this is directly generated from the system and provided to the IT Department.

III) Enabler Indicators**1. State Policy & Strategy****a. E-Gov/ICT Vision Roadmap*****E-Governance Goals and Roadmap***

- To devise hassle free tax administration environment for the taxpayer
- Reduction in number of levels required for approval
- Simplification of business process of VAT
- Reduction in needs of visiting Department for approval/sanction
- To provide e-services to the stakeholders of the project resulting in reduction of time
- To provide right information at right time to right person
- Reduction in errors of processed documents
- To facilitate trade and industry for the State.

Value Adds to the Taxpayers

- Bouquet of e-Services for taxpayers:
- Electronic Refunds facility for direct credit of refund amount to taxpayer bank accounts

- Transparency, better response for services, avoidance to un-ethical practices
- Savings in time & costs for taxpayers
- Time and Location Independence due to Web Portal
- 24X7 customer self-service on Web Portal
- Quick access to Important Information at One Place
- Speed-up, simplify and reduce barriers to taxpayer interaction
- Single point of information dissemination – web portal – wherein latest acts, rules, forms, schedules, circulars, notifications, orders, etc. are available
- Taxpayers can view their profile on web portal – registrations, payments, returns, dealer ledger etc.
- Minimal personal interface with department offices resulting in transparency and reduced corruption/mal-practices.

Value Adds to the Department

- Daily updated dashboard and MIS for informed & pro-active decision support
- Holistic view of state-level transactions and health of tax revenue collection on real-time basis
- High value, citizen friendly image
- Better Controlling
- Effective and Easy way of maintaining information and documents
- Right Information – at right time – to right people
- Improved Accuracy of the Information
- Cost Reduction
- Integrated View of Dealer's Profile
- Widening of Tax Net via RAJVISTA
- Identification of Tax Evasion via RAJVISTA
- New ways to monitor dependency at all levels

- Performance Evaluation
- Better Management of Working Capital
- Capacity Building
- Improved overall Work Satisfaction.

b. e-Gov Roadmap Implementation Plan

While the Department has operationalized an IT System for its business operations, it has not stopped at this stage. With the continuous support of senior leadership of the state at all levels, it has ambitious plans for taking its e-governance initiative much ahead and provide better and effective services to both internal and external stakeholders.

- GST Implementation from April 1, 2010
- Implementation of HSN system of Commodities & Goods
- Expansion of e-Services:
 - Expanding the network of banks available for making e-Payments
 - Expansion of Electronic Interface for Payments Processing with Major Banks that are authorized for CTD Payments Collection
 - Creation of system for allowing Certified Tax Practitioners/Tax Consultants to file returns on behalf of dealers
 - e-Requests for Statutory Forms under CST & Other Acts
- Reduction in human intervention in day-to-day taxation operations to the extent possible
- Support Services for various IT Components for smooth running of operations.

c. Sharing of Common Infrastructure (national, state, other department; delivery channels)

Department has created a modern, state-of-the art infrastructure keeping in view the long term objectives of business and IT enablement. The State Data Centre of Government of Rajasthan has been utilized and department's infrastructure has been commissioned there. Department has also created parallel infrastructure

at a secondary site – NIC-Hyderabad for Business Continuity and Disaster Recovery purpose. These both initiatives have used State Data Centers.

d. Technology Standardization

Department has created its IT System on latest technologies and ensuring that they don't become obsolete in fast changing world. Its IT system is based on open standards, robust databases which provide scalability, maintainability, modularity, re-usability, portability, performance and security. The intranet system based on TCS' taxation framework is n-tier, web based, work-flow driven system is closely integrated with the web portal of the department.

2. Process Reengineering & Legal Reforms

Department has carried out lot of reforms in order to create user and taxpayer friendly IT system. This has called for significant business process re-engineering and changes in statutory acts, rules, procedures, etc. which have been implemented.

a. Major front-end process changes

- Facility to make payments electronically
- Facility to file returns electronically
- Facility to declare goods for inter-state movement electronically
- Facility to communicate electronically with department
- Facility to get refunds electronically
- Facility to verify dealer credentials online.

b. Major back-end process changes

- System to accept and process electronically filed returns and declarations
- System to issue acknowledgement receipts
- System to alert assessing authorities in case a dealer gives guarantees for more than allowed dealers
- In-built checks for checking duplicity/problems before registration of the new users
- Unique number generation for all transactions

- Building information systems for generation of alerts on possible errors/risks/evasions based on data from registration/returns and usage of the check post
- Online verification from dealer master/history of transactions.

3. Capacity Building

a. Leadership Support & Visibility

Commitment

- Ruling Government's reforms & vision is to increase the penetration of e-Governance in the taxation sector.
- Govt. is under process to create adequate provisions in law for online submission for Statutory Forms under CST & Other Acts.

Visibility

- Set up Roadmap to GST Implementation from 2010
- State represents in National level EC Meetings.

b. Change Management Strategy

Changes in any IT System are inevitable. Department has created a systematic structure to ensure that changes to system are done after proper analysis and with due authorization from concerned authorities. A Committee has been constituted to evaluate the changes suggested by business users from across the field offices. Further, the changes in acts/rules/forms are done in consultation with IT Wing so that the new provisions are IT-friendly and dealers/taxpayers do not face problems in using the IT System.

c. Capacity Building Plan

Commercial Taxes Department has laid significant stress on capacity building for successful implementation of VAT-IT project. Department has conducted training programmes for its staff on computer usage at frequent intervals. As part of the VAT—IT Project, training sessions on usage of the RajVISTA application and web portal were conducted across the State.

TCS has imparted training to more than 2000 Officials of the Department across the roles and functions from all offices across the State. This training has

covered all aspects of the VAT-IT Project, RajVISTA Application, Web Portal and expectations from the attendees. Exit Tests were conducted to assess the performance of attendees and where improvement is required. Feedback was also taken from attendees to improve the system.

The sustainability with regards to organisation is ensured by providing enough stress on training and capacity building:

- **Training Sessions** – Formal training sessions on different modules of RajVISTA application have been imparted to officials belonging to different levels of organisational hierarchy. Training objectives and contents are defined and customized as per the user's level in organisation hierarchy.
- **Application Demonstrations** – Application and web portal demonstrations have been organized for the business users at various intervals to communicate and showcase the system functions.
- **Hand Holding** – Business users are provided hands-on training where they are actually mentored for using the system for their business activity. Proper training environment is created by simulating the production scenario and the hand holding is provided in this training environment. Business users are assigned sample exercises and tests based on cases pertaining to different business processes. Training faculties help the users to execute these tests and exercises.
- **Train the Trainer** – A set of proactive business users are identified to impart training at their respective locations. Exhaustive training is provided to these users for imparting training to other users in their locations. These trainers are regularly updated about the application changes to coordinate and educate the users of their location about those changes. Detailed and exhaustive core users training has been conducted for strengthening the skills and development of core group.
- **Seminars & Presentations** – Selected business users are invited for brainstorming sessions, seminars and presentations where the domain specialists share their views and deliberate on various administrative, and operational issues related to the project implementation.
- **Educating Dealers** – Application provides comprehensive and detailed handbooks for each of the e-services used by the dealers on the web portal. Apart from them the web portal provides e-documents related to all the

forms, acts, rules, circulars, notifications, amendments, etc which can be downloaded from the portal.

- **Orientation Programme** – Department organizes orientation or refresher programmes for all its officials to keep them updated with what new has happened since the last training programme. This has been of great help to the officials of the department to re-cap what they learnt earlier and also to get to know about new rules, amendments, notifications, circulars, enhancements to RajVISTA, new facilities added, etc.

d. Program Management Teams (full time department officials/consultants)

Commercial Taxes Department initiated this project with certain objectives in place. In order to achieve those objectives, stakeholders at appropriate levels were consulted and involved.

Committees Formed for the Exclusive Purpose of Project Execution

Project Management Perspective:

- I. **Empowered Project Steering Committee (EPSC)** – Having representatives in the form of Senior Officers from Government of Rajasthan, Commercial Taxes Department, Department of Information Technology and Communications and Tata Consultancy Services
- II. **Project Implementation Committee (PIC)** – Having representatives in the form of Senior Officers from Commercial Taxes Department and Tata Consultancy Services

Project Application Software Perspective:

- I. **Project Requirements Committees (PRC)** – Constituted for Each Module and having representatives from Commercial Taxes Department and Tata Consultancy Services (CTD Officials primarily from field offices to provide actual implementation experiences)
- II. **User Acceptance Committees (UAT)** – Constituted for carrying out the user acceptance of various modules of the software and signing-off the UAT

Project Procurement Perspective:

- I. **Project Purchase Committee (PPC)** – Constituted to carry out procurements in the project and having representatives from Commercial

Taxes Department and Department of Information Technology and Communications.

- II. Inspection Committee** – Constituted to carry out inspection of hardware, networking and supporting software's delivery, installation, etc. in the project and having representatives from Commercial Taxes Department, Finance Department, Department of Information Technology and Communications, etc.

Project Implementation Perspective:

- I. Appointment of Deputy Commissioner** – Information Technology (IT) to oversee the implementation of Raj VISTA across the State in a smooth manner and act as an interface between End-Users and Head Quarters.
- II. Identification of Nodal Officer** – at each office and assignment of responsibilities to own the implementation activities at root level.

Project Co-coordinator: CTD has appointed a senior level IT Official from State Government on dedicated basis to lead this project and carry out the implementation under the leadership of Commissioner and Additional Commissioner (VAT & IT), CTD, Rajasthan.

With the above structure in place, it has been ensured that Officials at all levels are involved and they get a sense of ownership in the project. Also, on the other side, work has been delegated to committees which carry out the actual operations and also put their recommendations to higher management for their approval and carry out its implementations.

(Ramesh C Sharma, Analyst Cum Programme (ACP), Commercial Taxes Department Govt. of Rajasthan, Jaipur Commercial Taxes Department, Kar Bhawan, Bhawani Singh Road, JAIPUR - 302005, RAJASTHAN Telephone no. Phone-Office: 0141-238 5413. The author can be reached at acphq@rajtax.gov.in).

SECTION III

E-GOVERNANCE DISTRICTS INITIATIVES

e-Governance Initiatives in District, Sagar, Madhya Pradesh

Hiralal Trivedi

I) Overview

The district of Sagar lies in the north central region of Madhya Pradesh. It is situated between 23 deg 10' and 24 deg 27' north latitude and between 78 deg 4' and 79 deg 21' east longitude, the district has a truly central location in the country. The town of Sagar has been built around the large and once beautiful lake. Sagar was founded by Udan Singh in 1660 and was constituted a municipality in 1867. A major road and agricultural trade centre, it has industries such as oil and flour milling, saw-milling, ghee processing, handloom cotton weaving, bidi manufacture and railway and engineering works. The district is bounded on the north by Jhansi district of Uttar Pradesh, on the south by the district of Narsinghpur and Raisen, on the west by the district of Vidisha, and on the east by the district of Damoh, which was previously a part of Sagar District. On the north-east and north-west, the district adjoins Chhattarpur and Guna districts, respectively. According to the Surveyor-General of India, the district has a total area of 6375 sq kms and is shaped roughly like a triangle.

Sagar district is the sixteenth largest district in size in the State, and the third largest in the Jabalpur revenue division. The district is divided into nine tehsils, viz, Sagar, Banda, Khurai, Rehli, Garhakota, Bina, Rahatgarh, Kesli and Deori each in the charge of a Tehsildar or a Sub-Divisional Officer.

Sagar district has played a major role in implementations of various e-Governance initiatives of both state government and central government. Sagar district has been nominated as Best E-governed district in the years 2007 and 2009 by the department of IT government of Madhya Pradesh. It has been the

district of various pilot projects. The main being the Land Records project and Jansamvad , a web based public grievance system. The Jansamvad was developed and implemented in the district. It has many awards to its name. Parakh program which has received CSI awards is the product of Sagar district. Later on it was modified and got implemented throughout the state.

The district has good IT infrastructure and trained persons as well. Considering the above mentioned points DIT has proposed to implement pilot e-District projects in district Sagar to provide citizen centric services in the district. The objective of the e-District pilot project includes the implementation of an efficient electronic workflow system for District Administration, backend computerization of the core citizen services delivered through the district administration, redesign the processes for the core services to deliver them through the Common Service Centres (CSCs), infusion of transparency and accountability in operations, fast processing of public cases/appeals/grievances and dissemination of information as per public requirement.

II) Result Indicators

The efficiency with which the administration is able to respond to the complex policies laid down by the Government is a critical determinant of the success of Governance. So also, it is expedient that the laggardness of the pen-pushing paper-passing past should be done away with to make administration responsive to the call of the common man. The introduction of computers & modern means of communication, which in short is described as the adoption of e-Governance, seldom brings in any new policy change in the functioning of the government. A new effective way of doing things, that always used to take much more time, money & energy to achieve, is made possible by e-Governance.

Sagar district of Madhya Pradesh has made its own small steps in the journey towards the destination of administration at the speed of thought. Apart from actively participating in the various statewide initiatives like the *Parakh* and Video Conferencing, the district has to its credit localized initiatives, a chronicle of which is attempted in this note.

1. E-Kiosk

Common Services Centers can offer a large basket of services through e-medium. Along with this the CSC proposes to offer useful information for all possible segments of society be it students, farmers, senior citizens, unemployed youth,

business, women self help group etc. For example, a farmer can make use of CSC to learn more about agricultural/farm inputs, prices, weather conditions, crop insurance etc. He may also use the CSC platform to buy an insurance policy if wishes to.

About 250 CSC have been opened in the districts which are playing a great role in pushing the district towards e-Governance. Number of services are proposed to be given from CSC. At present all the services available on MPONLINE are being given from the CSCs. Apart from this CSC are providing insurance facilities to the citizens. Discussions are on with the banking authorities for providing banking solutions from the kiosks. Apart from this citizens are also getting information which is available on the district website www.sagar.nic.in

2. Yojna Aapke Dwar

Government is running various beneficiary programs and applications; these are not readily available at one place, so it is necessary that this information may be compiled and kept at one place. Looking into this we have recently launched the program called 'Yojna Aapke Dwar' on the district website. The idea behind this scheme is that the citizens must know the government schemes which are available for the different departments and whether he/she is eligible for that particular schemes or not. Scheme of about 21 departments are kept on the websites. The formats which are required for each scheme are kept on the website. The citizens can download the format, study the schemes and can directly apply for any schemes in the concerned department. The 'Yojna Aapke Dwar' is kept on the site www.sagar.nic.in.

3. SWAN Project

Readiness for SWAN

The SWAN centers had been identified at all the tehsils and Data Center has been identified in the Collectorate Campus. The fiber connectivity has established in Data Center. The rest of the tehsil will be given PCM based connectivity of 2.0 MBPS.

The authority of the SWAN centres had been given to MPSEDC. The renovation will be done by the Ms. Tulip Ltd.

4. E-District

E-District is also one of the 27 projects under NeGP under the department of IT. E-district aims at providing support to the basic administrative unit i.e.

“District administration” to enable content development of G2C services which would optimally leverage and utilize the three infrastructure pillars, to deliver the services to the citizens at his doorsteps.

Readiness for E- District

Sagar district has been chosen as the best E-governed district of Madhya Pradesh in 2007. The site for the SWAN centres is ready in districts as well as in all the tehsils/blocks of the district. The study of E-governance activities has been completed and the report has been sent to Central government by the department of IT, Govt. of Madhya Pradesh. The establishment of Common Service Centres have been started and the AISECT has been chosen for doing this work. Treasury, Commercial Tax, Transport, Land Records, have been fully computerized. Parakh, Samadhan online, Samadhan Ek Diwas and Jansamvad are successfully running in the district. Jansamvad website has many awards to its name.

5. Panchayat Computerization

In district Sagar at the behest of Collector Shri H.L. Trivedi and CEO Zilla Panchayat gigantic task of computerization of panchyats accounts have been taken up during last year with an intent to keep the scheme based books on double entry system. This is being done by the “YOJNA” software. The objectives of the yojna software are

- To keep the accounts on double entry system.
- To keep the separate cash books and ledger for each scheme implemented by the panchayat.
- To record the expenditure incurred in the prescribed scheme head.
- To submit the utilisation certificate based on the transaction recorded in the books.
- To monitor on fund position up to the panchayat level.
- To monitor progress of work.

6. Jansamvad

Jansamvad combines the power of Marconi’s radio and the modern Internet to bring in transparency and efficiency into the grievance redressal system. The days of the citizens traveling to the district headquarters to hand over a petition

to the Collector's office only to be kept faithfully and ruthlessly in the *babu's* custody till eternity is to be a thing of the past.

The earliest days of Jansamvad was the weekly phone-in programme on the AIR FM of Sagar. The citizens could dial a number from anywhere and go live on radio, talking to the District level team in the studio about his grievance/suggestion. The programme is transmitted live and has been certified to have a huge following, particularly in the rural areas of the district. The programme is also being used to give general information to the public about the new schemes of the district. The complaints registered on the programme are fed into a web-based software, where it is marked to the various district authorities.

To further the reach of the Jansamvad programme, it is further being attempted to conduct camps in the villages where the complaints would be received at the village level and the same would be entered into the Jansamvad website and closely monitored for action taken reports. A fee of Rs.20 as authorized for the kiosk owner is collected per complaint. It is also attempted to give a written reply to the complainant regarding the disposal of the complaint made in this programme. This would ensure that the digital divide does not come in the way of the Jansamvad initiative. The programme is being run on a pilot basis in the Sagar tehsil.

7. Samaadhan Ek Din Mein

Samaadhan Ek Din Mein is a statewide initiative. Sagar was one of the first districts to achieve its implementation in all the tehsils as per the Government mandate.

Sagar district has innovated in the business model adopted for the implementation of the scheme. An effort in introducing Public-Private Partnership has made it possible in Sagar tehsil to give good services under the scheme. The responsibility of manning the centre and generating the note-sheet from the computers has been outsourced at the rate of Rs.2.50 per case. The hardware, its maintenance and the manning of the counter is the responsibility of the private player. In the months where there is extra work at the counters, more private players are allowed under the same conditions and the healthy competition between them ensures speedy disposal of the application of the citizen as the remuneration is on pro rata basis. In the month of July 2006, there were days in which the single window counter accepted 500 applications in a day and

still managed to give hundred percent compliance as per the time limit mandated by the State Government by using the model. This has obviated the need for redeployment of government staff for these functions.

8. Time Limit Monitoring System

The Collector Sagar convenes a weekly Time Limit meeting on all Tuesdays to monitor district level officers in their work. The Time Limit Monitoring System developed by the NIC is used in this meeting to monitor the actions taken by the agencies with regard to critical matters of governance. Complaints that are personally monitored by the Collector are registered under a separate head called Single Window Time Limit. Copies of the pending actions with respect to the different district level officers are circulated to them in advance and the progress of the same is monitored at the weekly meeting.

9. Computerization of the Nagar Nigam

The computerization of almost all the functions of the Nagar Nigam has been achieved in the Sagar. Integrated Web enabled client-server technology based application has been developed for various departments that includes Water Distribution Department, Revenue Department, Accounts Department, Stores and Workshop Department, Social Security Scheme, Complaint Management, License Department, Ration Card, Death & Birth Registration Department, Establishment.

Some of the achievements on this front are as follows:

1. Water Distribution Department has been fully computerized and water tax bill is generated & distributed for last 11 months. Water connections given to the Panchayats have been computerised.
2. Death & Birth registrations have been fully computerized and certificates & reports are been issued with the help of the developed application.
3. Service book detail of employees working for cooperation has been fed into the system and payroll would be generated via application as soon as data is verified.
4. Data Entry of License Department, Social Security Scheme, Revenue Department (Details of Property, Nigam Market, Gumthi's & Hoardings) is completed.

5. Accounts have been converted from Single Entry to Double Entry System with the help of the application.
6. Computerised marriage registration certificates are being provided to the citizens.
7. Shops records have been computerised.
8. Data entry of old age pension and social security pension has been completed.

The software for all these activities is in VB.NET and is being executed in Intranet environment.

10. Local Area Network in the Collector Office

Gone are the days when computers were meant to be kept only in the computer rooms where they would just be used as glorified typewriters. Sagar district office now has a local area network that enables Internet access to each and every part of the office complex. This has resulted in a new attitude towards computers in the office staff. The potential of the machine is being realized and more among the traditional staff have come to appreciate the usefulness of the machine.

11. District Website

www.sagar.nic.in. is the official website of Sagar district. In today's scenario this is the most important tool to disseminate information related to the district. The site is regularly updated. The links of the site are regularly rearranged to give prominence to the important ones as and when required. The important information about the district, the information for tourists and general public is kept on the website. The Jansamvad web application is also given a link on this site. As and when new and important events take place the same is included in the website. Recently when "Life Line express" came to Sagar for performing operations, the site was very useful in providing the time schedules of various events for general public. The website launched in Dec 2004 has till date got 68000 hits.

12. Land Records Computerization

In Sagar Land Record project was executed as a pilot project. The funds have been provided by the Ministry of IT, Govt. of India. The project enabled the detail study of the existing software whereby several modifications were done in the software. Each tehsil has been provided with a server, a client, a printer,

a UPS and a biometric device. The computer centers have been redesigned so that the citizens have a direct approach to the window instead of going through mediators. The Khasra and B1 nakals are provided hand to hand to the citizens. Besides this a Data Centre has been opened in Collectorate where the data of all tehsils is kept so that any body can get the reports of any tehsil from data center. This has been very useful for those who come for registration of their land. Work is on for providing connectivity from all the tehsils to data center so that online data transmission can take place between tehsils and the data center. A pilot effort to carry the land record data on a laptop to the villages to provide Khasra and B1 nakals at the doorsteps of the villagers was also attempted. On an average this amounts to over 8200 certified copies per month across the district. Sagar is the leading district in this regard in Madhya Pradesh

13. Excellence in Implementing State Level Initiatives

Other than these district level initiatives, State level softwares that are implemented also deserve a mention. The *Web based monitoring system of the CM office* has been implemented successfully in the district. Next in the list is the *software of the ICDS*. Every month data entry is done and information is transmitted to the head office. *Pension orders* for the treasury are another important application that is used by the masses. District Sagar holds the credit of being the first district to provide computerized Pension orders. *Agmarknet*, an application for promoting Agricultural Marketing has been implemented in about 9 mandis across the district. The data connectivity has been provided and the information regarding rates and 'Awak jawak' is fed and transmitted on daily basis. Again, Sagar holds the credit of being the first district in disseminating *results of Class V and VIII through web*. Other projects are databases for BPL beneficiaries, MIS for MPLAD, Crop Insurance, BRISC and Public Distribution Management system for food department. '*Parakh*' program that is now implemented in all the districts is also a product of Sagar district (then known as the 11-points programme). It was initially implemented here and it was only after seeing the outcomes of the project that state government decided to get it implemented in all the districts of the state. Also large number of departments are using the email for their day to day communications.

14. Comparison with Criteria for Selection

In this section an attempt is made to compare the efforts going on in Sagar with the criteria laid down for category 1 for "Awards for Excellence in e-Governance initiatives in the State of Madhya Pradesh" by the Dept. of IT, GoMP.

1. Number of district administration functions that have been computerized as against total functions:

The different Government functions as enumerated below are at different stages of computerization as explained below.

- a. *Grievance redressal*: A robust web based system, Jansamvad is in place. The critical aspect of the web based system is that the digital divide is not being allowed to make the system elitist. The spoken word is captured and registered on the Internet through the radio phone-in programme. The same is ensured for the villagers who visit the District Headquarters. There is also a pilot scheme to collect the complaints from the villages by a touring party which then registers the complaints over the Internet. A written communication is attempted to be given back to the complainant in this effort.
- b. *Issue of certificates*: The district has successfully implemented the Samadhan Ek Din Mein scheme whereby certificates are issued to the citizens in the defined time frame. An illustrative list of all the certificates that are issued is appended.
- c. *Issue of Licenses*: The issue of driving licenses has been computerized as per the state level initiative. Other licenses like the Gun license are being computerized.
- d. *Revenue court work*: A prototype programme has been developed for monitoring the court work. The pilot is soon to be launched.
- e. *Monitoring and reporting in schemes*: The schemes handled by the District Panchayat used the computer for collation of reports. The prototype of the Village Development Note Book has been developed. The Parakh programme is under implementation in the district.
- f. *Municipal services*: The Municipal corporation has automated almost all its services as detailed in the report.
- g. *Land records maintenance*: The alpha numeric data has already been computerized and copies are being made available from the tehsil centers. The digitization of the maps is to be the next step.

2. Effectiveness of automated grievance redressal system

Grievance redressal mechanism is registering a total of about 3602 complaints per year. About 75 percent of the complaints are disposed in time limit manner.

3. Number of citizens services computerized and being provided through kiosks.

The services that have been computerized and offered through kiosk include:

Availability of Portal for the district and its efficacy in providing information and citizen services.

As mentioned in the body of the report the Sagar district has its dedicated portal on www.sagar.nic.in. Latest and most relevant information is constantly uploaded on to the site. For example, the list of *gair van padath bhumi* has been put up on the net so that the allocation of leases is done in a transparent manner.

4. Quantum of communication that is dependent on email. The list of offices that the Collector corresponds with is to be appended:

The communication regarding the complaints received at the Collector office under Jansamvad programme are marked online to the various district offices. Each district officer has his/her own login id and password using which the reply is made. The communication in this regard is totally paperless.

5. Extent of work flow automation: The process of generating the note sheet for use in the certificates issued under the Samadhan Ek Din Mein project has been achieved in the district. Again, the process of generating bulk notices and cheques are done through facilities like the mail merge that help in the automation of manual work. Even in processes where computations are involved the office package is used to perform calculations and preparation of the awards in land acquisition cases.

- a. Use of open source in development and deployment: All softwares that have been developed by the district conform to the open source policy and the entire package is made available in the accompanying CD and not just the executable. The district is strongly committed to the policy

of allowing free modification of its own software and believes in continuous successive improvements.

- b. Use of Hindi – All the softwares that have been used in the district as described in this note use Hindi Kruti Dev font.
- c. Any other award won by the district in the field of IT.

The district has received the following nominations for its work in the recent past.

- a. PM's award for administrative excellence
- b. UN Public Services Award
- c. Manthan award
- d. Dataquest award
- e. Best E-Governed District Award in June 2007

Tailpiece

The district of Sagar has been endeavouring in furthering the e-Governance objectives by actively implementing the state level schemes, innovating in the usage of the softwares through new work flow models and business models. In its own right, software development is also being carried out in the district where automation is found to be of use in expediting the work. Computers are no longer glorified typewriters to be kept faithfully in the confines of dark rooms. They have come to occupy the mainstream in providing the required service as per the expectation of the common man.

III) Enabler Indicators

e-Governance is not simply limited to computerization of government departments and putting information on web. It has more to do with adopting a holistic approach, process reforms and leveraging technology to provide government services that are citizen centric, user friendly, cost effective, integrated, transparent and at the citizen doorstep.

Though the district has been working hard to provide the ICT solutions and citizen centric services the Central and State government have come up with a National e-Governance plan. The e-Governance plan aims to promote e-Governance on a massive scale in the areas of concern to the common man. Sagar district has been chosen as one of the pilot districts for the implementation

of E-district projects. In addition to this infrastructure projects like State Data Centre, State Wide Area Network and Common Service Centre are in place. A website www.mponline.gov.in is already in place and has started delivering some of the services to the citizens through the common service centers. In our district SWAN centers are in place in all the eleven blocks and will start delivering services in next one month. About 400 common service centers are in place covering the whole geographical area of the district. Most of them have started delivering the services to the citizens through state level website and also through the district website.

Apart from this new network NIC has been working closely with the government department for the last two decades in ICT initiatives in various capacities right from consultancy, design and development and implementation of e-Governance initiatives. NIC have provided the email connectivity to most of the department, have set up LAN for the district administration, have provided various softwares and also web enabled applications which play a role in the data transmission to high level officers and to provide citizen services.

State government is also constantly working towards the implementation of e-Governance and IT enabled services for general citizens, farmers, traders, students and employees especially those living in far flung and remote areas. The state government is also geared up for extending ICT in rural areas through implementation of kiosk, single window systems providing connectivity bringing more departments, directorates and services under the fold of IT and implementing quality standards within the organisations for enhanced citizen satisfaction.

Thus with the infrastructure of NIC in place and the infrastructure of SWAN coming up sharing of common infrastructure will be there at the state as well as district level. This will considerably strengthen and reinforce the existing ICT infrastructure. Once the infrastructure under NeGP CSC's SWAN and SDC get implemented and become fully functional in most states it will provide a broadband backbone that will facilitate the delivery of e-Services to the common man located in the remotest parts of the country in a seamless and integrated manner. The strategy and focus would now be to provide alternate service delivery of all G2C e-services.

For achieving the above results rigorous technical trainings have been imparted to staff regarding the operations of computers, application softwares, email and Internet. It has been explained to the employees that the laggardness of the pen-

pushing paper-passing past should be done away with to make administration responsive to the call of the common man. The introduction of computers & modern means of communication, which in short is described as the adoption of e-Governance, seldom brings in any new policy change in the functioning of the government.

The district had won the best E-governed district award given by the department of IT, Govt. of Madhya Pradesh. Web enabled program of Public Grievances 'Jansamvad' was implemented under the leadership of previous collector and is running at present as well. This is not an example of the several initiatives that have been so designed that change of management has no effect on the program and on the services delivered to the common man.

The district has also designed a training program and we have hired a private partner 'AISECT' for this purpose. Some of the trainings have already been taken place and some are in the pipeline.

(Hiralal Trivedi, District Magistrate, District Administration, Office of Collector, Collectorate, Sagar, District Sagar, M.P., Telephone no. 07582-221900, Mobile No. 94253-60015, FAX no. 222070)

IT Enabled Integrated Services through e-Mitra, Sushasan, Single Window & Apna Khata in District Pali, Rajasthan

Prithvi Raj and Arun Purohit

I) Overview

Pali district is situated in western Rajasthan. District Pali of Rajasthan is a land of opportunities embedded in its vast mineral resources; close proximity to the northern and western markets of India; educated and skilled labour force; and investor-friendly attitude of the State Government. Pali district is blessed with varied climatic conditions ranging from arid western region to humid region, such that it is able to produce a wide variety of products. It is a leading producer of mustard, bajra, barley, maize and cotton. It has a large livestock population. It, being a pre-dominantly agrarian district with about 70 per cent of the total population depending on it, offers numerous opportunities for development of agro-based industries. These industries include solvent extraction, floriculture, tomato processing as well as other processing industries based on fruits and vegetables. Industries based on herbal and medicinal plants, poultry products and non-edible oil have bright export prospects. Pali district is famous for its exotic beauty, rich cultural heritage, wild life and safaris, forests and bio-diversity. It is endowed with ancient forts, carved temples, museums, archaeological sites, etc. Some of the important places of tourist interest in the district are Ranakpur, Nadol, Jojawar etc. Besides, fairs and festivals of Rajasthan have assumed international prominence. All these make the district Pali a favourite destination for tourists the world over. Given this, the Government has taken several steps for promoting investment in the tourism sector. Accordingly, a tourism policy has been designed to make tourism truly a people's industry. This policy aims at

ensuring optimum utilisation of rich resources of the district; generate employment; develop a ready market for the traditional handicrafts; and thus accelerate the contribution of tourism industry in socio-economic development of the district. The district has shown significant spurt in industrial activity, based on the exploitation of its agriculture and rich mineral deposits. It is manufacturing a wide range of products, which include synthetic and cotton yarn, cement, marble and granite slabs, edible oils, chemicals, rubber and plastic based items, electrical and electronics goods, ceramic and glass, etc. In addition, its diverse and beautiful landscape has made tourism in the district, a preferred sector for investment. The District Administration is making all efforts to leverage the benefits of IT for improving the quality of life of the people. It has undertaken several steps for promoting Pali as an attractive location for investment in the IT industry.

II) Result Indicators

1. Key Performance

a. % of Overall Working, Services Delivered and Covered Using ICT

- **e-Mitra** Project is aimed at providing various citizen-centric services of various government departments in integrated form through service & information delivery centres.
- Payment of electricity bills, Payment of water bills, Payment of Land Line & CellOne bills (BSNL), ICICI Prudential Life Insurance Premium Installments. In all 21 kiosks located in urban & rural areas of district Pali are in operation.
- **Sushasan** is intended for providing timely disposal of Public Grievances through effective monitoring of district administration.
- **Single Window** is one step ahead in providing certificates etc. in very less time.
- **Apna Khata** is intended to deliver instant, accurate & updated Land Holdings ROR (Record of Rights) to citizens.

b. Initiatives under G2C, G2B, G2G and G2E

- To provide better individuals and businesses with government services and information **e-Mitra** District Data Centre was inaugurated in April, 2006. Starting with 41 transactions in the month of April, 2006 total of

107095 transactions were made in the month of January, 2009. This **e-Mitra** initiative aims to make the interaction between government and citizens, government and business enterprises, and inter-agency relationships G2G more friendly, convenient, transparent and inexpensive.

- Through **Sushasan** daily data entry for Public Grievances received at District Collector Office is done and monitored by district collector in meeting with frontline officers on regular basis.
- **Single Window** is primarily providing relief for issue of desired Bonafide/OBC/SC/ST certificates in stipulated time period of 24 hours.
- **Apna Khata** provide relief to common man by delivering accurate & updated Land ROR (Record of Rights) instantly.

c. Stakeholder-wise Services and Benefits of ICT/eGov Initiatives

- The resulting benefits of implementations of **e-Mitra**, **Sushasan**, **Single Window** & **Apna Khata** are less corruption, increased transparency, greater convenience, revenue growth and cost reductions. Also this is aimed at making government services available to the common man in his locality.

d. Implementation Coverage (Geographical Areas Covered under Pilot, Roll-out, Next Steps)

- For **e-Mitra** two Local Service providers namely R2R Seva & Veermati runs kiosks in Urban & Rural areas. 7 kiosks are working at Pali district headquarters. 6 kiosks at tehsil level and 8 kiosks at Panchayat Samiti level are in operation.
- **Sushasan** and **Single Window** are going to be implemented in phased manner in all tehsil/sub-division level of the district.
- **Apna Khata** is implemented in all the nine tehsils of the district. The entire record of land holders is available in Hindi and it can be viewed either at tehsil office or over Internet anywhere.

e. Financial Model for the Initiatives (Funding Pattern, Business Model, PPP, etc)

- Financial resources for the purpose have been provided by government for proper implementation of **e-Mitra**, **Sushasan**, **Single Window** & **Apna Khata**.

2. a. Government Efficiency Improvement Initiatives

This initiative has following objectives:

- To provide hassle free one-stop solution to the citizen
- To enhance services basket through more departmental and private sector services
- Uniform information interchange architecture
- Public-Private Partnership model for Front Offices
- Back office to be owned by Government but operated by a technology partner
- To provide employment to educated youths of district
- Unified e-services platform – Minimize multiple interaction points for the citizens and hence reduce the wastage of time
- Use real time, Internet & batch processing modes.

b. Time and Cost Efficiency Improvements in the Working & Delivery of Services

- One of the main objectives behind this initiative was time and cost efficiency improvement.

c. Specific Innovative Ideas Implemented in eGov Area; Best Practices Implemented

- This **e-Mitra** initiative implemented using Public-Private Partnership model under the supervision of District e-Mitra Society headed by the District Collector, Pali.
- **Sushasan, Single Window & Apna Khata** are implemented at District Collector Office/Tehsil office level.

d. Initiatives Integrated with Other Departments/Offices

For smooth operation and speed-up of routine official work related to **e-Mitra** business between government agencies/offices, MOU were signed from time to time with following:

- Jodhpur Vidyut Vitaran Nigam Limited (JVNL) – April, 2006
- Public Health Engineering Department (PHED) – April, 2006

- Bharat Sanchar Nigam Limited (BSNL) – April, 2006
- ICICI Prudential Life Insurance – Sept., 2007

III) Enabler Indicators

1. State Policy & Strategy

a. eGov/ICT Vision Roadmap

Information and Communication Technology (ICT) is the driving force for the fundamental economic and social revolution. It accelerates globalization, makes access to knowledge and information much easier for the people in respect of: creation of technologies, diffusion of old innovation and diffusion of human skills for rural prosperity. To achieve ICT based e-Governance services using society in district through **e-Mitra**, the following are required:

- A District Data Centre connected with each access point (kiosk) of the district
- Interactive exchange of information for planning and day-to-day operations by access points (kiosks)
- Availability of all the extension and advisory services on demand
- **Sushasan** makes access to government officers for quick redressal of Public Grievances.
- **Single Window** provides relief by issuing desired certificates to citizens in time bound manner.
- **Apna Khata** provides relief to common man by issuing land holding ROR either at tehsil office or over Internet. This package updates land records data from time to time as per government directions and to accommodate mutations.

b. eGov Roadmap Implementation Plan

- To manage **e-Mitra** in the district, the district e-Governance Society (under the chairmanship of district collector) was constituted.
- The **e-Mitra** in the district is managed by a Local Service Provider (L.S.P.) on behalf of the district collector).
- **Sushasan** is managed by Vigilance Section of District Collector Office.

- **Single Window** at tehsil level is administered by concerned tehsil office.
- **Apna Khata** at tehsil level is managed by trained Resource Person Group (Revenue personnel) under the supervision of concerned Tehsildar.

c. Sharing of Common Infrastructure (National, State, Other Department; Delivery Channels)

- The District e-Governance Society manages the **e-Mitra** common infrastructure in a systematic way.
- The District e-Governance Society owns the Financial & Physical resources made available by the state government and earned by society as commission for rendering ICT base e-governance services through **e-Mitra**.
- **Sushasan** is taken care by District Collector Office.
- **Single Window & Apna Khata** at tehsil level are managed by concerned tehsil office.

d. Technology Standardization

- This is an ICT based e-governance citizen-centric initiative, so latest ICT state-of-the-art technology is used for smooth operation in **e-Mitra**, **Sushasan & Single Window**.
- Latest Web Server, Database Server, routers/switches were integrated to extend services to access points (kiosks) related to **e-Mitra**

2. Process Reengineering & Legal Reforms

a. Major Front-end Process Changes

- Front end layer of **e-Mitra** services is e-enabled service delivery channels. Citizens have an interface with the District data centre through access points (kiosks).
- **Sushasan** is enabled with Visual Basic on Windows platform.
- **Single Window** is implemented using Visual Basic on Windows platform.
- **Apna Khata** is developed using Visual Basic on Windows platform.

b. Major Back-end Process Changes

- Back end process for **e-Mitra** mainly uses Oracle RDBMS through xeon based Server. All the Rural & Urban access points (kiosks) are connected through this server for exchange of transaction as per need.
- **Sushasan & Single Window** are implemented with MS Access on **Windows** platform.
- **Apna Khata** is implemented with **MS SQL Server 2000** on **Windows** platform.

3. Capacity Building**a. Leadership Support & Visibility**

- Includes participation of government departments and private companies using Public-Private Partnership model as an I.T. enabled hub working in the form of mini data center at district level for **e-Mitra**.
- The district level data center (**e-Mitra** data center) is the platform on which customized software runs to ensure service access for citizens.
- The **e-Mitra** data center is managed by a Local Service Provider (L.S.P.) on behalf of the district e-Governance Society (under the chairmanship of district collector).
- All the participating departments and service counters hook on to **e-Mitra** data center to make the system work.

b. Change Management Strategy

- Main emphasis is to use ICT based e-governance services in place of manual.
- This facilitates management of handling financial issues in efficient manner.
- Various desired information is readily available for decision-making.

c. Capacity Building Plan

- The counters are set up in rural areas and in the urban areas for delivery of **e- Mitra** services.

- Citizens are able to avail of services related to multiple departments/ organisations at the same counter for **e-Mitra/Sushasan/Single Window**.
- From submission of application to financial transaction to final deliverable collection, every activity will take place at these counters. Only for the cases where there is some statutory requirement of personal verification, will the citizens be required to go to the concerned government functionary.
- As many activities as possible out of complete cycle are I.T. enabled but wherever there are legal limitations, the activities are carried out manually. The main objective is to prevent common man from harassment of running to multiple points in the government offices for getting his work done.
- To make this contact point efficient, the interface is through web or counters, which are managed by private partners (Local Service Providers) for **e-Mitra** related services. For **Sushasan & Single Window** contact point is at suitable place at district collector office/tehsil office level.
- The service delivery is on charge basis for **e-Mitra** services so as to make the system self-sustaining. For services that any government department/ organisation wants to avail of, like bill collection and awareness generation, the payment of service charges are made by the concerned department.
- For **Sushasan** no fee is taken at any level.
- While in case of services which are rendered by **Single Window**, e.g. Caste Certificate, Death/Birth Certificate etc. no payment is made by the citizen himself.
- In case of **Apna Khata** charges are on per page basis.

d. Program Management Teams (Full Time Department Officials/Consultants)

- The **e-Mitra** project runs on behalf of the district e-Governance Society (under the chairmanship of the District Collector).
- **Sushasan** is being managed by the Vigilance Section of the district collector office.
- **Single Window & Apna Khata** are taken care by concerned tehsil office at tehsil level.

- Periodically meetings are held under the chairmanship of the District Collector to review the progress, chalk out strategies for better implementation, to minimize delay (if any) related with routine services etc related to **e-Mitra**.
- **Sushasan** and **Single Window** meetings at district collector office/concerned tehsil level are held periodically for effective monitoring and solutions of problems (if any).

(Dr. Prithvi Raj, District Collector & District Magistrate, Pali Collectorate, Pali, District Pali, Rajasthan. Fax no. 02932-252801 email: drprithvi@yahoomail.com, dm-pal-rj@nic.in

Arun Purohit, A.D.M., Pali. email: rajpal@hub2.nic.in)

Towards Excellent e-Governance, Junagadh District, Gujarat

Ashwini Kumar and Atul Khunti

I) Overview

Junagadh district is located in western Gujarat and is surrounded by Arabian sea to its South. Junagadh has all the features to attract tourists – viz. Mountains, Coastal areas, forests and temples. Key attractions of Junagadh include Somnath Temple, Gir Lion Sanctuary and the Girnar Mountains.

- Somnath temple, one of the most sacred shrines of Lord Shiva situated 80 Kms from Junagadh and is among the twelve most sacred shrines in India.
- Sasan Gir Lion Sanctuary – the last home of the Royal Asiatic Lions – a National Park worth seeing to witness lions in their natural habitat after Africa. Today the sanctuary can proudly boast of around 300 lions against 20 during the turn of the century.
- Girnar Mountains is the highest peak in Gujarat and famous for Girnar Adventure activities.

The district is divided into 14 talukas of which major ones include Veraval, Junagadh, Kodinar, Manavadar and Mangrol.

Major players such as Ambuja Cement, Gujarat Siddhi Cement, Gujarat Heavy Chemicals and Hindustan Lever Ltd. have their presence in the district.

District Profile at a glance is given as under:

Geographical location	69.40" to 71.05" East (Longitude) 20.44" to 21.40" North (Latitude)
Temperature	42 Centigrade Maximum 10 Centigrade Minimum
Average Rainfall	787 mm
Rivers	6 (Ojhat, Uben, Hiran, Raval, Madhuvanti & Machhundri)
Area	8,846 Sq. Km
District Headquarters	Junagadh
Talukas	14
Population	24,48,173 (As per 2001 Census)
Population Density	277 Persons per KM
Sex Ratio	955 Females per 1000 Males
Literacy Rate	68.35%
Languages	Gujarati, Hindi, English
Seismic Zone	Zone III

Agriculture is the backbone of the district economy. 70% of the population is engaged in primary sector, 22% in secondary sector and 8% in tertiary sector.

Fish processing industry is a major sector in Junagadh. Processed fishes from Junagadh are exported to Singapore, China, Hongkong, Japan, Dubai and other parts of the world. The industrial giant Hindustan Lever Ltd. has a frozen fish packing unit in Maliya taluka of the district.

Presence of huge reserves of good quality Limestone makes the cement industry a thriving industry sector in the district.

The major business of Junagadh district includes, Mineral based industries such as cement & soda ash, Agriculture based industries like edible oil, groundnut units, solvent plants & oil cakes and Marine based industries like fish processing units & frozen fish.

Junagadh district has implemented many e-Governance projects with an aim to provide excellent facilities to the Citizens, Govt. offices and Businesses so that they merely need not travel for getting the desired services. The district presently is having more than 50 projects belonging to G2C, G2G and G2B services. The district administration is very much active and takes initiatives to make the system user friendly and easily accessible to every family/person in the

district. At the district, we use technology as an enabler to deliver better services to citizens. Risk management of technology-related issues is also being taken care and therefore, proper infrastructure at every level and backup facilities has been provided with all the projects running in the district.

The IT infrastructure setup in the Junagadh district makes almost all Government services accessible to the common man in his locality, through common service delivery kiosks and ensures efficiency, transparency and reliability of such services at affordable or no costs to fulfill the basic needs of the common man. The e-Governance facilities in the district not only help the citizens in getting various certificates, viz. certificates for income, domicile, caste, birth, death etc., but also has monitoring system for Arms Licenses issued in the district. This district has also taken lead in developing and implementing some key projects iOjN 4 Planning for Planning department, Vikapath for District Panchayat, GEOMINE for Geology & Mining department, RCMS (Revenue Case Monitoring System) for revenue department etc. It also has systems for Public Distribution vis-à-vis, issuance of Ration Card. Public Grievances Redressal system is also running in the district and the district administration is monitoring the grievances of common man through a single portal on daily basis and its monitoring is also being performed at State Level on monthly basis.

Looking at the e-Governance activities being performed in the district, it is thought that the efforts made by the district administration should be recognised so as to enable other districts also get familiar with the projects running in the district. It will not only impart knowledge of the running projects to other district offices and inspire them of having these projects in their respective district too, but also, it will have thorough coverage of media and hence even the citizens who are still not aware of the facilities and rights available to them will come to know about these initiatives. It will also help the habitants of other districts to get information about this district and also post their requests/complaints through the use of Internet, wherever e-Governance services are concerned.

II) Result Indicators

Revenue Cases Monitoring System: (G2C & G2G)

Under Land Revenue Code – 1879 & Land Revenue Rule – 1972, Sub Divisional Magistrate takes decision on applications related to land case matter. Against this decision applicant can lodge appeal/revision in court of collector at district level. Being an agriculture land is main stay of line for farmers, quick solution

to dispute on land rights is anticipated. To ensure adequate disposal compared to number of appeals admitted and maintain priority to older cases first, an e-governance is only best tool to achieve it. As part of Swantah Sukhay Project, district administration decided to introduce e-governance in process of hearing revenue appeal cases at Collector, Prant & Mamlatdar level. Main objective of developing this system is to bring ease and transparency in hearing of revenue appeal cases in the court of collector.

Problem Statement or Situation Before the Initiative

Before the system was made online, applicant used to be informed through letter by post and copy of order/judgment was sent to concerned party only. It was never made public.

Benefits

- Online Status of case is available on Intranet and Internet as well. People or Lawyer can get information pertaining to case online which includes decision taken or next date of hearing. Copy of any order can be downloaded and printed through Internet. On providing some basic details like Type of Case, Case no., or Year, people can find required information about the case.
- Office will also be able to have a hearing board ready on computer screen.
- This also helps in searching a previously disposed case, so as to cite in the judgment as well as for other offices to rulings/procedures being set up and provided in the judgments.

Geographical Coverage

This system is implemented in district & taluka offices. People can get status of case from village level using e-gram Common Service Centre (CSC) kiosks.

Achievements

Total revenue cases registered are: 711 at District Collectorate, 718 at Prant Office & 956 at Mamlatdar Offices.

Future Plan

In future, it is planned to integrate district level revision cases information which are already registered at prant or mamlatdar offices before.

iOjN 4 Planning

Main objective behind the development of iOjN 4 Planning system is to streamline the various types of administrative processes and to introduce an effective monitoring system for expediting the projects which are sanctioned and funded under Decentralised Planning Schemes. Some of the other objectives are:

- To make status of work online and accessible to all
- To make system more transparent and accountable
- Not fully Paperless but make an administrative procedure “Less Paper”
- Timely implementation as well as completion of the work.

It is a fusion of facets application providing solution for Citizens, Public Representatives and Employees. All stakeholders would have appropriate rights in accessing information right from proposal to completion of the work. Featuring, compulsory uploading of stage wise photographs of work by the implementing officer would lead to transparency in the implementation of the scheme. While systematic workflow designed for Proposal, Principal Approval, Technical Sanction, Administrative Approval, Grant Allocation, Expenditure and Completion of work would eliminate unnecessary delay in implementation.

Problem Statement or Situation Before the Initiative

- Number of visitors used to approach directly to District office for seeking status of proposal.
- District offices were dependent on the concerned Table as well as Implementing Officers for providing latest information to visitors.
- It was difficult to get latest information from various implementing offices.
- Reports were not being received timely.
- Delay in processing of proposals and allocation of funds.

Geographical Coverage

DPO at District Level – To give principal approval, administrative approval, financial approval. All kinds of administrative monitoring at various stakeholder level.

Taluka Planning Committee at Taluka Level – To raise proposal under various schemes.

Implementing Officer Level – Details regarding plan estimates, technical sanction. To update physical and financial status of the project.

MP/MLA Level – To propose the project plan. To know updated status of project recommended.

Achievements

- Backlog Data Entry & Training completed.
- System made fully online having data entered of 10352 works since year 2001-2002.
- As a result of online availability of all kinds of reports, approximately reduction of Rs.1 lakh per annum in expenditure towards printing & xeroxing.
- In Year 2008-09, Total proposals received: 1645, Sanctioned: 1113, Total Amount: 1131 Lakh, Works completed: 462

Benefits

- Reduction in time taken for sanction of proposal.
- Proper utilisation of Govt. Funds. Preparation of Asset Register at Village level.
- Since all information is available online, it makes work of monitoring & review easier.
- Any person can know about latest status of proposal/work online.
- Uploading of photographs of 3 stages of work leads to transparency in implementation of the scheme.

Jan Seva Kendra (G2B, G2C)

Jan Seva Kendras in all talukas are started successfully in all talukas with the following objectives:

- Efficient and prompt service at affordable price.
- To provide services at single point.
- Self-Sustainability.

Following services under One Day Governance are offered at Jan Seva Kendra:

- Income Certificate
- Non Creamy Layer Certificate
- Domicile Certificate
- Affidavits
- Mike Permit
- Caste Certificate
- Solvency Certificate
- Character Certificate
- Identification Certificate
- Forsaken/Widow Certificate
- Re-Marriage Certificate
- Electoral Certificate.

Beside this, applications for Land, Home & Supply branches falling under Citizen Charter are also processed at Jan Seva Kendra.

KIOSK is also installed at district JSK that provides access to information related to status of application, land appeal case, planning works etc.

Benefits

- All certificates are issued with photographs
- Under One-Day Governance, certificates & affidavits are issued on the same day
- Citizens can get useful information through KIOSK installed at Jan Seva Kendra
- Status of application can be known through SMS.

Achievements

- Total subjects/type of applications covered are: 63 of Collectorate, 39 of Prant office, 41 of Mamlatdar office (Out of 41, 19 subjects covered under One Day Governance)

- In last six months: Total applications processed: 80,832, Income generated: Rs.16,16,640

District & Taluka Swagat (G2C, G2G)

In an attempt to further improve the public grievance system, CMO introduced a Taluka SWAGAT programme SWAGAT @ District & Taluka – an extension of State SWAGAT Programme upto Taluka. It acts as a central point for Taluka through which citizens could come and lodge a grievance. Initiated by District Administration Junagadh, with the help of NIC, this Intranet based system namely “SWAGAT @ District & Taluka” is developed in order to administer and manage the grievances registered under District & Taluka level SWAGAT Programme.

All district officials are stakeholders since all may potentially be called upon on SWAGAT day. All citizens of the state are also stakeholders, particularly those involved directly or indirectly in grievance cases, and especially those who have their case heard under SWAGAT.

Benefits

- Citizens can submit an application/complaint that has not been dealt with for a long time, or has not been dealt with properly.
- Citizens will be issued computerized receipt of application submitted.
- Status of application & complete details of action taken on grievances is now available to applicant on Intranet.

Achievements

- At the time of preparing this software, Taluka Swagat Programme was not in existence. Assuming that it may be extended up to Taluka level in future, this software was developed in such a way that District and Taluka Swagat both could be managed with common solution, and a common interface.
- The initiative for development of SWAGAT application was centralized but its implementation was decentralized. As soon as Taluka Swagat Programme was launched, CMO accepted this module, hosted it on State NIC server and rolled it out for entire state.
- In year 2008-09, Total Applications received: 1145, Positive Disposal: 1047

VikasPath (G2G,G2C)

VikasPath is an application for Online Approval, Reporting & Monitoring of Panchayat Schemes. As part of Swantah Sukhay Project, the task of implementing E-Governance project for all the developmental schemes of Panchayat Department in the district Panchayat has been taken up. The project has recently been selected for rolling it over the entire State of Gujarat.

Situation before Initiative

- Number of visitors used to approach directly to District Panchayat office for seeking status of proposal.
- District offices had to be dependent on concerned Table as well as Implementing Officers for providing latest information to visitors.
- It was difficult to get latest information from various implementing offices.
- Reports were not being received timely.
- Delay in processing of proposals and allocation of funds.

Benefits

- *Transparency & Security:* It makes work-wise status of works accessible to one and all, making the system fully transparent & accountable. System uses bio metric authentication for security & ensuring accountability of officers.
- *Cut the delays:* All the administrative procedures will be done at the click of the button without wasting even a single day on the same.
- *Cost cutting:* Besides savings on manpower, it cuts down expenditure in stationary, printing, postage and wastage of manpower.
- *Proper utilization of funds:* No more false/over/under reporting regarding progress of works! Asset registers at the village level are hardly maintained or updated.

Achievements

- In Year 2008-09, Total proposals received are 1202 amounting Rs.1230 Lakh.

GeoMine (G2B, G2G)

GeoMine is a web based application which covers many citizen centric modules like Mineral Administration, Flying Squad, Citizen Charter etc. Mineral

Administration for Minor & Major Minerals covers all types of concession & transaction of applications processing.

Submission of Application Online & Processing

- Online submission of application
- Online check list preparation
- Level to level movement of application
- Complete paperless file movement
- Forwarding letters, Grant Orders, Deeds, Receipts, Notices and intermediate correspondence etc to be printed online
- File movement for seeking other office opinion, revenue, technical & survey report
- Computerized Challan to be generated at user end
- Facility of scanning and uploading of documents and Maps
- FIFO based disposal of application.

End User Service

- Online submission of application
- Online submission of monthly returns by Big Leaseholders
- Online availability of application status.

Achievements

In Year 2008-09,

Total Quarry Leases: 417 & Mining Leases: 101

Total Income generated: Rs.4910.48 lakh (WMining & quarry both)

System Integration

Process of integration of payment data with HDFC Bank

Arms Licensing Monitoring System (G2G)

A web enabled application for Arms Licensing is developed and implemented by this office very successfully. Before this software is implemented, it was difficult task for collector office to maintain latest information and keep track of licenses

getting expired. Of 1800 licensees, data entry has been over and verification of data entered is in progress.

- By generating police station wise list, information is cross checked between records available with collector office and police department.
- Various kinds of reports based on Type of weapon, Type of purpose, Validity area, Police Station etc. are very useful for the department.
- Time of renewal also, applicant has to submit latest photographs and same would be uploaded in the software.
- Total 1692 Licenses data have been prepared.

LTV (Long Term Visa) Monitoring System (G2G)

Citizens of Pakistan used to visit India on the basis of Long Term Visa for the purpose of marriage right or spending their life in older age. Once their visa gets expired, they would file application to extend the visa for further period and continue process of extending visa for number of times. This record is maintained at the district collectorate. This web based computerized system is developed to forward application to state for further process and monitoring of status and progress on application.

- The system alerts as visa is expired and not applied for extension
- It will keep track on the person who has continued living in India with visa time getting over and not being granted extension
- This system also keeps Photograph of person along with complete details of his address and contact number of that person in India with whom he/she is living
- 67 applications have been processed.

e-Dhara-Land Record Computerization (G2G,G2B,G2C)

e-Dhara is implemented in all talukas. This district had taken a lead in pilot implementation of the project. This system offers secured and effective monitoring of mutation process. Issuance of Record of Right (7/12 & 8A) & processing of mutation are main functions of the system.

It is planned to integrate e-dhara process with registration of document so that application for mutation in case of purchase of land can be eliminated since transaction will be processed automatically.

Achievements

Year 2008-09

Total Income: Rs.53,07,460

Number of Copies issued: 10,61,492

Total Mutations/Applications processed: 3,11,138

ROR@Village

This system is used at Village level. e-Dhara offers delivery of ROR at taluka level only. For getting ROR from village level, this system takes care of it.

Applicant does not need to travel to taluka. He can submit request at e-gram centre (village) and get a copy of ROR on the same day.

It is an integrated system of Village, Taluka & State level applications.

Achievements

Number of villages ROR services started: 348

Number of Copies issued: 36,864

Income generated: 5,18,487

All India Mount Girnar Competition

Designed "Online Time Management System" for Girnar Climbers, an annual event to calculate effective time and delivery of results, a guide useful for sports coaches and participants. The package has successfully delivered results.

- WiFi system installed on track to webcast climbing competition.
- An average of 1,000 contestants participate in the event.

Achievements

Number of participants for State level competition: 1795

Number of participants for National level competition: 232

Land Acquisition Case Monitoring System (G2G)

In implementation of some big schemes of construction of Dam by the irrigation department or construction of road by the concerned department, it is necessary to have land cleared first. And for this purpose land is acquired by the Land Acquisition Officer. Acquiring of land is long and stage wise process which needs issuance of Kalam-4 notification, Kalam-6 notification, publishing notification, hearing of cases, declare awards and payment to landholders. This system is developed to monitor the entire process and speed up the actions.

It helps in clearance of case in time by following up stage wise actions and schemes can be implemented without further delay.

Live cases on hand: 12

Tumar-File Tracking System (G2G)

If any file/application lying with the department does not get cleared in stipulated time, it then, will be treated as a Tumar. It has become necessary for department to pay special attention on such files/tumars so that they could be cleared without further delay. To monitor and manage files movement easily, a systematic approach is adopted by developing and implementing this computerized web based solution.

- Role based access to files. Every office, branch and tables are given unique user id.
- Status of File with details of branch and table where file is lying presently and pending since days will be available on finger tips.
- Age wise pendency of files – office/table wise is available.
- Number of files entered are: 2245

Leased Land Information System (G2G)

All Govt. land given to leasee for purpose of education, industry etc. is monitored properly. Information related to inspection of such land breach of condition if any is maintained. Dept. will be able to get list of such cases whose period is expired.

Number of cases: 462

Ration Card Computerization (G2G, G2C)

Applications related to ration card are processed online. Computerized copy of ration card is issued to applicant.

Achievements

In Year 2008-09, Total Cards: 6,07,916, Addition: 28,510, Cancelled: 29,891, Now 6,06,535

Old Age Pension Scheme

- Payment statement & money orders are prepared and issued timely to beneficiaries.
- System is implemented at all 3 prant offices of the district.

Other Important e-Governance Activities in Collectorate

- KDS (Kerosene Distribution System)
- Payroll
- Court Cases Monitoring System (High Court & District Court)
- Registry – Total 73,523 letters processed
- Small Savings Schemes Computerization
- Village Asset Register
- Right To Information System
- Mid day Meal Computerization System
- Election Process Computerization
- Jantry Survey Computerization
- VF6 Scanning Project
- Disaster – SDRN, IDRN & Rainfall System
- RIC Patraaks Computerization
- Record Room Computerization

Important e-Governance Activities in District Panchayats

- Live Stock Census
- Krushi Mahotsav
- Gram Sabha
- E-Gram & CSC

- Total Birth certificates issued: 1,945
- Total Khedut certificates issued: 787
- Total Forms distributed: 582
- Income generated: Rs.19,450
- Number of ROR issued: 36,864
- Income from ROR: Rs.5,18,487
- Electricity Bills collected (Nos.): 24,531 amounting to Rs.2.16 Crore
- Income generated: Rs.1,22,655
- DPAS (District Panchayat Accounting System)
- e-UTSAV – Distance Education – Number of beneficiaries: 27,088

Important e-Governance Activities got Implemented in Other Offices of the District

RTO: Smart Card Computerization

In Year 2008-09

Total Smart Cards issued: 42,185, Fees Rs.200, Income Rs.84 Lakh

DRDA: BPL Survey, NREGA

NREGA

Job Card Issued: 1,17,736

Bank & Post Account Opened: 52,923

Expenditure occurred: Rs.1446 Lakh

Mandays: 16.81 Lakh

BPL Survey

Total Applications Processed: 85,210

Total eligible BPL Families: 70,479

Employment Exchange

In Year 2008-09

Total X1 Cards: 44,429

New Registration: 9919

Vacancy occupied: 4657

Submission of Candidates: 16,851

Placement: 4330

Sub Registrar (ReD)

Year 2008-09

Number of Documents Registered: 8,964

Stamp Duty Collected: Rs.9,32,64,571

Registration Fees: Rs.1,48,86,312

Other Search Fees: Rs.4,15,275

City Survey

65% of property cards computerized

DILR

Total Villages 868 villages

497 villages KJP-Tipan completed

242 villages VF1 completed.

Forest: ISFED – Information System for Forest & Environment Dept.

Police Dept.: DPACC – District Passport Application Collection Centre

Education: GPF Computerization

Agriculture: AGMARK- APMC

Animal Husbandry

Health: IDSP, Badea – Birth & Death Information System

Civil Hospital – HMIS (Hospital Management Information System)

Industry

Treasury: Treasury Online System

Sales Tax

District Court

Confonet – District Consumer Forum

Forensic Science

Water Supply

Irrigation

R & B

III) Enabler Indicators

In the district, the policies/plans as defined in the National e-Governance Plan (NeGP) are being adopted and being monitored on daily basis. The district may be termed as ideal district in fulfilling the vision of NeGP, namely,

"Make all Government services accessible to the common man in his locality, through common service delivery outlets and ensure efficiency, transparency & reliability of such services at affordable costs to realise the basic needs of the common man."

Gujarat State Wide Area Network (GSWAN) has been expanded upto Taluka level and data centre has been established at district and state levels. All the applications running in the district are web-based and work well on both Internet and Intranet. Wherever possible and required, the application has been ported on to the Internet so as to give its access to general public/common man sitting at home. All the security measures are being taken care so as to make the data secured and ensure the 24 hours availability of all the application portals to all. All the G2G applications have been ported on Intranet so that only Govt. offices can access the portal and also to ensure better connectivity and speed.

The concept of Single Sign On is working fine and successfully in the district. Every officer/official/HoD has been given a unique user Id and password. They are then assigned the authentication to access the application which comes under their control. For security reasons, biometric information (finger-prints of all the fingers) have also been captured and stored in the database so as to enable the officer/official to use his credentials to access an application which requires biometric credentials, if given permission to access that portal.

The following are the key features of all the projects implemented in the District for making the district a pure e-District:

1. **Common Support Infrastructure:** In the district computerization, we have set up common and support IT infrastructure, viz. State Wide Area Network

(GSWAN), District Data Centre, Common Services Centres (CSCs) & E-Grams in the form of Jan Seva Kendras (JSKs) etc.

2. **Governance:** Suitable arrangements for monitoring and coordinating the implementation of National e-Governance Plan (NeGP) under the direction of the competent authorities have also been substantially put in place. The programme also involves evolving/laying down standards and policy guidelines, providing technical support, undertaking capacity building, R&D, etc. National Informatics Centre (NIC) is playing all these roles very efficiently and effectively.
3. **Centralized Initiative, Decentralized Implementation:** e-Governance is being promoted through a centralised initiative to the extent necessary to ensure citizen-centric orientation, to realise the objective of inter-operability of various e-Governance applications and to ensure optimal utilisation of ICT infrastructure and resources while allowing for a decentralised implementation model. The projects identified successful have been replicated and rolled over to the entire State of Gujarat.
4. **Public-Private Partnerships (PPP)** model is being adopted in certain applications, wherever feasible to enlarge the resource pool. In such cases, all the required security measures are being taken care of. The Private agency is allowed to work only upto the extent, it is granted authentication to do, by the competent authority.
5. **State & District Data Centre** has been put in place with proper infrastructure for supporting e-Governance initiatives of the district having connectivity with all the talukas to run their applications successfully and store the data at one place. Proper backup policy is being taken care of. The data centre is connected upto village level through Common Service Centres (CSCs) and Jan Seva Kendras. It is taken care while identifying the location of CSCs that it should cover most of the habitants of the district with no or very less travel.
6. **The state data centre** is the central repository of the districts providing secured data storage, disaster recovery and remote management functions. NIC is providing technical support for covering all the aspects which are required for smooth functioning of the data centre.

7. The district is also implementing the various NeGP initiatives taken by other district(s) or by the Gujarat State. District e-Governance committee has been formed for effectively monitoring and implementing projects in the district.
8. The district centre has been organizing various training programs from time to time for the benefit of the district administration. These have emphasis on e-governance projects, customized application software, office automation tools, Internet & email. A general computer awareness program for officers and staff of the district administration has been a regular activity at the NIC district centre. This has enhanced the utilization of computers in different departments of the district.
9. We are still on the way of making the district even a better eDistrict by taking as much applications on web as possible, so as to facilitate the habitants to have access to information and to contact Government through web portal, so that, the true application of e-Governance may be used in the district. The research is On.....

Road Ahead

The centre has embarked on an ambitious path for providing ICT based solutions to the district administration, which will fructify in the days to come. These are as follows.

- Transport Project (Vahan & Sarathi)
- Rolling out Planning & VikasPath application across the state.

(Ashwini Kumar, Collector & District Magistrate, Collectorate Junagadh, Collector Office, Limda Chok, Junagadh, Gujarat – 362 001, Office Phone 91-285-2650201 Fax 91-0285-2651332, email: collector-jun@gujarat.gov.in

Atul Khunti, DIO & Technical Director, NIC, Collector Office, Limda Chok, Junagadh, Gujarat – 362 001, Office Phone 91-285-2624851).

e-Governance Initiatives for Faridabad District by Municipal Corporation, Faridabad (MCF), Haryana

Ramesh Bansal

I) Overview

Faridabad is the biggest Urban agglomeration of Haryana consisting of Old Municipal Towns of Faridabad, Ballabgarh, New Industrial Town alongwith 38 revenue villages. The Development Plan of Faridabad comprises 91 Sectors (maximum number of Sectors in any development plan of Haryana) with the biggest projected population of 10 lacs upto 2001 and 17.5 lacs upto 2011 A.D.

All the core municipal services, their design and implementation are within the domain of MCF. The following is the services matrix for Faridabad district:

Service/Sector	Planning & Design	Execution	O&M
Town Planning	Town & Country Planning Department	MCF, HUDA	-
Urban Poor & Slums	MCF	MCF	MCF
Water Supply	MCF	MCF	MCF/PPP
Sewerage	MCF	MCF	MCF
Storm Water & Drainage	MCF	MCF	MCF
Solid Waste Management	MCF	MCF	MCF/PPP
Roads, Bridges, Drains	MCF, HUDA	MCF, HUDA	MCF
Street Lights	MCF, HUDA	MCF, HUDA	MCF

Faridabad is one of the JNNURM Cities and a number of initiatives have been taken up under the Project for the socio-economic development of the Faridabad city.

MCF has taken major e-governance initiatives during the year 2008-09 with four primary objectives as listed below:

- a. Public Facilitation And Transparency
- b. Revenue Maximization
- c. Employee Enrichment And
- d. Cost optimization.

Public facilitation has been the centre of gravity of the entire initiative and besides access to the useful information about MCF, an effective system for redressing the citizen grievances has been the first major initiative that was put in place by MCF by launching their website www.mcfbd.org during April 2008 itself. All the citizen facing officers were provided with Login IDs and Passwords and a Web-enabled Workflow-Based Citizen Grievance Redressal System was launched. Since then the officers have been attending to the grievances of the citizen online and more than 5000 grievances have been logged till date and majority of them have been redressed by different officers in an Online Workflow environment.

From revenue standpoint, a detailed survey of all the properties was carried out for building a comprehensive Property Database of all the three zones of Faridabad, i.e., NIT, Old Faridabad and Ballabgarh and to use this database for assessment, billing, arrear calculation, demand & collection and reconciliation of property accounts. Besides the Property Tax, the other revenue generation activities of Licensing, Water & Sewerage Billing and Rent & Lease have also been automated. The system has been able to improve the revenue position considerably as the billing has gone much ahead of the estimated revenue.

For employee enrichment, the MCF has taken up massive Capacity Building initiative and has set up a dedicated IT Training Lab for imparting training to its officials. This is a continuous process and is targeted to keep the employees abreast of the latest IT gadgets and to bring them to e-governance applications.

From cost optimization perspective, MCF has made an attempt to analyse all the purchases by automating them. Besides the purchases, MCF has automated the diesel being issued to different vehicles and is also tracking the electricity bills. By these initiatives, MCF has been able to save crores of rupees and has been able to keep a check on the undesirable expenditure.

II) Result Indicators

1. Key Performance

a. % of Overall Working, Services Delivered and Covered using ICT

MCF has series of e-Governance initiatives for improving the efficiency and effectiveness:

1. Web-enabled Workflow-based Citizen Grievance Redressal System,
2. e-Tendering System,
3. Building Plan Approval System,
4. Property Tax Monitoring System,
5. License Management System,
6. Rent & Lease Management System,
7. Water & Sewerage Billing System,
8. Payroll,
9. Provident Fund Management System,
10. Stores Management System,
11. Financial Accounting and
12. Commissioner's Dashboard.

These initiatives from citizen perspective have been widely appreciated by the citizens and the media. Further, the eTendering System, which aimed to bring about transparency in issuance of tenders/community participation notices issued by MCF, has been highly appreciated by the business community.

Commissioner's Dashboard provides the top level view to the Commissioner about the Financial Position of the MCF, i.e., how different revenue heads are behaving and what has been the collection on a daily basis under different revenue heads. Also, the pendency of the Citizen Grievances are reflected on the Commissioner's Dashboard so that the grievances are addressed well in time.

b. Initiatives under G2C, G2B, G2G and G2E

G2C Initiatives

The following services are available for the general public and business entities:

1. **Grievances Redressal:** Filing online grievances/complaints and getting their status update over the Internet using the Web-enabled Workflow-based Citizen Grievance Redressal System. The officers attend to the grievances by logging in their respective sections and giving their comments.
2. **Property Tax Details and Online Payment:** The citizens can see the details of their property tax which they are supposed to pay to MCF. Each property of Faridabad has been given a Unique Property ID and through ICICI Payment Gateway, the citizens can make the payment online for their taxes.
3. **Building Plan:** In order to keep a check on the encroachment and malpractices in Building Plan Approvals, MCF has taken a Unique Initiative where the citizens can check the Layout Plans of the Buildings submitted for approval to MCF and can lodge their objections on that. These objections are attended by MCF while granting the approval for any Building Plan.
4. **Community Participation Notices:** MCF has introduced another Unique System for Citizen Participation in the Development Works going on/ approved for different localities. The Tenders have been renamed as Tenders/ Community Participation Notices and citizens supervisory committees are constituted to supervise the development work. All these notices are published online on MCF Website.
5. **eForms:** The forms of birth and death have been provided online and the citizens can download these forms for usage.
6. **Information access over Web:** MCF has provided the information about different aspects over the Internet through its website www.mcfbd.org. The website furnishes details about the MCF, Faridabad City, duties and functions, JNNURM Project, RTI etc and has special corners for the Citizens to facilitate access to different online systems.
7. **Citizen Complaint Centre:** The citizens can lodge their complaints at the Citizen Complaint Centres opened in all the three zones of the Municipal Corporation. These complaints are also clubbed into the online database of the citizen grievances/complaints. For effective redressal of citizen grievances, citizens are given online access to the status of their grievances by using the login ID and passwords given for each grievance/complaint.

G2B Initiatives

MCF has introduced an e-Tendering System to publish all the tenders online for bringing total transparency in the tendering process. MCF has done the reengineering by classifying the tenders in four broad categories and then by simplifying and standardizing the terms and conditions for each category. All the tenders are published on the website and the terms and conditions are accessible to all the potential business entities for participation in the bid process.

G2E Initiatives***1. Employees Directory***

MCF has automated the data capturing of the employees data and the employees directory has been created. The directory gives the details of all the employees of MCF alongwith their employees codes and designation etc.

2. Employees Related Financials

MCF has automated the **Payroll and PF Accounting** of its employees. The paybills for all the employees are generated on computers since almost a year now. Besides that, to facilitate the employees, MCF has automated the Provident Fund Data.

c. Stakeholder-wise Services and Benefits of ICT/eGov Initiatives

The following achievements are specifically highlighted:

1. Citizen Facilitation and Online Redressal of Public Grievances

MCF has launched a unique workflow based public grievance redressal system where Login IDs and Passwords have been provided to all the officers of MCF dealing with different functions. The citizens log online complaints and the citizen gets a Login ID and Password and an online notification that his/her complaint has been logged and it will be addressed by such and such officers. The details of the officers are provided alongwith their contact phone numbers to the complainant. The complaint then automatically gets logged into the Inbox of the concerned officer and the moment he takes any action, the email notification goes to the complainant. The complainant can also check the status online using his/her Login ID and Password. Within a year, more than 5000 complaints have been registered and the same has been attended to by different officers.

The system has been widely appreciated by the general public as it has been extremely successful in effective disposal of the citizen grievances and complaints.

2. Complaint Centre for Citizen Facilitation

MCF has set up a Complaint Centre, where any citizen can come and get his complaint registered. The complaints are then redressed by different officers dealing with various functions of the Corporation. The facility was again widely appreciated by the general public as it helps them in effective disposal of their grievances and complaints.

3. Unique Identification of Properties

MCF has brought about a major change in its working by introducing the system of unique identification of properties. During the year 2008-09, MCF carried out the house tax survey and captured the properties database in SQL Server RDBMS. Then each property has been given a unique identification and administrative orders have been issued to institutionalize the scheme of unique identification of properties across the board in all activities which include Property Tax, Licensing, Development Charges, Building Plan Approvals, Water & Sewerage Billing etc.

4. Streamlining and Web-enablement of Property Tax System

MCF has reengineered the processes of property/house tax computation and its billing by automating the processes. The entire property tax data has been captured electronically and the cycle of assessment, issuing notices, billing, receipt, demand & collection has been automated. The system has resulted in tremendous dividends for MCF as listed below:

- a. With this business process reengineering, MCF has increased the property tax revenue manifolds and bills worth Rs.58 Crores have been issued for the commercial and industrial properties against an initial estimate of about Rs.20 Crores.
- b. The reengineered system has brought tremendous dividends to MCF not only from accrued income perspective, but has also resulted in record collection during the month of April itself. In the entire history of MCF, MCF used to get a maximum collection of 1-2 Crores during the month of April whereas, during April 2009, MCF has collected revenue worth Rs.42 Crores, out of which Property Tax collection itself is around Rs.20 Crores.
- c. MCF has brought transparency in the computation of property tax by hosting the property tax data over the Internet and making it available to

the general public. Anybody can just access the website www.mcfbd.org and can check anybody's property tax, which puts a check on mal-reporting of the assessment record resulting in wrong computation of property tax.

5. Automation of Licensing

MCF has created the databases for the trade and factory licenses issued under section 330/331 of the Haryana Municipal Corporation Act, 1994. The licensing notices for the year 2009-10 have been issued and about 75% collection has also been made within 3 months. With automation, the revenue from licensing is likely to grow by 100% and is likely to touch Rs.9-10 Crores as against Rs.4.5 Crores last year.

6. Automation of Rent & Lease

MCF has created the databases for the database of shops and properties of MCF which are on rent or on lease. The bills have been started generating from the computers for these properties.

7. E-Tendering, Ward Works and Community Participation

MCF has introduced an e-Tendering System to publish all the tenders online and has given emphasis to the community participation in the works undertaken by MCF. For every work that MCF is executing, a Community Supervisory Committee is being constituted to oversee the execution of the work. This system has brought transparency and accountability in the system and the community has really appreciated this unique initiative.

The system has provision for maintaining the Wardwise Works undertaken by MCF and has also the flexibility to provide analysis on the basis of various categories, subcategories and slabs on the basis of tender value. The system has brought transparency and wider publicity on one hand and reduction in the advertisement expenditure for the MCF on the other.

8. Building Plans on Net for Registering Online Objections

MCF has taken another unique initiative by providing the Building Plans submitted by the applicants on the Internet. Any citizen can view the Layout Plan and if he/she has any objection to the Layout Plan submitted by the applicant, he/she can register the objection online and it will be considered while passing the layout plan.

This system puts check on encroachments and extra coverage on the part of the application submitting the Building Plans for approvals.

9. Payment Gateway Facility through ICICI Bank

MCF has tied up with ICICI Bank to provide the facility to the citizens for making online payments of their dues. The unique identification of properties has enabled the ICICI Bank to identify each consumer uniquely and through their biller facility, the citizens/business houses can make the payments online.

10. Rationalization of Banking System and RTGS Facility

During the year 2008-09, the MCF was having 39 bank accounts in various banks and it was becoming extremely difficult to have proper financial management. Getting the financial position on a daily basis was a herculean work and even the Financial Controller was not having visibility about the balances in different banks and having a consolidated and clear financial position of the MCF. MCF used to issue more than 15,000 cheques in a year and the management of these payments & bank reconciliation was really a stupendous task.

From the year 2009-10, MCF has discontinued with this practice and the payments have been started through RTGS facility from Axis Bank and not even a single cheque has been issued during the year 2009-10. The facility has again been widely appreciated by the suppliers and contractors as it has brought transparency on one hand and has resulted in saving in the form of bank charges for the suppliers and contractors. Axis Bank is setting up two ATMs also in the premises of MCF.

11. Employees Directory

MCF has automated the data capturing of the employees data and the employees directory has been created. The directory gives the details of all the employees of MCF alongwith their employees codes and designation etc.

12. Employees Related Financials

MCF has automated the **Payroll and PF Accounting** of its employees. The paybills for all the employees are generated on computers since almost a year now. Besides that, to facilitate the employees, MCF has automated the Provident Fund Data.

13. Store Purchase Automation

MCF has created a database of all the purchases made during last 10 years for all the items available/issued from the stores. The comparative analysis of different items is available from the system to have better and informed decisions while purchasing any item. Besides, the analysis on various dimensions like suppliers, items, wards etc is also possible from the system.

14. Capacity Building and Training Facility for Employees

For bringing e-Governance culture, MCF has taken a major initiative toward building the capacities in-house. For the capacity building programme, MCF has set up a training lab and the training is being imparted to various officers and employees of MCF. MCF has not put any bar on the training and even a Class IV employee can undergo computer training. The employees are really taking advantage of this facility created by the Corporation.

d. Implementation Coverage (Geographical Areas Covered under Pilot, Roll-out, Next Steps)

Municipal Corporation, Faridabad (MCF) covers the civic services within a radius of 30/40 Km of Delhi. Faridabad, being one of the ring towns of Delhi Master Plan, is also the biggest industrial town of Haryana having three numbers of Railway Stations namely Old Faridabad, N.I.T., Faridabad and Ballabgarh.

The e-Governance project covers the scope in the entire geographical area of Old Faridabad, NIT and Ballabgarh, which are also the three administrative zones of MCF.

e. Financial Model for the Initiatives (Funding Pattern, Business Model, PPP, etc)

Keeping in view of the dividends from the project, the present e-Governance project has been fully funded by MCF from its own resources. Since, there has been substantial revenue gain from the automation, MCF has been able to sustain the e-Governance project and with the continued and integrated approach, the MCF is likely to get even better dividends in the times to come.

Further, in PPP mode, the options like advertisement revenue are being explored to meet the operational expenses (OPEX) and also, the funding from Government of India for augmenting the project is also under process.

2. Government Efficiency Improvement Initiatives

a. Time and Cost Efficiency Improvements in the Working & Delivery of Services

The following are some of the time and cost efficiency improvements in the working and delivery of services:

- i. The e-Governance initiative has really resulted in overall time and cost efficiency improvements in various services. The execution of development works has improved considerably with the introduction of the Community Participation and e-Tendering.
- ii. The payment gateway integration of the ICICI for the bills payment has reduced the time drastically for the citizens as they can make the payments online.
- iii. Online publication of building plan approvals has improved the cycle time of granting the building plan approvals.
- iv. The property tax billing and the issuance of licensing notices which used to happen during the entire year has been streamlined and tremendous efficiency has been brought in.
- v. The citizen grievance redressal time has been reduced to a great extent and the citizens have appreciated the same.

b. Specific Innovative Ideas Implemented in eGov Area; Best Practices Implemented

The innovative ideas implemented in eGov area and the best practices are as under:

1. Citizen Facilitation and Online Redressal of Public Grievances

The details of the system have already been given above and the workflow based system has been widely appreciated by the general public as it has been extremely successful in effective disposal of the citizen grievances and complaints. Further, the facility of Complaint Centre has also again widely appreciated by the general public as it helps them in effective disposal of their grievances and complaints.

2. Unique Identification of Properties

The unique identification of properties is another commendable initiative to rationalize the working of MCF and to facilitate the citizens. The administrative orders have been issued to institutionalize the scheme of unique identification

of properties across the board in all activities which include Property Tax, Licensing, Development Charges, Building Plan Approvals, Water & Sewerage Billing etc.

3. Streamlining and Web-enablement of Property Tax System

MCF has reengineered the processes of property/house tax computation and its billing by automating the processes. The entire property tax data has been captured electronically and the cycle of assessment, issuing notices, billing, receipt, demand & collection has been automated. The system has resulted in tremendous dividends as has already been mentioned in the previous section.

4. Automation of Licensing

MCF has created the databases for the trade and factory licenses issued under section 330/331 of the Haryana Municipal Corporation Act, 1994. The licensing notices for the year 2009-10 have been issued and about 75% collection has also been made within 3 months. With automation, the revenue from licensing is likely to grow by 100% and is likely to touch Rs.9-10 Crores as against Rs.4.5 Crores last year.

5. Community Participation and E-Tendering

MCF has reengineered the system of executing ward works by bringing in the community participation through Community Supervisory Committees. For every work that MCF is executing, a Community Supervisory Committee is being constituted to oversee the execution of the work. This system has brought transparency and accountability in the system and the community has really appreciated this unique initiative. MCF has also introduced an e-Tendering System to publish all the tenders online and has given emphasis to the community participation in the works undertaken by MCF.

6. Building Plans on Net for registering online objections

MCF has taken another unique initiative by providing the Building Plans submitted by the applicants on the Internet. Any citizen can view the Layout Plan and if he/she has any objection to the Layout Plan submitted by the applicant, he/she can register the objection online and it will be considered while passing the layout plan.

This system puts check on encroachments and extra coverage on the part of the application submitting the Building Plans for approvals.

7. Payment Gateway facility through ICICI Bank

MCF has tied up with ICICI Bank to provide the facility to the citizens for making online payments of their dues. The unique identification of properties has enabled the ICICI Bank to identify each consumer uniquely and through their biller facility, the citizens/business houses can make the payments online.

8. Rationalization of Banking System and RTGS Facility

The details have already been given in the previous section.

9. Store Purchase Automation

MCF has created a database of all the purchases made during last 10 years for all the items available/issued from the stores. The comparative analysis of different items is available from the system to have better and informed decisions while purchasing any item. Besides, the analysis on various dimensions like suppliers, items, wards etc is also possible from the system.

10. Capacity Building and Training Facility for Employees

For bringing e-Governance culture, MCF has taken a major initiative toward building the capacities in-house. For the capacity building programme, MCF has set up a training lab and the training is being imparted to various officers and employees of MCF. MCF has not put any bar on the training and even a Class IV employee can undergo computer training. The employees are really taking advantage of this facility created by the Corporation.

c. Initiatives Integrated with Other Departments/Offices

The initiative is being integrated with other Government initiatives like Yamuna Action Plan (YAP), wherein the State Government is integrating the initiatives taken by different agencies for Faridabad District. One of the major initiatives is a common Geographical Information System Application which will be quite helpful in better regional planning.

III) Enabler Indicators

The Enabler Indicators are primarily the processes that are implemented to achieve the above mentioned results. For the purpose of these Awards the Enablers are being evaluated on selected attributes listed below. Nominations should address

the required information as per attributes below, and if desired important additional information for the purpose of this Award may be given.

1. State Policy & Strategy

a. eGov/ICT Vision Roadmap

The State Government had prepared the IT Policy 2000 and the policy seeks a deep impact initiative by the State Government in encouraging replacement of traditional delivery system of public services by IT driven system of governance that works better, costs less and is capable of serving the citizens' needs with ease. A high degree of public satisfaction through transparent and efficient functioning of public domain activities would be at the focus of IT initiative. Application of sunrise technologies in transition to a knowledge based society, providing equal opportunity to all in reaping the benefits of development, harnessing vast potential of human endeavour and enriching quality of life shall provide the long-term underpinning of socio-economic transformation of the State. This policy further seeks to facilitate private domain initiative in e-transition of Haryana by providing critical infrastructure, systems framework and enabling environment.

The e-Governance initiatives of MCF are fully in line with the IT Policy of the State Government.

b. eGov Roadmap Implementation Plan

The State Government proposes to establish electronic delivery of services in the public domain in its Departments, Boards and Corporations using state-of-art technology. Such delivery of services shall be permitted on transaction fee basis to be charged from the users.

Further, under JNNURM, Ministry of Urban Development (MOUD) has also chalked out a plan to roll out a suite of 9 core applications for the 'A' Class Municipal Corporations.

MCF has prepared the eGov roadmap which is in line with the State Government Policy as well as MOUD JNNURM Programme. The suite of 9 core applications has been taken up by MCF in a time bound fashion and the process had started during 2008-09 wherein the applications mentioned in the preceding sections were taken up for automation. The remaining applications are under development and roll out.

c. Sharing of Common Infrastructure (National, State, Other Department; Delivery Channels)

The MCF has the connectivity through SWAN to the State Government line department of Urban Development. Besides this, MCF envisages utilization of the e-Disha Citizen Service Centres established by the State Government to utilize the common infrastructure. The MCF has also envisaged the delivery of citizen services by establishing Citizen Delivery Centres in each ward under PPP mode. The scheme would be launched after completion of all the envisaged services, which is likely to be accomplished within 6 months.

d. Technology Standardization

The State Government has made it mandatory for all Departments, Boards and Corporations to procure hardware, software, networking equipment etc. according to specifications and standardisation laid down by Hartron which is the sole agency of the State Government to procure software and equipment. MCF has created the core IT infrastructure through the procurements from Hartron and the inter-operability of data and applications has been specifically kept in mind. Since, the applications of all the enabling departments like Land Records, HUDA, e-Disha etc on Microsoft platform, MCF has also adopted Microsoft platform as the development and deployment platform for the e-Governance applications.

2. Process Reengineering & Legal Reforms

a. Major Front-end Process Changes

Business Process Reengineering has been one of the major considerations of the MCF while taking this e-Governance initiative. Some of the major front-end process changes adopted by MCF are as under:

1. *Citizen Facilitation and Online Redressal of Public Grievances*

MCF has launched a unique workflow based public grievance redressal system where Login IDs and Passwords have been provided to all the officers of MCF dealing with different functions. The citizens log online complaints and the citizen gets a Login ID and Password and an online notification that his/her complaint has been logged and it will be addressed by such and such officers. The details of the officers are provided alongwith their contact phone numbers to the complainant. The complaint then automatically gets logged into the Inbox of the concerned officer and the moment he takes any action, the email notification goes to the complainant. The complainant can also check the status online

using his/her Login ID and Password. Within a year, more than 5000 complaints have been registered and the same has been attended to by different officers.

The system has been widely appreciated by the general public as it has been extremely successful in effective disposal of the citizen grievances and complaints.

2. Complaint Centre for Citizen Facilitation

MCF has set up a Complaint Centre, where any citizen can come and get his complaint registered. The complaints are then redressed by different officers dealing with various functions of the Corporation. The facility was again widely appreciated by the general public as it helps them in effective disposal of their grievances and complaints.

3. Web-enablement of Property Tax, Licensing and Online Payments

MCF has reengineered the processes of property/house tax computation and its billing by automating the processes. The entire property tax data has been captured electronically and the cycle of assessment, issuing notices, billing, receipt, demand & collection has been automated. MCF has brought transparency in the computation of property tax by hosting the property tax data over the Internet and making it available to the general public. Anybody can just access the website www.mcfbd.org and can check his/her property tax. The concerned property holder can make the payment online through the payment gateway of ICICI Bank.

4. Automation of Licensing

MCF has created the databases for the trade and factory licenses issued under section 330/331 of the Haryana Municipal Corporation Act, 1994. The concerned license holder can make the payment online through the payment gateway of ICICI Bank.

5. E-Tendering, Ward Works and Community Participation

MCF has introduced an e-Tendering System to publish all the tenders online and has given emphasis to the community participation in the works undertaken by MCF. For every work that MCF is executing, a Community Supervisory Committee is being constituted to oversee the execution of the work. This system has brought transparency and accountability in the system and the community has really appreciated this unique initiative.

The system has provision for maintaining the Wardwise Works undertaken by MCF and has also the flexibility to provide analysis on the basis of various categories, subcategories and slabs on the basis of tender value. The system has brought transparency and wider publicity on one hand and reduction in the advertisement expenditure for the MCF on the other.

6. Building Plans on Net for registering online objections

MCF has taken another unique initiative by providing the Building Plans submitted by the applicants on the Internet. Any citizen can view the Layout Plan and if he/she has any objection to the Layout Plan submitted by the applicant, he/she can register the objection online and it will be considered while passing the layout plan.

This system put check on encroachments and extra coverage on the part of the application submitting the Building Plans for approvals.

b. Major Back-end Process Changes

1. Unique Identification of Properties

MCF has brought about a major change in its working by introducing the system of unique identification of properties. During the year 2008-09, MCF carried out the house tax survey and captured the properties database in SQL Server RDBMS. Then each property has been given a unique identification and administrative orders have been issued to institutionalize the scheme of unique identification of properties across the board in all activities which include Property Tax, Licensing, Development Charges, Building Plan Approvals, Water & Sewerage Billing etc.

2. Streamlining and Web-enablement of Property Tax System

MCF has reengineered the processes of property/house tax computation and its billing by automating the processes. The entire property tax data has been captured electronically and the cycle of assessment, issuing notices, billing, receipt, demand & collection have been automated.

3. Automation of Licensing

MCF has created the databases for the trade and factory licenses issued under section 330/331 of the Haryana Municipal Corporation Act, 1994. The licensing notices for the year 2009-10 have been issued and about 75% collection has also been made within 3 months.

4. Automation of Rent & Lease

MCF has created the databases for the database of shops and properties of MCF which are on rent or on lease. The bills have been started generating from the computers for these properties.

5. Rationalization of Banking System and RTGS Facility

During the year 2008-09, the MCF was having 39 bank accounts in various banks and it was becoming extremely difficult to have proper financial management. Getting the financial position on a daily basis was a herculean work and even the Financial Controller was not having visibility about the balances in different banks and having a consolidated and clear financial position of the MCF. MCF used to issue more than 15,000 cheques in a year and the management of these payments & bank reconciliation was really a stupendous task.

From the year 2009-10, MCF has discontinued with this practice and the payments have been started through RTGS facility from Axis Bank and not even a single cheque has been issued during the year 2009-10. The facility has again been widely appreciated by the suppliers and contractors as it has brought transparency on one hand and has resulted in saving in the form of bank charges for the suppliers and contractors. Axis Bank is setting up two ATMs also in the premises of MCF.

6. Employees Directory

MCF has automated the data capturing of the employees data and the employees directory has been created. The directory gives the details of all the employees of MCF alongwith their employees codes and designation etc.

7. Employees Related Financials

MCF has automated the **Payroll and PF Accounting** of its employees. The paybills for all the employees are generated on computers since almost a year now. Besides that, to facilitate the employees, MCF has automated the Provident Fund Data.

8. Store Purchase Automation

MCF has created a database of all the purchases made during last 10 years for all the items available/issued from the stores. The comparative analysis of different items is available from the system to have better and informed decisions while purchasing any item. Besides, the analysis on various dimensions like suppliers, items, wards etc is also possible from the system.

3. Capacity Building

a. Leadership Support & Visibility

The Commissioner himself has proactively led the entire initiative and has motivated the Leadership Team and the employees towards e-Governance. The Leadership Team comprising the Joint Commissioners, Chief Engineer, ADO and Financial Controller have then provided leadership and support to their respective staff members. It has been team effort to build capacities in-house and take the initiative to one of the most successful initiatives in this domain in the country.

b. Change Management Strategy

The Change Management Strategy was again a ‘**Take the Team Along**’ strategy adopted by the Commissioner himself, who proactively led the change management also. He motivated the Leadership Team and the employees towards e-Governance and himself took series of sessions with the Leadership Team and with different levels of the staff members.

It was purely a participative process and no coercive or punitive methods were adopted to bring about change. Though, initially it was challenging, but gradually over the entire year, the journey became smooth due to the involvement of different domain stakeholders of the MCF.

c. Capacity Building Plan

For bringing e-Governance culture, MCF has taken a major initiative toward building the capacities in-house. For the capacity building programme, MCF has set up a training lab and the training is being imparted to various officers and employees of MCF. MCF has not put any bar on the training and even a Class IV employee can undergo computer training. The employees are really taking advantage of this facility created by the Corporation.

Besides, the IT Applications, MCF has planned to build capacities in other skills as well which include Project Management, Accountancy, e-Governance concepts and principles etc.

d. Program Management Teams (Full Time Department Officials/Consultants)

MCF has created a Project Management Unit for the e-Governance Project and has specifically assigned the responsibility to the Nodal Officer. The department has constituted the domain specific teams to execute the project. Besides the

internal team, there is a team from the external executing agency which has earmarked 16 professionals who are working for this project with MCF. These professionals include Project Manager, Supervisors, Programmers and Data Entry Operators.

(Ramesh Bansal, Xen-cum-Nodal Officer, e-Governance, Municipal Corporation, Faridabad, B.K. Chowk, NIT, Faridabad, Haryana, Telephone no.: 0129-2416464, FAX no: 0129-2416465, email: nodal@mcfbd.org).

Kannur District, Kerala

Rathan U Kelkar

I) Overview

Kannur, is a city and a municipality in Kannur district in the Indian state of Kerala. It is the administrative headquarters of the district of Kannur. It is known as “Land of Looms and Lores”. During British rule in India, Kannur was known by its portuguese name of Cannanore, which is still in fairly common usage. Kannur is the fourth largest urban agglomeration in Kerala after Kochi, Thiruvananthapuram and Kozhikode, and has a population of 87,592. Kannur is popularly known as the city of Looms and Lores. Kannur is famous for its pristine beaches, its native performing art Theyyam, and its handloom industry.

According to the 2001 census of India, Kannur has a population of 63,795. Males constitute 48% of the population and females 52%. Kannur has an average literacy rate of 83%, higher than the national average of 59.5%: male literacy is 84%, and female literacy is 83%. In Kannur, 12% of the population is under 6 years of age.

II) Result Indicators

e-Governance Initiatives in the District

DC*Suite

DC*Suite was initiated under the Modernization in Government Programme. DC*Suite is an integrated suite of applications for the Collectorate covering all functional areas and activities of the Collectorate seamlessly integrated to workflow based file management system. Transparent administration and faster service delivery is the key feature of the project. It is a web-enabled solution built entirely on open source platform.

E-Services layer is the front-end layer of DC*Suite which interacts with citizens and offers services to the citizens. The services are offered over touch screen kiosks, SMS, Internet and front-end counters.

A 24x7 data centre is operational as part of DC*Suite at Collectorate. A Disaster Recovery Centre is functional at the District Collector's Camp office. Wi-fi connectivity to the DC*Suite is provided at the DC's Camp office.

District Portal

This portal serves both the administration as well as the public. DC* Suite services are provided to the public. The file/tapal status, beneficiary search, GO search are online facilities provided using DC*Suite database. Portal contains Hospital facilities in Kannur, Panchayath level statistics. Panchayath beneficiary list is one of the major information services available in Kannur Services Portal. <http://kannurservices.gov.in>

Industry Portal

The portal is intended to introduce and propel a wide range of commercial products of the SSI units of Kannur District in the national and global market.

The District Industries Centre (DIC) moderates the content being uploaded in the portal. The posting in the portal is exclusively for the industries/organisation registered under the SSI scheme. The Akshaya District Project Office co-ordinates with the participating agencies. The web page design and data collection is being done by Akshaya Entrepreneurs. The Kerala Small Scale Industries Association (KSSIA), Kannur district unit propagates and promotes the web portal.

District Administration has imparted training to the Akshaya entrepreneurs for content management and design.

Akshaya Project

'Akshaya' a project introduced to e-literate the citizens of Kannur has achieved 100% e-literacy in the district. Akshaya Project is functioning through 150 Akshaya Centres (ICT centres) in Kannur District. The Akshaya Centres are having its presence in all the villages and local bodies. All the Akshaya centres are equipped with facilities like Internet connectivity, Web Camera, Printer, Scanner, etc. The Akshaya Centres are offering world-class courses like Medical Transcription, DOEACC, Tally etc.

Also, the Akshaya centres are working as Common Service Centres, for the general public. 102 Akshaya centres have initiated e-payment facility, for the collection of utility bills like KSEB, Kerala Water Authority, BSNL (Landline and Mobile) etc.

Some of the entrepreneurs have started online reservation of Railway and Air tickets and Online Passport Application, Online Entrance Counseling, Online Exam Results, Online Option facility, etc..

Kannur is piloting Malayalam Computing Project through the Akshaya Centres in the District, which would help the people from all walks of life to easily interact with computers in Malayalam. Hence, G2C, C2G and C2C schemes can be easily and smoothly implemented through the Akshaya Centres in the local language. This would also boost content development in Malayalam and enable entrepreneurs to innovate and discover fresh avenues for employment generations.

Services through Akshaya Centres also include:

1. E-Payment
2. E-Krishi
3. Community Web Portal (www.entegramam.gov.in)
4. Industry Portal (www.kannurindustry.gov.in)
5. Online Passport application
6. Online Ticket reservation
7. Data entry works of LSGI and the general public
8. Career Counseling and Psychometric Profiling
9. Arrangements of job fairs
10. Online Exam results, Counseling, job applications.

Friends Centre

FRIENDS is an initiative of Kerala State IT Mission to facilitate citizen services. A Friends Centre is functioning at Kannur. Payments of electricity bills, water bills, RTO receipts, BSNL phone bills and municipal taxes are collecting through Friends centre.

Taluk Office

All the three Taluks in Kannur are provided with a network of 21 nodes at present. In addition to this a Land Records Computer Centre is also operational at the Taluks. Land Records database is operational at these Taluk centers. Offline Land Records are being done using the software 'Bhurekha'.

Registration Offices

District Registrar office is at present equipped with 3 computers, 3 printers, 1 scanner and UPS.

PEARL software is a tool, providing a transparent, efficient and vibrant public interface, bringing in efficiency at the Sub Registrar Office level by doing away with the dreary manual routine of filing, searching, accounting, reporting etc. thereby enabling SRO to provide prompt and reliable response to the General Public. The main emphasis is on the issue of Encumbrance certificates, Registration of all categories of documents and issue of certified copies.

PEARL s/w is implemented in all the 23 Sub-Registrar offices in the district for registration activities. The infrastructure available in each of these offices includes 1 server m/c, 2 client m/c, printers, scanner, UPS. In addition 1 computer and digital image printer/scanner is available for issue of certified copies. LAN is also in place to connect the above.

Online Registraion, Encumbrance Certificate generation and issue of certified copies are being done at all the SROs.

Regional Transport Office (RTO)

This office has a fully automated system (Smart-Move) for rendering all the services in the department such as online learner's license test, license issue, registration of vehicles and tax collection. Database on the above services provided are available on a LAN with around 50 computers. It includes one Main Server (Domain controller), one Backup Server (Additional Domain Controller) and one KIOSK (Touch Screen).

District Industries Centre

Permanent Registration, Margin Money Loan, State Investment Subsidy, PMRY Loan, Single Window Clearance/Green Channel Committee, Development Plot, Court Case, Tapal, Society Registration were computerized.

Dy. Commissioner of Commercial Taxes

Areas Computerized: All Commercial Tax Offices under jurisdiction of this office. Database of filed Returns is available. KVATIS – online s/w for e-filing is implemented.

Registration, Renewal, Online return filing, Audit Assessment and checkpost data management are implemented in the Commercial Taxes office. Website: <http://www.keralataxes.in>

Civil Supplies

TETRAPDS (Targeted Efficient Transparent Ration Allocation PDS) for the management of Ration Cards is implemented. The TETRAPDS contains the database on Ration cards issued to APL and BPL families.

OFFTAKE is the software developed for management and monitoring of the lifting of commodities from the Food Corporation of India (FCI) warehouses. The Distribution and demand details are available in the database.

Treasury Information System

Treasury online is implemented in the two District Treasuries in Kannur. The Online system takes care of all the activities of the District Treasury.

The Treasury Information Management (TRIM) is a computer based system to provide various services to Government Departments and Public. The G2G and G2C services offered are provided. Information required for the public who transact with Treasuries is provided. All the Treasury bill forms can be downloaded from the site. The public can get information on any of the Treasuries in Kerala. SB & FD Interest orders are provided. Information required for the Government Departments and various offices are provided through authorized user logins.

Integrated Disease Surveillance Project (IDSP)

This is an online system for monitoring the communicable diseases. An IDSP cell is operational in the district attached to the District Medical Office. Video Conferencing, e-learning and IVRS facilities are available.

Dr SMS – M-Health application

The Dr SMS/SMS based m-Health application piloted earlier in Kozhikode district was extended to Kannur. The Dr. SMS service and its associated health geo-portal is intended to provide information on health facilities through SMS and

Internet. This is one of the most demanded G2C services which helps the citizens to know the hospitals, facilities and doctors available in the district.

Projects in Pipeline

Software for SAND Distribution

SAND is a complete web solution developed for the restricted centralized distribution of river sand. It refers to a “System for ‘Attumanal’ Neutral Distribution”. As the name suggests, SAND is used to distribute ‘Attumanal’ or river based sand to the general public at reasonable rates for construction purposes. It also helps the administration to restrict the distribution of river sand across the District SAND is one of the outcomes of National Informatics Centre’s continuous commitment to the citizens. The sincere and dedicated support extended by the revenue department and the local self government for a true citizen service resulted in ‘SAND’.

SAND ensures consumers the required sand at reasonable rates

SAND helps to avoid mediators and lobbying in Kannur

- Software has to be implemented at the Panchayath Office
- Consumer can approach a Sand Token issuing counter at the Panchayath for getting sand allotment
- The Consumer’s credentials are verified before issuing the tokens (Voter Card, Building plan, Approval, estimate of quantity, etc.)
- Facility to fix rates for sand from different kadavu
- The varying load quantity starting from 1 ton is available depending on the type of vehicle used for transport
- The quota to Panchayath and PWD shall be fixed for a desired period
- Registration of vehicles at each Panchayath to be done and only registered vehicles will be allowed to lift the sand from the Kadavu
- Consumer is provided with list for choosing the vehicle for transporting his quota to the destination site
- Lorry pass will be issued along with the sand token to the consumer

- Consumer will be able to lift the sand from any Kadavu within the Panchayath
- Barcode/Security key in the Tokens to ensure Authenticity.

III) Enabler Indicators

The district administration use free and open source software, wherever possible, most of the applications deployed are on FOSS. So almost all government initiatives towards e-governance make use of FOSS, this is in compliance to the State IT policy 2007. District administration makes use of ICT to ensure transparency, efficiency and quality of services to the citizens and also tries to enhance productivity and efficiency with the help of ICT tools.

The data centre setup by the Kerala Govt is being leveraged for providing District administration services by way of server sharing, server co-location, SAN based mass storage, automated backup and also rides on the Kerala State wide area Network with abundant backbone bandwidth, where ever possible to transfer data between office within the district and as well as with other district offices.

The applications deployed are subjected to standardization and the applications which are in use as mentioned above can be utilized by any participating departments in the district as well as the state.

Regular district level workshops are also organized for the benefit of the district employees and Askshaya entrepreneur to absorb the new technology and equip them in handling ICT tools effectively.

(Rathan U Kelkar, Director, KSITM, Kerala State IT Mission, ICT Campus, Vellyambalam, Thiruvananthapuram 695033, Kerala. The author can be reached at director@keralaitmission.org).

Jalgaon District, Maharashtra

Kunal Kumar and Pramod Borole

I) Overview

The district administration is working towards citizen centric transparent administration. The Govt. of Maharashtra had also announced year 2008 as “Information Technology Year”. With these two motivations the district administration had implemented many e-governance projects facilitating to citizens of Jalgaon district. Compared to the progress of e-governance implementation in other districts, we feel that in one year adequate e-governance implementation had been carried out in the district.

Till date we have implemented many e-governance projects, delivering with the help of internet/website. But these services are not available to the very grass root level, so the use of the services remains in urban area only.

E-Lokshahi (IVRS Based System)

With a view to provide citizen centric & transparent administration, the District Collector & District Magistrate, Jalgaon has developed an Integrated Voice Response System to provide a 24 hour online public grievance redressal system and FAQ forum being used widely through telephone and mobile.

For these services citizens has to dial (0257)-2222222 (Seven times 2) to access the service. Except the ordinary telephone call charges there is no other charges laid down for this service.

It is an innovative project of District Collector Office, Jalgaon to have a direct conversation between citizens & administration. Using this platform citizens can know primary information or can register their grievance from their home. The concerned officer receives the grievance and records his answer in the system,

which reaches the citizen at his home too. Thus this is a complete system for registering grievances as well as accessing solutions/reply of grievances to the citizens. This system is fully automated without human intervention so it is made operational 365 x 24 x 7.

Presently there are 42 types of grievances and 57 types of FAQ's services, which are provided and can be increased. The officers can access the system through telephone, mobile, website & SMS. The system can be access through Internet explorer by www.jalgaon.gov.in/elokshahi/ or <http://59.90.140.87/elokshahi/>. The system is operational 365 x 24 x 7. Citizens can access the service from their home for primary information or registration/solution of grievances. For every types of grievances time schedule is given for the officers to reply. If not replied in time the system escalates the grievance and a generated SMS will be sent to senior level officer. Such four levels of officers are defined for every type of grievance. The system saves immense amount of time and money of the common citizen as he can access the system right from his home. It increases accountability in subordinate officers by improving supervision and automated escalation.

The Following projects are initiated and implemented during 2008 to enhance the e-governance services to citizens.

- e-Library
- e-Tapal
- Maharashtra Rural Employment Guarantee Schemes
- Integrated Disease Surveillance Programme
- Panchayat Portals www.panchayat.nic.in
- RTO Sarthi (driving licenses)& Vahan (vehicle registration)
- Website of Zilla Parishad www.zpjalgaon.org.in
- CIPA (Centrally Integrated Police Application)
- e-Post Office (Connectivity)
- (RSBY) Rashtriya Swasthya Bima Yojana
- Video conferencing and other communication Service.
- Land Acquisition cases computerization
- Bio-metric Attendance System.

II) Result Indicators

The Result Indicators are primarily the outcomes and key achievements for the District in the area of ICT/e-Governance. For the purpose of these Awards the Results are being evaluated on selected attributes listed below. The nominations should address the required information as per attributes below, and if desired important additional information for the purpose of this Award may be given.

1. Key Performance

a. % of Overall Working, Services Delivered and Covered using ICT

All the projects are either for Govt. Dept. or services of Govt. Dept to Citizens so 100% deliverable are at Govt. category only.

1. **E-Lokshahi Project (IVRS Based):** The System is beneficial for all the citizens of the district as well as the officers concerned a) Primary Information about the services of Revenue Dept. b) Grievance registrations and disposal.
2. **e-Library Project (Web Based):** It is useful for all Collectorate employee & Citizens to view branch wise list of all Govt. Resolutions.
3. **e-Tapal Project (LAN Based):** Each & every department of Collectorate utilized this service. All the incoming and outgoing Letters were monitored.
4. **Maharashtra Rural Employment Guarantee Schemes:** Jalgaon district is in 2nd phase of implementation starting from April 2008. Upto till date more than 1 lakh 62 thousands workers family has been registered depending on which work measurement and distribution of grants can be done using this project.
5. **Integrated disease surveillance programme:** The information of all public health centers and other health centers had been computerized. Due to which it is now easy to get consolidated information for taking necessary actions. VC facility is also used for communication
6. **Panchayat Portals www.panchayat.nic.in:** All the 1150 gram panchayats information is uploaded on this portal with pre-formatted 17 pages of each gram panchayat.

7. **RTO Sarthi (driving licenses) & Vahan (vehicle registration)** : The citizens get their vehicles licenses in smart card format. Up till now more than 34 thousand learning licenses and more than 28 thousand permanent licenses, more than 5 thousand duplicate licenses , 4062 licenses renewal were issued in Jalgaon district. In Vahan project till date 12407 Two-wheeler & more than 1100 Four wheelers vehicles smart cards were issued in Jalgaon district.
8. **Website of Zilla Parishad**: The URL www.zpjalgaon.org.in is used to view the working of different departments, various schemes of Zilla Parishad Jalgaon, & tender notices for the citizens
9. **CIPA (Centrally Integrated Police Application)**: All 33 police stations in Jalgaon district are equipped with IT infrastructure and application had been started for police station level services-under this Police station diary, FIR, Investigation, Prostitution and all other police station level work is covered. One technician is appointed to give training at Police station level for three months
10. **e-Post Office**: Five main post offices are computerised, instant money order, electronic money order, speed post, postal life insurance etc. are covered using internet in this scheme
11. **Rashtriya Swasthya Bima Yojana (RSBY)** : Under this scheme the IT component is to provide smart card to the BPL labors. Till date 95 thousands smart cards were issued for Health services to very poor labors.
12. **Video conferencing and other communication Services**: The District Centre provides IT communication services to all the Govt. Department in regard to lease line internet connectivity and Video conferencing services.
13. **Land Acquisition cases computerization**: The process of land acquisition can be done within time & convenient way this application is used. After filing the primary information the necessary notices, and all relevant reports can be generated.
14. **Bio metric Attendance System** : Monitoring on attendance (Incoming & Outgoing office time) of every employee within the Jalgaon collectorate the biometric attendance system is used.

b. Initiatives under G2C, G2G and G2E

G2C Services

- E-Lokshahi Project
- Maharashtra Rural Employment Guarantee Schemes
- Panchayat Portals www.panchayat.nic.in
- RTO Sarthi (driving licenses) & Vahan (vehicle registration)
- Website of Zilla Parishad www.zpjalgaon.org.in
- CIPA (Centrally Integrated Police Application)
- (RSBY) Rashtriya Swasthya Bima Yojana

G2G Services

- e-Library
- e-Tapal
- Integrated Disease Surveillance Programme
- e-Post Office (Connectivity)
- Video conferencing and other communication Services
- Land Acquisition cases computerization
- Bio-metric Attendance System.

c. Stakeholder-wise Services and Benefits of ICT/eGov Initiatives

- All the G2C services are intended towards services to citizens of the district.
- The G2G services are intended towards atomization of office procedure to increase the efficiencies of the branch/Dept.

d. Implementation Coverage (geographical areas covered under pilot, roll-out, next steps)

- All the G2C services are intended towards services to citizens of the district (15 Blocks, 1500 Villages, population 45 lakhs approx.)
- Implementation coverage area of G2G services are limited to that office/branch.

e. Financial Model for the Initiatives (funding pattern, business model, PPP, etc)

Project/Services	Financial Model
e- Lokshahi	Local IT Funds from SETU
e-Library	Local IT Funds from SETU
e-Tapal	Local IT Funds from SETU
Maharashtra Rural Employment Guarantee Schemes	Govt.Scheme
Integrated Disease Surveillance Programme	Govt.Scheme
Panchayat Portals www.panchayat.nic.in	Govt.Scheme
RTO Sarthi (driving licenses)& Vahan (vehicle registration)	PPP
Website of Zilla Parishad www.zpjalgaon.org.in	Govt.Scheme
CIPA (Centrally Integrated Police Application)	Govt.Scheme
e-Post Office (Connectivity)	Govt.Scheme
(RSBY) Rashtriya Swasthya Bima Yojana	Govt.Scheme
Video conferencing and other communication Service	Govt.Scheme
Land Acquisition cases computerization	Local IT Funds from SETU
Bio-metric Attendance System.	Local IT Funds from SETU

2. Government Efficiency Improvement Initiatives

a. Time and Cost Efficiency Improvements in the Working & Delivery of Services

Project/Services	Efficiency improvements
e-Lokshahi	Providing primary information & registration of grievances became automated & fast.
e-Library	Improvement in GR searching
e-Tapal	Streamlining the references disposals
Maharashtra Rural Employment Guarantee Schemes	Distribution of work remuneration to the labour becomes fast.
Integrated Disease Surveillance Programme	Mapping of diseases.
Panchayat Portals www.panchayat.nic.in	Grass root level information available on net.
RTO Sarthi (Driving licenses) & Vahan (Vehicle registration)	Uniformity in Licenses and registration process & deliverables
Website of Zilla Parishad www.zpjalgaon.org.in	Service details of Dept. made available easily
CIPA (Centrally Integrated Police Application)	Standardization of processes.
(RSBY) Rashtriya Swasthya Bima Yojana	Efficient health services for rural poor citizens.

b. Specific Innovative Ideas Implemented in eGov Area; Best Practices Implemented Innovative Project Implemented is e-lokshahi Service

c. Initiatives Integrated with other Departments/Offices N.A.**III) Enabler Indicators**

The Enabler Indicators are primarily the processes that are implemented to achieve the above-mentioned results. For the purpose of these Awards the enablers are being evaluated on selected attributes listed below. Nominations should address the required information as per attributes below, and if desired important additional information for the purpose of this Award may be given.

1. State Policy & Strategy**a. eGov/ICT Vision Roadmap**

The vision of e-Gov/ICT implementation is towards Citizen centric administration and transparency

b. eGov Roadmap Implementation Plan

As per the State Govt. Declaration Year 2008 as “Information Technology Year”

The project implemented are state government approved projects which phase wise implementation plan defined and finalized at state level. The innovative projects e-lokshahi & other local projects e-tapal, e-library, Land Acquisition computerization were implemented with proper planning of different stages of implementation.

c. Sharing of Common Infrastructure (national, state, other department; delivery channels)

The hardware infrastructure made available for e-lokshahi project is shared for other local project implementation.

d. Technology Standardization N.A**2. Process Re-engineering & Legal Reforms****a. Major Front-end Process Changes**

Project/Services	Front-end Changes
e- Lokshahi	Citizens will get primary information at their home using local telephone. Citizens can register their grievances from their home using local telephone/ Mobile phone.
Contd...	

<i>Contd...</i>	
	<p>The proper grievance registration ID is given to the citizens. If grievance is booked from mobile the ID no. is send through SMS.</p> <p>For every grievance four levels of officers are defined and the system excellate the grievance as per predefined schedule to the higher officer.</p> <p>Now it is easy for administration to prioritize the grievances in particular areas or services in district.</p>
e-Library	The staff members got the web enable search engine to search the G.R
e-Tapal	It becomes easy to monitor the movement of references and its disposals
Maharashtra Rural Employment Guarantee Schemes	All the labour registration, work distribution and fund disposal is made online to improve the transparency in the project.
Integrated Disease Surveillance Programme	It makes easy to map the diseases
Panchayat Portals <i>www.panchayat.nic.in</i>	The grass root level information of panchayat is made online for citizens
RTO Sarthi (driving licenses) & Vahan (vehicle registration)	Citizens get the driving license and vehicle registration in defined time with smart card
(RSBY) Rashtriya Swasthya Bima Yojana	The labors gets smart card for their health services
Bio-metric Attendance System.	The attendance becomes streamline

b. Major Back-end Process Changes

Project/Services	Back-end Changes
e-Lokshahi	<p>The officer need not have to keep the manual record of the grievances and their disposals.</p> <p>The Officer can disposed the graveness at their suitable time with proper thinking about the grievances.</p> <p>The officer's can disposed the grievances from their home or even though they are on tour.</p> <p>The SMS reminder helps the officer to remind about the grievances.</p>
<i>Contd...</i>	

<i>Contd...</i>	
	The officer can politely give reply to the citizen, as they are not in hurry at the time of disposal.
e-Library	The electronics indexing and storage made easy for maintaining record of GR.
Maharashtra Rural Employment Guarantee Schemes	Information & status of work is maintained online which is used for better planning and monitoring
RTO Sarthi (driving licenses) & Vahan (vehicle registration)	The electronics indexing and storage made easy for maintaining record of Licenses and vehicles
CIPA (Centrally Integrated Police Application)	Manual documentation had been reduced.
e-Post Office (Connectivity)	Faster connectivity
Land Acquisition cases computerization	Case monitoring becomes easy.
Bio-metric Attendance System.	Manual documentation had been reduced.

3. Capacity Building

a. Leadership Support & Visibility

Leadership support is required in publicity of the services and to motivate the citizens & staff to adopt the new e-governance service.

b. Change Management Strategy

All the projects are implemented as Government Schemes so no need of change in management strategy.

c. Capacity Building Plan

The required hardware, training schedules and implementation planning had been adopted as per the directions in the Govt. Schemes.

For innovative e-lokshahi project: At field level and at user level there is no need for capability building. Training of Officials is carried out in phase manner.

d. Program Management Teams (full time department officials/consultants)

All the projects are implemented as part of the Govt. Schemes so management teams responsibility is given to head of Dept. No additional manpower is taken for management.

(Kunal Kumar, Collector & District Magistrate, Jalgaon Office Collector & District Magistrate, Akashwani Chauk, Zilla Peth, Jalgaon, Maharashtra. The author can be reached at acomnmc@gmail.com, ddcjalgaon@rediffmail.com

Pramod Borole, District Informatics Officer, Jalgaon, National Informatics Center, Office Collector & District Magistrate, Akashwani Chauk, Zilla Peth Jalgaon, Maharashtra. The author can be reached at mahjag@nic.in, nicjalgaon@gmail.com).

SECTION IV

E-GOVERNANCE PROJECTS

Unified End-To-End e-Procurement Platform

D S Ravindran

I) Project Overview

The State Government of Karnataka (GoK) has taken the initiative to implement a unified e-Procurement system (accessible at the url: www.eproc.karnataka.gov.in, which will be used as a shared infrastructure by all procurement entities (i.e. government departments, city and town Municipality Corporations, Societies and Companies under control of the State Government) in the State. The system has been designed to handle all procurement related processes required for procurement of goods, works and services entirely electronically in a fully integrated manner. Further, a single instance of the application will be configured to handle delegation of powers and workflow requirements of about 100 different procurement entities in the State. Such extensibility and flexibility of the software is an essential requirement if meaningful MIS reports have to be generated at the State level. This project is being implemented in a Private-Public-Partnership (PPP) mode, wherein the private partner is Hewlett Packard India Sales Private Limited.

The end-to-end e-Procurement system under implementation in GoK is conceptually divided into the following 5 key modules: i) Indent Management ii) e-Tendering iii) e-Auction iv) Contract Management and v) Catalogue Management.

As per amendments made to the Karnataka Transparency in Public Procurement (KTPP) Act, the project Steering Committee headed by the Additional Chief Secretary of the State notified Sarva Shiksha Abhiyan (a Society in GoK) to handle all its procurement valued Rs.50 lakhs (about 125,000 USD) and above from the 13th of November 2007 using the unified e-Procurement

system only. The notified entity used the Indent Management (goods) and e-Tendering modules to successfully float a tender for procurement of computer and server infrastructure. Thus, the project went live.

The key drivers for envisioning a unified end-to-end e-Procurement system are as follows:

- (i) Development of infrastructure required for effective procurement policy implementation
- (ii) Enhanced transparency in government procurement
- (iii) Ease of access for contractor community
- (iv) Availability of advanced procurement software to big, medium and small procurement entities alike
- (v) Software to handle entire end-to-end procurement processes and not just tendering.

The pilot experience in GoK has shown that the procurement procedures adopted by government entities are more similar than they are different. The differences (e.g. delegation of powers and approval workflow) could be handled in a unified e-Procurement system through parameterization and software design. The pilot experience has provided the GoK's e-Procurement team with rich insights on the multiple different ways adopted for estimate approval and tendering.

A dedicated e-Procurement cell has been set-up by the Government to manage centralized operations (i.e.) e-Procurement system administration, registration of contractors, issuance of digital signature certificates and overall project management.

A 3rd party audit agency (Ernst & Young Private Limited) has been selected to conduct acceptance testing and security audit of the unified e-Procurement system. The selected agency has already completed most of the audit work. A principal bank has been selected to handle centralized electronic receipt and electronic refund (e-Payment payment-in) of tender processing fees and Earnest Money Deposit (EMD).

Key statistics on usage of e-Procurement platform as on June 2009:

- The system has over 2000 registered suppliers and 1500 government users

- More than 1500 tenders tender worth Rs.30,000 Crores have been successfully published
- 25 user departments have been notified to use the e-Procurement platform.

II) Result Indicators

1. Key Performance

a. Stakeholder-wise Services and Benefits of ICT/eGov Initiatives

Benefits to the Business (contractors/suppliers) Community

- Tender opportunities in the State of Karnataka can be obtained from a single source of information
- Free download of tender documents
- Registered contractors can bid for any of the tenders floated in the platform (i.e.) single sign-on facility
- Anonymous submission of proposals from using the Internet anywhere
- Enhanced transparency in tendering and procurement
- Reduction in travel and other miscellaneous expenditure
- Electronic submission of bills/measurement book
- Electronic payment of bills
- Ease of access.

Benefits to the Government

- Tender opportunities effectively publicized amongst contractor community
- Enhanced competition for government tenders
- Cost savings on account of competitive bids
- Development of track-record on contractor's performance
- Rich MIS data on various aspects of procurement at the State government level (both as-on-date and accumulated MIS)
- Potential for inter-agency demand aggregation
- Faster file movements and integrated file monitoring system

- Enhanced efficiency measure through faster completion of procure-to-pay cycle
- Standardization of procurement procedures.

Benefits to Citizenry

- Better utilization of tax-payers money
- Real-time access to the status of works, goods and services procured by the State
- Transparent view of public procurement procedures adopted by procurement entities in the State.

b. Implementation Coverage (geographical areas covered under pilot, roll-out, next steps, % of total services covered under the lifecycle of projects processes, % of total branches/departments covered by the project)

Geographical coverage: As on June 2009, 25 user departments have been notified to “Go-live” in the unified e-Procurement platform. As per the “Go-Live” notification typically issued, user departments shall handle all procurements valued Rs.10 Lakhs and above in the unified e-Procurement platform. The e-Procurement system is being rolled out in a phased manner to new departments. It is expected that by March 2010, all major departments will be notified to handle their procurement in the unified e-Procurement platform.

Functional coverage: The first two modules viz. Indent Management and e-Tendering are actively being used by all notified departments. First few live transactions are being handled in the Contract and Catalogue Management modules in selected pilot departments.

Procurement spend: Tenders valued Rs.3000 Crores were published in e-Procurement system from funds allocated under plan expenditure as against an estimated Rs.15,000 Crores spent by government for procurement from plan funds each year.

Number of users: As on date, the system has 2000 registered contractors and about 1500 government users as against the originally estimated 10,000 government users and 10,000 contractors.

In the first year of operation, about 20% coverage has been achieved as per the indicators listed above. Efforts are being made to increase coverage from 20% to 50% in the next financial year. In two more years, it is expected that 80% of procurement spend of the State will be handled in the unified e-Procurement platform.

2. Efficiency Improvement

a. Time and Cost Efficiency Improvements in the Delivering the Above Set of Services

b. Time and Cost Savings for the Key Stakeholders to Avail the Above Set of Services

A concerted effort to measure ROI for this project has not happened yet. Efforts are underway to specifically gather the following benchmark data in the manual system:

- Average time taken to complete procure-to-pay cycle
- Average number of bidders per tender
- Average increase/reduction in awarded price as against estimated price
- Average time taken to make payment to contractors after bill submission
- Number of queries raised by citizenry seeking procurement related data citing the Right to Information (RTI) Act 2000
- Average number of visits made by a contractor to participate in a tender.

The data on the above listed criteria will be collected for a sample of tenders floated through the e-Procurement system. The benchmark data will then be compared with the e-Procurement data to calculate the ROI for this project.

Besides the readily quantifiable benefits, there are a few key benefits which are hard to quantify but very important:

- Enhanced transparency in procurement
- Rich MIS data
- Development of track-record on contractor's performance (i.e.) contractor database

- Provision of real-time access to citizenry on the status works, goods and services procured by the State
- Digital inclusion of government users and contractors.

With the increase in uptake of the e-Procurement system, it is expected that the implementation of e-Procurement will bring about significant benefits in a number of areas. Given the high value of procurement spend incurred by the State, the quantifiable benefits obtained will far out-weigh the costs incurred for implementation of the unified e-Procurement system.

c. Specific Innovative Ideas Implemented in e-Governance Area; Best Practices Implemented Initiatives Integrated with Other Departments

Unified end-to-end e-Procurement platform and connected thinking:

Generally, software systems developed to handle procurement processes focus on a limited process area such as the tendering and catalogue administration. The idea of implementing a unified end-to-end e-Procurement system represents a paradigm shift in usage of software systems in the procurement domain. The adoption of a single (instance) platform to handle the horizontal procurement function by all procurement entities in the State represents connected thinking.

Entirely PKI enabled, electronic system designed to effectively replace manual file movements:

The e-Procurement system implemented in GoK is entirely Public Key Infrastructure (PKI) enabled. Both government officers and contractors using the system will be required to sign using Digital Signature Certificates (DSC) issued by one of the Certification Authorities (CA) authorized by the Controller of Certification Authorities (CCA) under the IT Act of 2000. An estimated 10,000 government users and 10,000 contractors are expected to use the e-Procurement platform. Of the estimated 20,000 users, about 1500 users have already registered and using the platform. Such extensive implementation of PKI will make pervasive the use of DSC not only in the government sector but also amongst the contractor community paving way for the digital age.

Integration: The Reserve Bank of India (RBI) has developed the following two systems to enable electronic account-to-account transfer of funds: Real-Time Gross Settlement (RTGS) and National Electronic Fund Transfer (NEFT). The e-Payment functionality in the e-Procurement

system of GoK has been designed to accept and automatically reconcile EMD, tender processing fee and supplier registration fee payments paid through RBI's NEFT and RTGS system. The logic for integrating the NEFT & RTGS payment modes in e-Procurement system was developed grounds-up specifically for this project.

Since e-Procurement is an e-Commerce software, care is taken to ensure that a supplier is registered only once and that a supplier is not registered in the system as a duplicate. To avoid registering a supplier in duplicate, the applicant seeking supplier registration is required to input his/her/company PAN number. The PAN entry is validated and verified by e-Procurement system for duplicate entries. If the PAN number is unique, the supplier is allowed to submit the application. Upon receipt of the application, the 'registrar' in e-Procurement cell will prepare an XML query and submit it with the Income Tax department to obtain company name/individual name details. If the name details obtained from the PAN database matches with the name details submitted by the contractor, the PAN check is found to be successful. Going forward, the XML generation and querying process will be fully automated; wherein e-Procurement system will automatically generate an XML upon receipt of an application and obtain a response from the Income Tax department and automatically validate the PAN.

In the near future, the e-Procurement system will be integrated with the Khajane (treasury system of the State) system such that the information (bill, approval and head of account details) required by Khajane for processing payments will be provided automatically by e-Procurement software after the procuring entity provides the necessary approvals.

III) Enabler Indicators

1. Project Roadmap

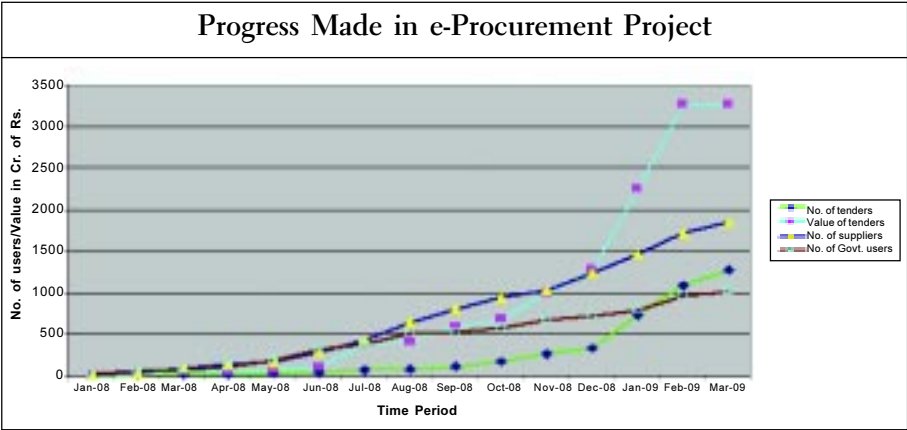
a. Vision & Objectives Defined

To bring about transparency, efficiency, accountability, process standardization and MIS generation capability in the entire "procure-to-pay" cycle through establishment of a single electronic platform that will be used as a share infrastructure by all government agencies in the State. The following key processes will be dealt with in "procure-to-pay" cycle: estimate/indent preparation and approval, tendering, contract/catalogue management, bill submission, bill approvals and payment management.

b. Measurable Objectives

The following measures could be used to study the progress made in this project:

- Number of entities notified to ‘Go-live’
- Number of government users and contractors registered
- Number of tenders and estimates created
- Standardization of procurement procedures



It may be noted that after ‘Go-live’ notification is issued, it will take about 3-4 weeks to create a new estimate and publish the 1st tender. This latency is due to the effort involved in issuance of digital signature certificates to government officers in the notified entity and workflow customization to be done in e-Procurement software to spawn the newly notified entity within the unified e-Procurement system.

By all the 4 measures listed above, this project has progressed well. The number of notified agencies has increased from the original 6 envisioned earlier to 25. Further, efforts are underway to notify 2 new agencies each week. As shown in the above figure, the number of contractors registered in e-Procurement system has steadily increased to about 2000 users from a single digit number registered during Jan. 2008. On an average, 50 contractors are getting registered in e-Procurement system each week. Though many agencies were notified earlier, the surge in number of tenders published in e-Procurement system has happened only recently. Given that a large number of estimates are in the pipeline, it will be logical to assume that the number of tenders published in e-Procurement software will increase at a good pace.

c. Project Milestones

As per the initial roll-out plan prepared during the project development stage, it is envisioned that all procurement covered under the guidelines of KTPP Act will be handled in end-to-end manner in the unified e-Procurement platform 66 months (i.e. 5.5 years) after the project Go-live date. Efforts are underway to expedite the roll-out of e-Procurement systems to all user departments by December 2010 (i.e. 36 months after project Go-live date).

2. Process Reengineering & Legal Reforms

Process reengineering: Though not very quantifiable, standardization of procurement procedures has also happened. For example, 4 different path-ways have been defined for e-Tendering based on the pilot experience. All the 13 agencies using the unified e-Procurement platform are using one of the 4 path-ways and newly notified agencies would be required to fit in to one of the 4 path-ways already defined. If a newly joining government agency requires the inclusion of an additional pathway, such a request will be closely scrutinized by a team of experts and the requirement will be adhered to only if it was found valid. Just as standardization of procedures has happened in case of indent/ estimate approval procedures and tendering, it is expected that the Contract and Catalogue Management procedures too will get standardized with active usage of the unified platform.

Legal reforms: Recognizing the criticality of the unified e-Procurement platform, the State Government effected a change in Karnataka Transparency in Public Procurement (KTPP) Act acknowledging the implementation of unified e-Procurement platform in a phased manner. The implementation of e-Procurement platform backed with proper amendments to legislative acts and rules has been done by only a pioneering few. No such instances in India have been reported thus far. A draft of the e-Procurement rules is already ready and the process to approve the rules is underway.

3. Project Sustainability

a. Financial Model (funding pattern, business model, PPP, etc)

A unique Private-Public-Partnership (PPP) model has been adopted to implement the e-Procurement system. As per the model, the Private Partner gets paid for the effort invested in development and customization of the software through transaction fees to the extent the various modules of software are used by

procurement entities in the State. The Government on its part has invested in up-gradation of IT and Network infrastructure across all procurement entities in the State to the extent required for participation in e-Procurement. The model has been adopted primarily with the intent to outsource the software development and customization work to the Private Partner. Further, since the transaction fees due to the private partner is paid by contractors using the system, separate budgetary allocations need not be made by the Government. Given this arrangement, it is easier to attract user agencies to use the e-Procurement platform since they do not have to pay for the software and in addition to that they will get the IT and network infrastructure required to embark on e-Procurement.

The e-Procurement platform is built entirely upon open source technologies (Programming Language: Java; Operating System: Linux; Database: MySql). Since the software is entirely built upon open source technologies, the GoK need not pay any licensing fees towards software. However, a vendor to administer the entire software system will be required. As of now, the project is being deployed on a PPP mode and payment due to the private partner for provision of the software is paid through transaction charges collected from supplier using the software. This arrangement will last for a period of 5 ½ years.

The Government has invested about Rs.12 Crores for provision of IT infrastructure (Computers, Printers, Scanners and UPS) and Internet Connectivity. Further, an e-Procurement cell has been created to register contractors, facilitate issuance of digital signature certificates, e-Procurement accounting, system administration, initiate and implement process & legislative reforms and for day-to-day project management. The e-Procurement cell will earn 5% of the transaction fees earned from the provision of e-Procurement as a service. This money will be used to manage the operations of e-Procurement cell.

b. Technology Maintenance

The unified e-Procurement platform implemented in the State of Karnataka is enterprise level software. The design of the software has to be very flexible to address the unique workflow requirements of different procurement entities using the software. The latest version of Java Business Process Management (JBPM) engine was used to design the workflow and the engine was innovatively implemented to address the various workflow requirements. Besides JBPM, the

e-Procurement system runs entirely on open source software: JBOSS application server and MySQL Database. The adoption of open source software was encouraged by the Government in the Request for Proposal (RFP) floated to select the private partner. The adoption of Open Source Software (OSS) allowed the software programmers to view and even modify software code at the framework level required to address the complex technological requirements for implementation of a unified e-Procurement platform. The key to success in adoption of OSS is the availability of technically competent resources, which in the case of this project is provided by the Private Partner: HP India Sales Private Limited.

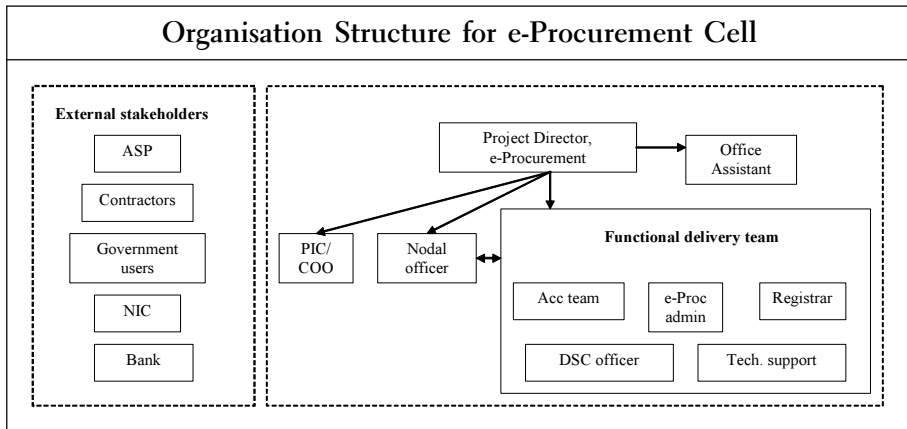
c. Disaster Recovery Center (DRC)

A well-defined back-up policy has been defined and rigorously followed to back-up data generated and stored in e-Procurement system. Further, e-Procurement software is versioned properly and kept ready in case there should be a system crash. A DRC is yet to be established.

d. Project Management Team (full time department officials/consultants)

A dedicated e-Procurement cell (Project e-Governance Mission Team) has been constituted to manage the roll-out of e-Procurement system. The cell is managed by a dedicated All India Administrative Services officer. Details about the organisation structure for e-Procurement cell the team size approved for the cell are provided below:

Approved Team Size for e-Procurement Cell as per Number of Agencies Notified								
No. of agencies notified	Team strength							Total
	Registrar	e-proc admin	DSC officer	Acc team	Nodal officer	Tech support	PIC/ COO	
10-20	1	1	1	2	2	4	1	12
20-30	1	1	1	3	3	6	1	16
30-40	1	1	1	4	4	6	1	17
40-50	1	1	1	4	5	8	1	21
50-60	1	1	1	5	6	8	1	23
>60	1	1	1	5	7	10	1	26



4. Change Management

a. Change Management Strategy

b. Capacity Building Plan

The implementation of e-Procurement is looked at as an opportunity to address computer illiteracy amongst government users and contractors alike. Since the software is very process oriented, both stakeholders have to learn to use computers and work over the Internet to complete their procurement related work. All necessary training and hand-holding support has been provided by the e-Procurement team to enable both the stakeholders to participate in e-Procurement. A large number of government users and contractors have already been trained and extensive hand-holding support has been provided in the pilot stage of implementation. The institutional set-up required for provision of training and hand-holding is now ready and the e-Procurement team has developed a good understanding of the challenges involved in provision of training and hand-holding support.

c. Leadership Support & Visibility

With the approval of the State Cabinet, a Steering Committee has been constituted under the Chairmanship of the Additional Chief Secretary of the State to implement the unified e-Procurement platform for all procurement entities of the State. The KTPP Act was also suitably amended November 2007 to facilitate implementation of e-Procurement by the State Government of Karnataka. To enhance visibility, workshops are routinely conducted to obtain feedback from existing users, to share experience amongst.

5. Project Monitoring

a. Monitoring & Evaluation Process

The project is reviewed regularly by Project Monitoring Committee (PMC) headed by Principal Secretary, e-Governance and Steering Committee headed by Additional Chief Secretary.

b. User Feedback, Project Assessment Mechanism

Hands-on training on using e-Procurement system is provided to both contractors and government officials at regular intervals. Feedback obtained from trainees is taken into consideration for evolving the software. Further, based on experiences in using software, end-users register their feedback either in helpdesk or in writing to e-Procurement cell. The feedback collected is studied by e-Procurement cell and a decision is taken on addressing the concerns raised.

c. Third Party Overall Project Audit Mechanism

A reputed consultancy firm has been selected as the 3rd party to perform acceptance testing, security audit, systemic infrastructure audit and load testing. This audit work is mostly complete and it is expected to get fully completed in a couple of months time.

(Dr. D S Ravindran, Chief Executive Officer, Center for e-Governance, State Government of Karnataka, Room No. 108, Center for e-Governance, Gate Number 2, M.S. Building, Near Vidhana Soudha, Bangalore, Karnataka. Telephone no. 080 22371090 Fax no: 080 22371089, email: cegkarnataka@gmail.com).

MPOnline

Satnam Sethi

I) Project Overview

The State of MP recognises the importance of Information and Communication Technology (ICT) as a key enabler in its economic development and improving the quality of life of citizens of Madhya Pradesh. Accordingly, the State has prepared its e-GOV policy with a vision of establishing an information society consisting of informed, active and therefore responsible citizens – the basic tenet of a true democracy.

The state seeks to create a knowledge society where access to information and knowledge would be symmetric amongst all seekers and users and every citizen must feel comfortable in accessing information through IT directly or through public-private partnerships.

Why MPOne: The purpose of MPOne is to set expectations for quality and excellence in state government services to citizens, state transactions with citizens and businesses, and internal state governmental operations/functions, promote goals for states to achieve and to build on the work being done by the private sector and state organisations and use strategic thinking to suggest reasonable yet challenging goals for the state.

The entire delivery structure starts from the government departments from where the requirements emanate. The policies and regulations precipitate from the top echelons of the government. This reaches the common masses finally through the municipalities and village panchayats in urban and rural areas respectively. The charter for MPOne is:

- Promote ‘E-Inclusion’ by providing all citizens widespread and easy access to government services, in the local language, effectively addressing the

existing digital divide and promoting entrepreneurs directly or through public-private partnerships.

- The State's Portal MPOnline has been designed to achieve the Government's vision of creating an 'e'enabled Society effectively contributing to the Social and Economic Development of the State, where there are no islands of elitism or isolated conclaves of wisdom.
- To meet the present and future needs of the citizens of Madhya Pradesh in a responsible manner to ensure the highest quality of life, Core Values of MPOnline portal are:
 - Integrity and Transparency in Government
 - Passion for the State
 - Collaboration and Public Private Partnerships
 - Citizen Empowerment.

Innovation: Prior to this innovation, citizens had to visit the village panchayats/ municipalities in rural/urban areas respectively for availing of the government services such as applying for death/birth certificates, ration cards etc. Other than these, for certain services citizens had to travel all the way to Bhopal, Gwalior or Indore where the headquarters of certain wings of the government are situated. The process as it existed prior to this initiative was time consuming and tiring and provided opportunities for corruption and also lacked transparency.

This initiative was envisaged to provide all the government services to citizens as well as businesses at their doorstep, making the governance reach the citizens rather than citizens approaching the government. This marks the government processes transparent and innovative.

II) Result Indicators

1. Key Performance

a. Stakeholder-wise Services and Benefits of ICT/eGov Initiatives

The primary purpose of MPOnline is to develop and maintain a citizen service information network, which provides open access to online information for MP State. The Hallmark of this citizen service information network is the ability of the general public to obtain information that may not have been previously or easily accessible to them. Like most citizen service information network,

MPOnline offers a variety of information and communication resources that are relevant to the citizen. The creation of MPOnline allows citizens to access government information and services. Among its many features, the system has the capability to allow citizens to query database, request application, and check the status of communication made to government departments.

GoMP will use Information Technology to achieve the following:

- Improve the life of the common man leveraging the strengths of e-Governance
- Attracting investment in the sector so that the educated youth is able to contribute to the development of the State
- Create a pool of highly skilled professionals who are at par with the best in the country
- Transforming Resource Based Economy to Knowledge Based Economy.

The beneficiaries of the project are citizens, commercial organisations and Government Departments. The benefits delivered to citizens and commercial organisations are:

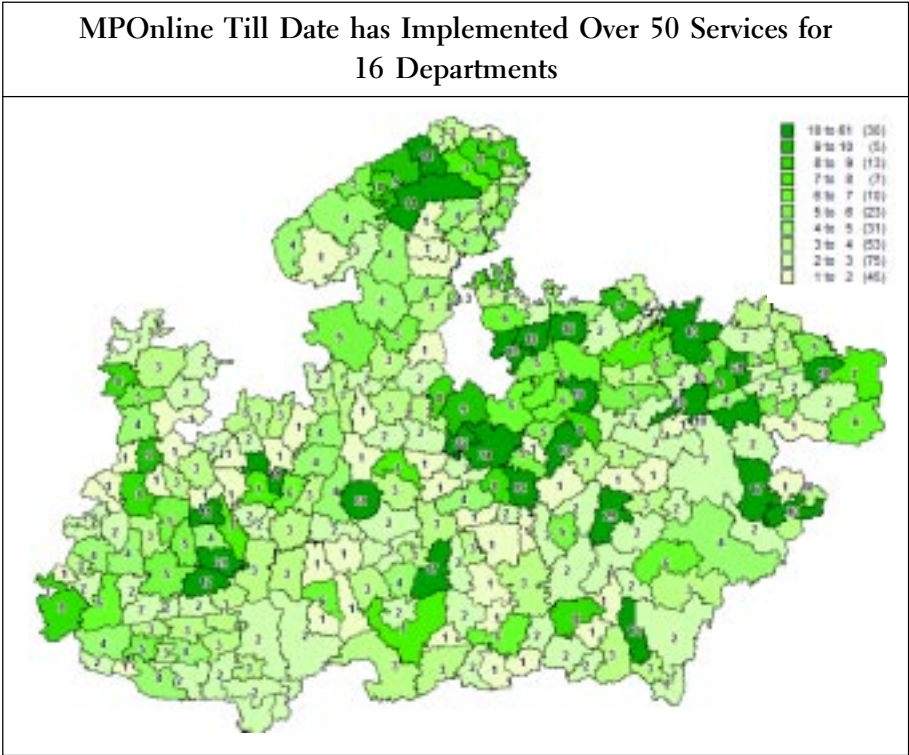
- Information dissemination to citizens
- Single window of access for services
- Faster delivery of services
- Faster, efficient redressal of grievances
- 24/7 access to government services
- Access to government officials
- Effective inter-departmental collaboration
- More accountability and transparency

The benefits to the GoMP can be summarized as:

- a. No Government expenditure
- b. No Trained IT/Technical Staff Deputation
- c. No Software Development Cost to Department
- d. No additional license cost for horizontal and vertical scalability
- e. Indirectly generating employment.

b. Implementation Coverage

MPOnline services are being delivered through 850+ KIOSKS and 1400+ CSCs, presently MPOne has presence at all 50 district HQs, approx. 280+ tehsil HQs, and approx. 280+ Block HQs. MPOne is aiming at increasing its presence to cover all Tehsils, Blocks and Panchayats either through MPOne KIOSKs or CSCs by end of FY 09-10. The following map shows MPOne presence up to Block level:



2. Efficiency Improvement

a. Time and Cost Efficiency Improvements in Delivering the Above Set of Services

Taking the services implemented online for Vyapam as an example, before the services were available online, the cost borne by Vyapam to process various application forms for entrance examination/admission was approximately 3.5 crores for 5 Lakh Forms. After implementing the services online Vyapam is able to save 3.4 crores which is approximately Rs.69.70 Per form excluding the cost

saving by candidate i.e. time, travel, draft/postage charges etc. The following table shows the cost saving calculation:

No. of Applications	5,00,000	Total Cost
Printing of OMR Form	3	
Printing of Rule Book	15	
Printing Cost of Admit Card	5	
Total Cost Per Application	23	1,15,00,000
Processing Cost		
Entry Cost Per Form	5	25,00,000
Processing Days	250	
Employee Cost – Vyapam		
– No. of Employees	10	
– Cost Per Day	1000	25,00,000
Employee Cost – Temporary		
– No. of Employees	100	
– Cost Per Day	300	75,00,000
Postal Charges for Admit Card	6	30,00,000
OMR Maintenance Cost (4)		350,000
Other Administrative Cost		
Transportation Cost (Per 10 Rule Books)	100	50,00,000
Employee Cost – Admin	50	25,00,000
Total Savings		3,48,50,000
Saving Per Lac Applications		69,70,000

b. Time and Cost Savings for the Key Stakeholders to Avail the Above Set of Services

Continuing with the example of Vyapam, before online services were introduced, the approximate cost for filling an application form manually borne by a student was:

- Visit to department to get the application form:
 - Local Rs.50
 - Other City Rs.100
- Preparation of Bank Draft for Fee Rs.35
- Registered Mail/Courier Charges Rs.35
- Photocopy of Documents Rs.25

Total Money Spent

Rs.195 Approx.

Time Spent in Travelling/Submission

(Approx. 8 Hours)

c. Specific Innovative Ideas Implemented in eGov Area

Prior to this innovation, citizens had to visit the village panchayats, municipalities or even offices situated afar to avail of the government services.

This incurred a lot of hardship as well as expenses on behalf of the citizens. Apart from travelling and other shoe leather costs incurred, the citizens were also pitted at the mercy of the government employees, who for their selfish motives may make the process for the citizens more complex. The process as it exists prior to the initiative was time consuming, tiring, giving opportunities for corruptions as well as lacked transparency.

III) Enabler Indicators

1. Project Roadmap

a. Vision Defined

GoMP wants to provide citizen services at their doorstep, with special emphasis on the rural community of the state by using a Portal “MPOnline”. GoMP visions that for the services provided, the citizen is not required to come to the Government offices. The government wants a shift from Citizen In-Line to Citizen Online

- i. Anywhere, anytime government services
- ii. Transparency between Citizen and Government
- iii. Reducing the delays in decisions
- iv. Reduction in transaction costs
- v. Reduction in interface between Government & Citizen
- vi. An opportunity for gainful employment.

b. Objectives Defined

To provide one-stop shop services to all the citizens of MP, any service, anywhere, and any time.

MPOnline is a One Stop Window and integrated with other government departments like Municipality, Forest, District Collectorate, Urban

Administration Department, Commercial Tax, Agriculture, Regional Transport Office, Panchayat, Rural Development Department & Social Welfare Department, Public Welfare Department, Education Department, Health Department, Electricity Dept, Police Department.

By delivering a wide range of government-to-government (G2G) services from MPOnline, the government has improved transparency and accountability and reduced delivery cycles, thereby reducing cost of compliance with government regulation.

Result Achieved/Value Delivered to the Beneficiary of the Project

- Citizen Empowerment
- Created employment opportunities for the citizens of MP State (Kiosk Setup)
- Availability of 24x7 online Government Services
- Improved the efficiency and efficacy of Government Officers
- Drastically reduced the application processing time
- Curtailed the waiting time for documents
- Instant MIS reports for planning, budgeting, monitoring & evaluation
- Instant identification of delay points has enabled prompt administrative action
- Integrity and Transparency in Government
- Collaboration and Public Private Partnerships
- Government departments allocate more time to efficient Service Delivery since tedious data capturing is already done for them thereby making them more efficient in less time.

Other Distinctive Features/Accomplishments of the Project

- *Availability of Information* – The MPOnline portal provides citizens and businesses with the ability to easily communicate with GoMP departments and department officials and to get continuously updated government forms and information that previously could only be accessed by the few people with specialized knowledge of the old system.

- *Single Point of Access for Services* – Citizens will no longer have to visit individual departments to get services. All the necessary information will be available at the MPOnline portal in both English and Hindi languages.
- *Faster Delivery of Services* – MPOnline will provide G2C and G2G services to people without any geographical barriers. Citizens can check status and access government services from the comfort of their homes and have the necessary documentation delivered to them.
- *Better Collaboration Between Departments* – The MPOnline portal enables the online sharing of information, which increases the speed of service delivery. Currently, paperwork is copied and sent to all participants, but in future documents will be uploaded to the portal, where, for instance, the courts, to make faster decisions in legal cases, can access them right away.

c. Measurable Objectives

- Strength of service delivery network measured in number of kiosks/CSCs
- Number of departments for which services are being provided
- The number of services provided online for each department.

d. Project Milestones

Project Rollout

MoU signed with GoMP:	July, 2006
Portal go-live:	March, 07
First kiosk established:	Feb, 07
First service go-live:	Apr, 07
First payment gateway established:	Apr, 07

Current Expansion

Number of MPOnline designated kiosks: **850 approx**
Number of CSCs: **1400 approx**



The following services are currently available on the portal:

- Free download of departmental forms (200+)
- Online payment of electricity bills (Bhopal, Jabalpur, Katni)
- Online payment of telephone bills (Airtel – landline, Tata Indicom – landline and mobile, BSNL – Landline and mobile bills for Bhopal/Indore SSA)
- Online payment of Property and Water tax – Jabalpur
- Online registration of architects and building permissions – Town and Country Planning
- Online reservation and admission tickets for national parks – Kanha, Bandhavgarh, Panna, Pench
- Online payment of insurance payment – LIC, Tata AIG Life
- Online application for examinations held by the Professional Examination Board (VYAPAM) – PPT, PMT, MCA/MET, GNST/PNST, PEPT/PAT, PAHUT, Pre-PG, Examination for jobs
- Online Admission Forms – Nutan College

- Open School
 - 10th Standard
 - 12th Standard
- M. P. Higher Education
- M. P. Public Service Commission
- Urban Administration Department
 - Property Tax Calculation & Payment
 - Birth Certificate Registration
 - Death Certificate Registration

Total number of Internet transactions on the portal from Apr 2007 till date: 13 Lakhs +

Future Expansion:

- Increase penetration in the rural areas
- Maximise transactions for offered services
- Tie-up with more banks to increase payment options
- Broaden the offering of services provided by including
 - *Upcoming Services*
 - Land Record
 - Online Khasra Nakal (P-II)
 - Online Kisht Khatauni (B-11)
 - Online Mutation
 - Firm & Society Registration
 - Online Application for Firm Registration
 - Online Application for Society Registration
 - Approval/Rejection of Firm/Societies
 - Niymavali for Society Registration

- Online Rent Collection for Municipal Property (Shops/Offices)
 - Collector Panna
- *Extension of Services*
 - Apply Online for Various Universities Services
 - Online Application for Enrolment /Examination
 - Online Examinations Results
 - Online Application Admit Card
 - Online apply for Revaluation/Re-totalling
 - Migration/Duplicate Degree/Mark sheet
 - Online Bill Payment
 - BSNL – Other SSA
- *Future Departments to be covered for more Services*
 - Transport Department
 - Commercial Tax Department
 - Treasury services
 - Agriculture – Farmer Related Service
 - Mandi Board – Sale/Purchase/Mandi Rate
 - Medical Councils
 - Registration of Shops/Doctors/Hospitals
 - Tourism services
 - Rail/Air Booking
 - Narmada Valley Development Authority

2. Process Reengineering & Legal Reforms

MPOnline is a service provider for the GoMP and our contribution to process engineering and legal reform is restricted to being advisory in nature. However, MPOne is a key participant in designing the process flow with the department

SMEs during requirement gathering. We also collaborate between all concerned stakeholders if the service spans across multiple Government bodies.

3. Project Sustainability

The sustainability of this initiative will depend primarily on the will of the government to make it a success and enabling their citizens with e-governance. However, the conceptualisation and in-principal progress of this initiative is in itself the proof of the will of the GoMP to promote this initiative.

On an on-going basis, this initiative will become self-sustainable over a period of time. Once all the services of the government are made available at the doorstep of the citizens and the citizens feel its benefits, this initiative will sustain on its own at the behest of the citizen demand.

Even the delivery mechanism of service delivery points will be self sustainable as not only will it generate employment opportunities, it will also assure a sustained income for the KIOSK operators.

a. Financial Model (Funding Pattern, Business Model, PPP, etc)

The project is being implemented on a Public-Private Partnership mode adopting a Build-Own-Operate (BOO) model with no upfront financial burden on the State.

As per the Cabinet mandate given to MPOnline, all revenue is to be earned using User Pay Model in which users will pay for the services availed via the MPOnline portal. In certain cases, the department in question chooses to bear the costs instead of passing them on to the citizens.

As MPOnline does not charge any money from the department for which the service has been developed and the application software is free for the department, there is no development cost at all. The development, server, maintenance and other indirect costs are initially incurred by MPOnline and have to be recovered using user pay model over a period of three years.

Technology Maintenance – The portal and web services have been implemented using Microsoft® Windows Server System™ integrated server software and the Microsoft .NET Framework. Microsoft Internet Security and Acceleration (ISA) Server, Microsoft Internet Information Services 6.0, Component Services, Content Manager, Microsoft SQL Database, and Microsoft

Operations Manager 2005 form the hosting environment. The portal will access a variety of applications developed on DotNet.

The presentation Layer consists of a browser-based user interface and a Web Service listener developed using Microsoft ASP.NET. The listener is responsible for receiving incoming messages containing requests for service, for parsing the messages, and for dispatching the request to the appropriate method on the business interface.

The Business Layer is built using the Microsoft Visual C#® development tool to implement the business logic of the application/s. It is subdivided into two parts:

- i. The Business Façade uses Microsoft ASP.NET to provide a simple interface, which maps directly to operations exposed by the Web service.
- ii. The Business Logic layer provides all the services to the business façade.

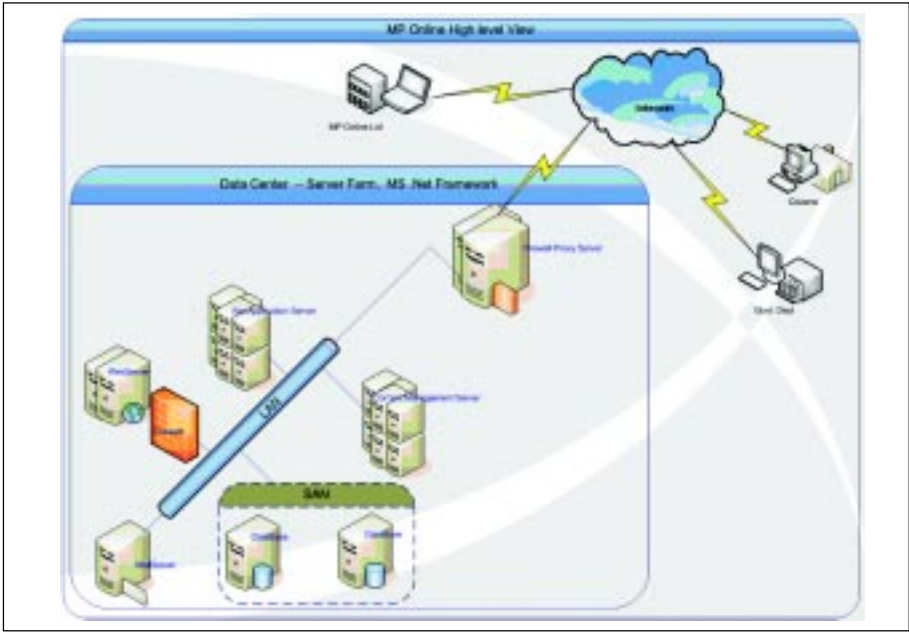
A public key infrastructure (PKI) layer provides an additional level of security for identification of the users and to ensure integrity of data while the data travels between the kiosk, other users, and the data center.

Application-level security is maintained through user identification, authorization, and access management. In addition, at the database level, security is maintained by using audit trails and database encryption. The Data Access Layer presents a logical view of the physical data to the business layer. It isolates business logic from the underlying data stores, thereby ensuring the integrity of the data. Microsoft ADO.NET bridges the business logic layer to the data layer.

Disaster Recovery Center – A Disaster Recovery Plan has already been prepared and tested in case of any disaster. A disaster recovery team has been identified with clear roles and responsibilities. The process is well documented and periodic tests are carried out.

Deployment Architecture

Microsoft Windows Server System forms the backbone of the MPOnline data center infrastructure. The MPOnline data center conforms to the Microsoft data center reference architecture for security, application hosting, data services, management, and networking services.



Security

The MPOnline data center infrastructure is collocated within an Internet service provider’s data center that provides a state-of-the-art facility and ensures higher levels of physical security and high availability of the infrastructure.

To ensure a higher degree of security, the data center implements firewalls at the perimeter. These firewalls provide application-level filtering and use a host-based Intrusion Detection System (IDS) to help identify malicious activity from hackers on the firewall server.

Data Redundancy

To ensure reliability of service within the data center, MS-SQL database Server is implemented in cluster mode. The cluster uses a robust Storage Area Network (SAN) over a fibre optic connection, which enhances the performance of data updating and retrieval.

Availability

Microsoft Operations Manager plays a critical part in administration of servers within the data center, which provides the data center administrators to proactively manage servers. It allows administrators to set thresholds on different servers and remotely manage them.

Continuity

MPOnline also deploys Business Continuity Site, which ensures high availability and redundancy of service delivery, even in the event of disaster at the data center.

b. Project Management Team (Full Time Department Officials/Consultants)

MPOnline is a joint venture between GoMP and Tata Consultancy Services Limited (TCS). Senior level staff has been deputed from TCS and 2nd level staff has been recruited locally, most of the staff has been selected as per the TCS selection procedure ensuring the right technical staff. MPOOnline has complete technical support from Microsoft Technology Centre of TCS and from Microsoft Corporation.

COO

Satnam Sethi

Marketing Team

Brijesh Vyas – Head, Business Development, Tanmay Tiwari

Business Relationship Management

Pallavee Dutta

Operations Support Staff

Rajesh Gurjar, Anil Sethi, Urvashi

Technical Team

Project Lead, I.T. Analyst – Navneet Jain

Technical Architect, I.T. Analyst – Himanshu Agnihotri

I.T. Analysts – Anita Bhatt, Hitendra, Geet, Abhay

Developers – Surendra, Rahul, Amita, Vikas, Kshitij, Nitin, Shailesh, Anurag, Imran, Dharmendra, Dhananjay, Abid, Ishvinder, Rajeev, Harsh, Rajat, Satya, Praveen, Vyom, Neha Rajput.

Finance

Sunil Sinha, Jaikishan

Hardware/System Administration

Yashwant

4. Change Management

a. Change Management Strategy

It is widely agreed that effective change management is the key to the success of e-Governance projects. The strategy adopted by MPOnline is a multi-pronged approach:

1. Educate stakeholders on the benefits of e-Governance.
2. Involvement of all stakeholders through all phases of the implementation to ensure greater buy-in and lessen resistance.
3. Extensive training and support to stakeholders to increase their comfort with the solution.

b. Capacity Building Plan

Capacity Building – Government

One of the key factors that affect the success of this initiative is the adoption of the program by the government officials and their acceptance of the change that will be brought about as a result of the initiative. An increased level of computer literacy will also reduce opposition to adopting the new program. To this end:

- Conducting trainings for government officials to acquaint them with the portal and to help them through the initial phase of transition.
- Involvement of the officials who actually deal with the services on a day-to-day basis to increase their involvement, reduce the fear of the unknown and to reduce resistance to the change.
- Involving all stakeholders – government and external – in the change management plan to build awareness and to sensitize them.

Capacity Building – Citizens

The success of e-Governance initiatives is indelibly linked with the effective use of these services by the citizens. India has made immense progress in the sphere of IT enabled services and the knowledge industry, the progress has been restricted

to urban areas, with the exception of some rural initiatives. The Digital Divide can be bridged by capacity building amongst citizens through:

- Increasing awareness of services delivered by effectively using tools like Internet, cable TV and radio. Combined with appropriate content, local language, reliable connectivity, the media can be a very effective tool to ensure higher awareness.
- Empowering citizens by educating them about the Right to Information Act.

Capacity Building – Service Delivery at Kiosks

One of the unique challenges India faces is the lack of computer literacy of the citizens at whom this initiative is aimed at. Until the Digital Divide is bridged, kiosk operators are being used under the ‘Assisted Access’ model that provides a solution to deliver eGov services to the citizen.

- Educating the kiosk operators, particularly in rural areas, to build capacity at the service delivery points.
- Adopting a flexible revenue model that ensures sustainability via mutual benefits.
- Improving the capabilities of kiosk operators through trainings and skill upgradation.

c. Leadership Support & Visibility

The IT department of the GoMP was consulted when the project was launched to understand the technical requirements and also for prioritizing the tasks and services. The Principal Secretaries, Secretaries, Deputy Secretaries and Additional Secretaries of various departments were also contacted during the finalization and prioritizing of the Services. All the government departments were consulted to understand their specific requirements at the time of the development and deployment of the services.

As part of capacity building, the support of the Government representatives has been invaluable in formulating processes and procedures to maximize the benefits of the initiative. Their contribution in smoothing the path for change in engaging key Government stakeholders and providing education within Government bodies is one of the key factors of the success of this initiative.

5. Project Monitoring

a. Monitoring & Evaluation Process

All strategic decisions are made collaboratively by MPOnline and GoMP via its representatives on the boards. Board meetings are held every quarter to monitor the progress. A Rate Fixing committee comprising of MPOnline officials and government officials of the concerned department determines the charges borne by citizens and departments. All financial expenditures and disbursements require the signatures of two board members. The COO of MPOnline meets with his government counterparts on a regular basis for prioritizing work, facilitating interactions with Government departments and to seek assistance when faced with challenges.

b. User Feedback, Project Assessment Mechanism

Customer queries are resolved through emails or on telephone. A designated help desk monitors the customer queries/issues and provides support and solutions to their problems. Cultural factors such as providing support in vernacular languages have been taken into consideration while establishing the help desk. We have planned to increase the strength of the support function to cater to the developing kiosk network.

Also, since March 2007, three User Satisfaction studies have been completed successfully and the services have been improved as per user feedback.

c. Third Party Overall Project Audit Mechanism

An external security audit was conducted in Feb 2009 by TCS. This audit verified security basics such as infrastructure, admin and security, password encryption and methodology used, data posting between forms etc. The audit report has been delivered, the non compliances (NC) reported have been rectified and the NC clearing certificate has been received. A security policy document has been prepared as follow-up and has been distributed throughout the organisation.

MPOnline has integrated with SBI and ICICI bank payment gateways. Clearing the security audit was one of the preconditions laid down by the banks for this to be achieved.

The project undergoes an yearly external statutory financial audit. This audit is carried out by SB Billimoria Co. (SBB) of the Deloitte Touche Tohmatsu (DTT) group. MPOnline has been audited thrice – in 2006, 2007 and 2008. Other than the external audits, the project undergoes quarterly internal financial audits.

(Satnam Sethi, Chief Operating Officer, MPOnline, 2nd Floor, Nirupam Shopping Mall, Ahmedpur, Hoshangabad Road, Bhopal – 462026, Madhya Pradesh, Telephone no: 0755-2418599, 2418600, Fax no: 0755-4093674, email: satnam.sethi@tcs.com).

Indore Municipal Corporation e-Governance Project

Jitendra Singh

I) Project Overview

Municipality is mandated to maintain and provide civic services to its citizens. The development of city for its residents is one of the prime agenda for the top management. Municipality, being an autonomous body, has to largely manage the finances from its own revenue resources. e-Governance, besides rendering convenience to the citizens, also plays a pivotal role in fiscal reforms and financial management.

IMC had clear objectives for implementation of e-Governance:

- (1) Prompt and effective service delivery to its citizens
- (2) Transparent administration
- (3) Economic self sustenance
- (4) Capacity enhancement of the organisation
- (5) Manpower rationalization
- (6) Accurate and timely MIS.

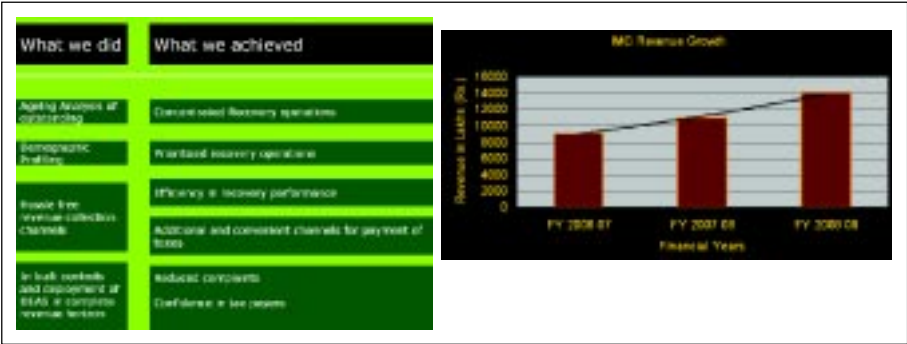


The first two points are citizen oriented and the last four points are for management and controlling of resources. This has been the key for economic growth of IMC which has remained concentrated on revenue growth and plugging of revenue leakages. For us e-Governance has two aspects; tangible (which are realized by the citizens) and intangible (which are not realized by citizens but are realized by administrators/senior management). The tangible results are



lower citizen complaints, improved service delivery, increase in revenue collection and so on, and intangible results are, focus on the areas where taxes are being evaded/paid lesser than they should have been, and areas where internal staff connivance is yielding lower collections.

We proudly aver, and justifiably as well, that implementation of IT (e-Governance) innovatively has brought us the continued and sustainable growth in revenue on (YoY) basis.



II) Result Indicators

1. Key Performance (Stakeholder-wise)

a. Stakeholder-wise Services and Benefits of ICT/e-Gov Initiatives

The performance of e-Governance at IMC can be measured on customer value and organisation value.

Table 1: Customer Value Parameters			
Module	Service (Stakeholder: Citizen)	Time Value (attribute: time)	
		Prior Implementation	After Implementation
Birth And Death	Issue of Birth Certificate	15 days	15 minutes
	Authentication of birth application	5 days	30 seconds
	Issue of Death Certificate	15 days	15 minutes
	Authentication of death application	5 days	1 minute
Social Security	Application Approval/ Disapproval Process	15 days	15 minutes
	Pension Generation And Payment	2 months	6 hours
	Money Order Preparation	1 month	6 hours
License	Process of License Issuing	15 days	2 days
	Renewal of license	7 days	1 minute
	Expiry Licensee Searching	2 days	1 minute
Ration Card	Process of Ration Card Preparation And Issuing	15 days	2 days
	Renewal of Ration Card	7 days	1 minute
	Water Connection Process	15 days	3 days
Water Connection	New Property Registration	1 day	15 minutes
	Breakup of property	1 day	15 minutes
	Transfer of property	1 day	15 minutes
Property Tax	Authentication of application as per the MOS Rules	3 days	1 minute
	Authentication of application as per Bhumi Adhiniyam	3 days	1 minute
	Complaint Logging, Internal Department Processing	3 days	1 minute
Building Permission	Complaint Status Inquiry	1 day	1 minute
	Copy of Ledger	1 day	1 minute
	Effect of payment in Ledger	1 day	1 minute
Complaint			
Accounts			

Table 2: Organisational Value Parameters			
Module	Service: (Stakeholder IMC)	Value	
		Prior Implementation	After Implementation
HRM	Pay Bill Generation	7 days	1 hour
	Pay Slip Printing	N/A	1 minute
	Loan/Advance Payments	1 day	1 minute
	Employees GPF Ledger updation	1 month	1 minute
Social Security	Application Approval/ Disapproval Process	15 days	15 minutes
	Pension Generation and Payment	2 months	6 hours
	Money Order Printing	1 month	6 hours
License	Process of License Issuing	15 days	15 minutes
	Renewal of License	7 days	1 minute
	Expiry Licensee Searching	2 days	1 minute
Ration Card	Process of Ration Card Issuing	7 days	15 minutes
	Renewal of Ration Card	7 days	1 minute
Water Connection	Water Connection Process	15 days	3 days
	Searching of connection and its arrea (including and excluding surcharge)	15 minutes	1 minute
	Surcharge calculation and posting	1 month	1 minute
	Bill generation and printing	2 months	6 hours
	Receipt entry and their ledger/DR updation	20 minutes	1 minute
	Daily/Monthly/Periodically Manual/Report Preparation for audit	2 hours	1 minute
	New Property Registration	1 day	15 minutes
	Breakup of property	1 day	15 minutes
	Transfer of property	1 day	15 minutes
	Searching of connection and its area (including and excluding surcharge)	15 minutes	1 minute
<i>Contd...</i>			

Contd...			
Rental Property	Surcharge calculation and posting	1 month	1 minute
	Bill generation and printing	2 months	6 hours
	Receipt entry and their ledger/DR updation	20 minutes	1 minute
	Daily/Monthly/Periodically Manual/Report Preparation for audit	2 hours	1 minute
	Calculation of property tax, exemption on the basis of dimension and categories	15 minutes	1 minute
	Searching of connection and its area (including and excluding surcharge)	15 minutes	1 minute
	Surcharge calculation and posting	1 month	1 minute
Building Permission	Bill generation and printing	2 months	6 hours
	Receipt entry and their ledger/DR updation	20 minutes	1 minute
	Daily/Monthly/Periodically Manual/Report Preparation for audit	2 hours	1 minute
	Authentication of application as per the MOS Rules	3 days	1 minute
Complaint	Authentication of application as Bhumi Adhiniyam	3 days	1 minute
	Searching and updating the status of application	15 minutes	1 minute
	Complaint Logging, Internal Department Processing	3 days	1 minute
	Complaint Status Inquiry	10 minutes	1 minute
Finance	Complaint Status updation and feed back	1 day	1 minute
	Cash Book Preparation	1 hour	1 minute
	Day Book Preparation	1 hour	1 minute
	Entry Posting in Ledger	1 hour	1 minute
Material Management	Purchase Voucher Prepration	15 minutes	1 minute
	Stock Details	1 hour	1 minute
	Purchase Order issue	1 day	3 hours
Contd...			

Contd...			
	Stock Ledger entry and updation	1 hour	1 minute
Legal Cell	Case details	1 hour	1 minute
Colony Cell	Detail of Colonizer	1 hour	1 minute
	Regularization of illegal colonies	1 hour	1 minute
Project Monitoring	Detail of engineering project/work taken up by the ULB	1 day	2 minutes
	Tracking of earlier works/repairs done	1 week	1 hour
	Detail of payments made to contractor on project	1 hour	1 minutes
Integrated Inward/Dispatch	No. of letters received or dispatched dept.-wise	1 hour	1 minute
Parishad/Mayor In Council	No. of propopals presented in meeting	1 hour	1 minute
	Details of action taken on proposal presented in meeting	1 hour	1 minute
Solid Waste Management and Health Services	Details of employee, vehicles, dumping ground etc.	1 day	1 minute
Schemes Monitoring	Details of project or sub project under scheme	1 day	1 minute

b. Implementation Coverage (geographical areas covered under pilot, roll-out, next steps, % of total services covered under the lifecycle of projects processes, % of total branches/departments covered by the project)

The geographical jurisdiction of Indore Municipal Corporation is total municipal area of Indore city.

Implementation coverage: Total urban (geographical) area of Indore

Implementation methodology: Module wise roll out (see table below)

Table 3			
S. No	Module	Stage-I	Stage-II
		Handholding & knowledge transfer	Operated by IMC staff
1.	Property Tax	□	
2.	Water Tax and Associated Processes		
3.	License		
4.	Rental		
5.	Birth & Death Certificate Management System		
6.	Double Entry Accounting System		
7.	Integrated Establishment		
8.	Ration Card System		
9.	Building Permission		
10.	Social Security Schemes		
11.	Citizen Complaints Management		
12.	Stores & Workshop		
13.	Central Purchase System		
14.	Legal Cell		
15.	Colony Cell		
16.	Project Monitoring		
17.	Integrated Inward/Dispatch		
18.	Schemes Monitoring		
19.	Property Survey/Scientific House Allotment		
20.	Online Payments and Transaction Processing – Payment Gateway, Citizen Facilitation Counters etc.		
21.	Parishad/Mayor In Council		
22.	Solid Waste Management and Health Services.		

% of branches/deptt covered: Head office/zonal offices/other counters
100% (See the table below)

Table 4			
S.No	Field Office	Stage-I	Stage-II
		Handholding and knowledge transfer	Operated by IMC staff
1	Zone – 1		
Contd...			

Contd...	
2	Zone – 2
3	Zone – 3
4	Zone – 4
5	Zone – 5
6	Zone – 6
7	Zone – 7
8	Zone – 8
9	Zone – 9
10	Zone – 10
11	Zone – 11
12	Zone – 12
13	Registrar Office
14	IMC Head Office Counters

% of department covered: 100% (See the table below)

Table 5		
S. No	Department	Status
1.	Revenue	
2.	License	
3.	Rental (Market)	
4.	Health	
5.	Accounts/Finance	
6.	Establishment	
7.	Ration Card	
8.	Building Permission	
9.	Social Security	
10.	Citizen Complaints	
11.	Stores & Workshop	
12.	Central Purchase	
13.	Legal Cell	
14.	Colony Cell	
15.	Project Monitoring	
16.	Parishad/Mayor In Council	
17.	Solid Waste Management and Health Services	

2. Efficiency Improvement

a. Time and Cost Efficiency Improvements in Delivering the above Set of Services

Introduction of e-Governance at IMC has been instrumental in

Time efficiency: The resultant improvement is clearly reflected in Tables #1 and 2.

Cost efficiency: Cost of service delivery, i.e., operational cost is associated with cost of manpower, infrastructure and technology involved.

b. Time and Cost Savings for the Key Stakeholders to Avail the Above Set of Services

Table 6			
Stakeholder	Services	Time savings	Cost savings
Citizen	Birth/Death Certificate	15 days (approx)	In terms of opportunity cost of time saved on repeated visits for follow ups and repeated commuting expenses thereon
	Pension generation and payment	2 months (Approx)	
	New license issue	13 days	
	Renewal of license	7 days (Approx)	
	Issue of ration card	13 days	
	Renewal of ration card	7 days (Approx)	
	Water connection	12 days (Approx)	
	Registration of property (new)	8.5 hours	
	Transfer of property	8.5 hours	
	Breakup of property	8.5 hours	
	Complaint registration	1 day (Approx)	

Table 7			
Stakeholder	Services	Time savings	Cost savings
IMC as organisation	Money order preparation	1 month (Approx)	In terms of staff man hours involved and other overheads
	Search on expiry license	2 days (Approx)	
	Authentication of application of building approval as per MOS rules/Bhumi Adhiniyam	3 days (Approx)	
	Pay bill generation	7 days (Approx)	
	Loans/advance payments	1 day (Approx)	
	Employee GPF ledger updation	1 month	
	Contd...		

Contd...				
	Water related	Bill generation Daily MIS generation for audit Monthly MIS generation for audit	2 months 2 hours 2 hours	
	Property related	New Property registration Breakup of property Transfer of property Bill generation Daily MIS generation for audit Monthly MIS generation for audit	1 day 1 day 1 day 2 months 2 hours 2 hours	
	Rental properties (market)	Bill generation Daily MIS generation for audit Monthly MIS generation for audit	2 months 2 hours 2 hours	
	Complaint	Departmental processing Status enquiry	3 days 1 day	
	Finance	Cash book preparation per day Posting in ledger per day Purchase voucher preparation per day	1 hour 1 hour 1 hour	
	Stores	Stock details per day Purchase order issue Stock ledger entry/updation per day Legal cell case details/day Colony cell; details and regularization/day	1 hour 1 day 1 hour 1 hour 1 hour	
	Project monitoring	Details of engineering and project works taken up Tracking of running works Details of payment to contractors/per day	1 day 1 week 1 hour	
	Solid waste management and health services	Information on workers/ vehicles and garbage disposal per day	6 hours	

c. Specific Innovative Ideas Implemented in eGov Area; Best Practices Implemented, Initiatives Integrated with Other Departments

- a. End to end integrated IT solution
- b. Cross departmental process integration
- c. Work flow automation, step-by-step computer process authorization
- d. Implementation of DEAS and budget on NMAM/MPMAM platform, across the organisation, means every transaction of organisation is recorded as per the recommended NMAM standards
- e. IT based budgetary control
- f. Unique identification number of properties and also in other areas like water tax, licenses etc.
- g. Online Real Time Payment Gateway on the website with full integration with the revenue module, providing real time update in the ledger of the citizen. The online payment facility is available for property tax, water tax and other services
- h. Technology placements for the following
 - i. Touch Screen Kiosk
 - ii. Any Time Payment (ATP) machine
 - iii. ATM Machine
 - iv. Handheld integration for on spot tax collection
- i. Citizen Service Centers
- j. Collaboration on PPP model with
 - i. Hospital (Birth Registration)
 - ii. Cyber Café
- k. Online License Renewal
- l. Online Birth/Death approval

Integration with other departments

We have created technological placements for other departments to seamlessly integrate with IMC, crossing the departmental boundaries in the process and

thus enabling them to work on IMC's integrated platform. It includes partnership with:

- Collectorate
- MPOnline
- Other State Government's initiatives
- National e-Governance initiatives

III) Enabler Indicators

1. Project Roadmap

a. Vision Defined

IMC as a vector to realize the vision of the Government, transcending departmental boundaries to reach the citizens for all their needs, using e-Governance to serve citizenry in an effective, more transparent, friendly manner in an atmosphere of trust.

b. Objectives Defined

- a. To have web presence and disseminate public information on web
- b. To have interactive web presence
- c. To improve the service delivery, i.e., to reduce the time taken by the tax payer
- d. To simplify the departmental processes
- e. To increase the total revenue
- f. To reduce the number of complaints/grievances

c. Measurable Objectives

- g. To have integrated MIS in place in the first year of the project
- h. To have NMAM based accounting and budgetary system by second year of the project
- i. To increase the revenue every year @ 20%
- j. To implement all the mandatory reforms as mentioned under JNNURM programme
- k. To increase collection efficiency and coverage area ratio

d. Project Milestones

Table 8	
Activity	Status
Process reengineering	✓
Implement revenue related modules in the 1 st year of implementation (like property tax, water tax, rent, licenses etc) and other modules in subsequent year	✓
Had web presence in the first year and to have interactive and real time transaction oriented website in second year	✓
Connected all the zonal offices through WAN in 1 st year enabling citizen services	✓
Identification of key (internal) resources for capacity building	✓
Handholding and knowledge transfer in the first year and self operations from second year onward	✓
IT center in 1 st Year and full fledged Disaster Recovery Center in 3 rd year	DR development in process
PPP based services in 3 rd year	In process (approved by Mayor in Council)
Touch screen, ATP, and ATM based services in 3 rd year	In process (approved by Mayor in Council)
Collection of taxes at the door step of the citizen in 3 rd year	In process (approved by Mayor in Council)
SMS based services and mobile payment in 3 rd year	In process (approved by Mayor in Council)

2. Process Reengineering & Legal Reforms

a. Major Front-end Process Changes

- Payment of property tax at any zone irrespective of the location of property
- Introduction of single window services (earlier citizens had to visit various counters to avail different department services)
- Move from cash based to accrual based double entry accounting system
- Migration of old accounting structure to NMAN/MPMAM code of accounts
- Listing and valuation of fixed assets
- Adopted asset coding system
- Budgetary control process redefined across the departments

- Forecast billing methodology
- Mass billing system
- Introduction of Help desk for the citizens
- Process change for named transfer in case of property tax

b. Major Back-end Process Changes

- Automated account handling system (AAHS)
- Reference Management Tracking System (RMTS)
- Receipt generation methodology
- Collection management system for all branches and departments
- Local language support
- Incorporation of accountability in the transaction by introducing time, date, IP and log in stamping on all IT based transactions.

3. Project Sustainability

a. Financial Model (Funding Pattern, Business Model, PPP, etc)

Implementation through Zero Cost based Financial Model

A totally innovative ‘zero cost based’ financial model has been adopted at IMC with the clear intent of not stretching its already strained resources and also raising the required finance in a ‘no pinch’ fashion from the tax payers.

The implementation and operational cost for the e-Governance project thus could be internally funded. This is illustrated as follows:

	Number of tax payers (units)	Service charges (Rs.)	Annual receipt
Property tax	3.5 lakhs per annum	Rs.10 per unit	35 Lakhs
Water Tax	1.7 lakhs per quarter	Rs.5 per unit/quarter	34 Lakhs
Total			69 Lakhs

Annual cost towards technology maintenance (Software support/AMC/spare parts etc)	Rs.49 Lakhs
Annual savings	Rs.20 Lakhs
Initial cost towards software, hardware, networking and associated infrastructure	Rs.100 Lakhs
The above cost of Rs.100 lakhs will be recovered from annual savings of Rs.20 Lakhs in 5 years’ period	

PPP model for reduced operational costs

Cyber café operators in the city shall be the business partners facilitating online payment of taxes. The operator will pay online through his current account (with State Bank of Indore; other banks being included) or through his Credit Card (Master/Visa) and in turn collect cash from the citizen. User charge of Rs.10.00 for facilitating the service has been proposed, which the tax payer (citizen) shall pay to the cyber café operator. It is pertinent to mention that participating bank and credit card payment gateway does not levy any charges to IMC on such electronic transactions.

b. Technology Maintenance

IMC has been very frugal in adoption of technology which has resulted in no annual cost on OS, annual licensing for anti virus (for all servers), no monthly cost in wide area networking. In addition, since the integrated municipal application is owned by IMC, there is no cost towards per user license.



The cost towards preventive maintenance/AMC is recovered from the service charges imposed on property and water tax payers.

c. Disaster Recovery Center

Indore Municipal Corporation is currently at initial stage of disaster recovery as it has only “server to server mirroring” as backup procedure.

It is in the process of creating tier 1 data center and hot disaster recovery center (approx 10 km).

d. Project Management Team (full time department officials/consultants)



4. Change Management

a. Change Management Strategy

It is based on practical aspects of impact of technology implementation and the changes in the procedures and processes. The change management strategy adopted has been to ensure smooth inculcation of technology on gradual basis. A “three tier matrix” approach was adopted, keeping in view the skill set of available staff at various levels. It involved:

- Confidence building and mobilization of opinion
- Identification of internal champions and team formation
- Module wise implementation
- Training on technology and reformed processes
- Handholding and skill transfer
- Self reliance in operations.

b. Capacity Building Plan

Capacity building plan being the main pillar of our change management strategy had been carefully devised to encourage involvement of the existing staff by bringing an acceptance towards the technological change in their mindsets and gradually enhancing their level of skill sets in the above areas.

To further beef up the skills, external consultants were also roped in for successful implementation of the above processes.

The backbone of our capacity building plan has been our innovative and carefully designed Knowledge Transfer Program (KTP) percolating down to the lowest rungs. The levels of KTP had been:

Level 1: Induction and orientation trainings with an interactive approach

Level 2: Operational trainings with participative approach

Level 3: Operational handholding approach

Level 4: Handing over

IMC, thus, can proudly claim to have trained and built capacity of around 100 staff members at various levels and areas through intensive interactive and participative sessions of trainings.

c. Leadership Support & Visibility

The implementation of project roadmap, process reforms and change management requires strong leadership with a clear vision and commitment. IMC is fortunate to have a committed set of leadership, right from the Honorable Mayor, Municipal Commissioner, IT officer and technical partners, who have been actively involved in the monitoring, implementation and development of the above process.

The concept of leadership was extended to the various departments, wherein leaders were identified, their skill sets were improved and they became our change enablers.

5. Project Monitoring

a. Monitoring and Evaluation Process

Monitoring Approach & Methodology

IMC's eGov. approach is a pragmatic approach based on simple concept of management, which involves continuous interaction with all the departments of IMC. There is also a system of internal review by each department. Subsequent to the review, IMC takes upon the corrective measures so as to ensure that the project outcomes are as per the defined objectives and within preset timelines.

Collection of Monitoring Data/Monitoring Method

In the inception of the project itself, we had a process to collect the progress of the project. The process involved vendor presentation, interviews, and on-screen output reports. Functional heads of each module were responsible for signing off the output reports. In case the functional head did not find the output reports as per the desired outcome, the vendor were asked to configure and customize the module as per departmental requirements. Similarly the output was measured for networking, where the physical sites are connected with HO to ensure that the data communication is happening between the HO and the zonal office. In the cases, where the network connectivity could not be established, vendor presentation, interviews and further plan of action was discussed. Accordingly monitoring of hardware procurement was also carried out. The objectives of vendor interaction were to have amicable and close working and also to have close monitoring on the project. In order to institutionalize the monitoring mechanism, IMC had created a high level technical committee.

Evaluation of Performance

The output of each activity was evaluated with respect to the expected performance. For example, if a user logs in from a zonal office to collect the property tax, then he is able to do the same within a minute (in fact it takes less than a minute). The performance is monitored on continuous basis in order to ensure that citizen charter is complied.

b. User Feedback Project Assessment Mechanism

Timely interactions with HODs for collecting the feedback from various departments were carried out regularly on fortnightly basis. The meeting was chaired by the Commissioner of IMC. The commissioner and the IT officer took the responsibility of ensuring that corrective actions are taken up accordingly.

c. Third Party Overall Project Audit Mechanism

Third party audit is carried out in IMC by the following agencies

- Technical audit conducted by the vendor time to time for various activities
 - Pre Generation audit for property tax/water tax/rental bills/before demand generation
 - Post generation audit for property tax/water tax/rental bills/after demand posting
 - Sample audit on voluminous data where physical audit can not be possible
- Technical auditors of Auditor General Madhya Pradesh (AGMP)
- Resident Auditor of IMC by local fund audit department of GoMP
- System audit conducted by CISA (through technical consultants).

(Jitendra Singh, IT Officer, Department of Information Technology, Indore Municipal Corporation, Indore, Madhya Pradesh. The author can be reached at jitendranju@yahoo.com / imcit@rediffmail.com).

Aarogyasri Health Insurance Scheme

Babu A

I) Project Overview

People living below poverty line require financial protection for the treatment of serious ailments such as cancer, kidney failure, heart, trauma and burns etc. Available network of government hospitals do not have requisite pool of specialist doctors to meet State wide requirement for such treatment. Consequently patients have to go to private hospitals and incur huge costs. This has led to their destitution and heavy indebtedness. In many cases, patients die in harness unable to access medical treatment which is beyond their means. Mounting medical expenses is identified as one of the causes leading to pauperization of rural community.

In order to improve access of such people to quality medical care, Government initiated a pilot project in May, 2004 to partly pay for hospitalization and treatment from Chief Minister's Relief Fund (CMRF). During the period from 14.05.2004 to 17.07.2008, Rs.425 crores was provided from the Fund in 1.25 lakh such cases. This, however, did not help 30 percent of rural poor, being unable to meet balance expenses. From the experience gained, it was felt that this assistance could be institutionalized through a Health Insurance Scheme for easy access by poor across the State. Government accordingly set up Aarogyasri Health Care Trust and implemented a Community Health Insurance Scheme (named Aarogyasri-I) to begin with in three districts from 1st April, 2007 and later extended it to all other districts in five phases. Diseases covered included heart, cancer, Neuro-surgery, Renal, Burns and Poly-trauma cases etc. (330 procedures).

Since coverage of diseases under Aarogyasri-I was limited, a large number of patients continued to seek assistance from CMRF for treatment of other ailments.

The Trust therefore constituted 31 teams of specialist doctors from government and private hospitals and analyzed all diseases afflicting the poor patients, listed more than 1100 medical and surgical procedures and finally basing on the criterion of being emergency and life saving in nature and such that specialist doctors required for treatment are in shortage in government hospitals, finalized a further list of 533 diseases for inclusion in Aarogyasri scheme. Aarogyasri-II was launched in the State on 17th July 2008 for treatment of these additional diseases (389 surgical and 144 medical) to thus enable many more BPL families obtain cashless treatment and lead a healthy life. Disease coverage under the scheme has been further extended to 79 new procedures in Obstetrics, Eye, ENT, Cardiology and in life saving areas in Trauma and Critical care with effect from 14th November, 2008, thus bringing the total no. of diseases covered under Aarogyasri-I & II to 942. To optimize the benefit of the surgery/therapy taken under the scheme, packages are also approved for one-year follow-up services (Consultation, Testing and Treatment) to the beneficiary in 121 identified procedures. As of present, following components of the Scheme are under implementation.

1. Aarogyasri-I for 15 districts and Aarogyasri (I&II combined) for 8 districts through insurance company and funded from Medical Department budget.
2. Aarogyasri-II for 15 districts and Chief Minister's Camp Office referrals directly by Trust and funded from C M Relief Fund.

While front end of both Aarogyasri-I & II schemes viz. network hospitals, Aarogyamitras (health workers), Health Cards etc., are one, pre-authorization and claim settlement for Aarogyasri-I scheme is done by insurance company, while for Aarogyasri-II, it is done by the Trust. In the latest renewal of insurance policy for 8 districts effective from 5th April, 2009, all 942 diseases covered by AS-I & AS-II are combined and put to implementation through insurance route. Premium for this policy has worked out to Rs.439 per family per year and is fully borne by the Government.

Salient features of the scheme are as follows:

- i) All BPL ration cardholders (white card) are eligible for benefit. In Andhra Pradesh 82.5% of the families numbering 2.03 crores with a population of more than 7 crores are white cardholders
- ii) A list of diseases for coverage under scheme (942 medical and surgical procedures and follow-up treatment for one year for 121 procedures) is

pre-identified. Pre-existing disease load is covered. Hospitalization for treatment is a pre-condition.

- iii) Cashless arrangement with network hospitals is one of the key elements of the scheme whereby beneficiary once registered in network hospitals does not have to pay at all for the entire process of treatment. This has become possible by evolving package rate which in addition to actual cost of treatment includes cost of conducting health camps, screening of patients, diagnostics, testing, and treatment, food, transport and follow-up.
- iv) An insurance company undertakes the health insurance and provides risk cover, on payment of premium. Selection of insurance company is done through a process of competitive bidding (technical & financial) and quote of lowest premium.
- v) Scheme provides coverage for meeting expenses of hospitalization and surgical procedures of beneficiary members up to Rs.1.50 lakhs per family per year subject to limits, in any of the network hospitals. The benefit on family is on floater basis i.e. the total reimbursement of Rs.1.50 lakhs can be availed individually or collectively by members of the family.
- vi) A separate fund is maintained as Buffer/corporate floater to take care of expenses; if it exceeds the original sum i.e. Rs.1.50 lakhs per individual/family. In such cases an amount upto Rs.50,000 per individual/family is additionally provided.
- vii) Participating hospitals are required to be empanelled with selected insurance co., based on pre-fixed criteria of availability of infrastructure, equipment and qualified personnel.
- viii) Choice of hospital for treatment from among empanelled hospitals is given to patient. Patient facilitation is done through a dedicated team of health workers (Aarogyamitra), 24x7 Call Center and a Help Desk at each network hospital.
- ix) Treatment is to be provided in hospitals as per pre-fixed medical protocols. Hospitals have to conduct at least one free medical camp every week, thereby taking advanced evaluation to the doorstep of patient.
- x) All Primary Health Centers (PHCs), which are the first contact point, are provided with Aarogyamitra (Health Workers) selected by women self-help groups to help illiterate patients.

- xi) Scheme is implemented on line through an IT portal for efficiency, transparency and accountability. An IT company is engaged to construct and maintain software, hardware and all data and medical records pertaining to the scheme.

Progress So Far (as on 28th July, 2009): Since its inception (Aarogyasri-I on 1st April, 2007 and Aarogyasri-II from 17.07.08) 346 hospitals from Government and private sector have joined the network and organized 11,674 health camps in rural areas, wherein 20,02,642 patients have been screened and 3,42,325 surgeries/treatment conducted at a cost of Rs.1061.9 crores. In addition, 4,76,057 patients are given medical consultation as outpatients, free of cost. 45 percent of the patients treated are women, 11 percent children and 60 percent of the treated patients below 45 years of age.

The web application provides an end to end IT solution to enable smooth implementation of the Aarogyasri scheme across the state in phases. The solution contains an online web Portal and back office components.

Aarogyasri project is web-based project for which the workflow and design was developed by Rajiv Aarogyasri Health Care Trust. Tata Consultancy Services Limited (TCS) is the technology partner in this scheme of noble cause. This ICT project enables the Trust to monitor and control this scheme just by sitting in front of a computer connected to Internet.

II) Result Indicators

1. Key Performance

a. Stakeholder-wise Services and Benefits of ICT/eGov Initiatives

Stakeholder-wise Services	
Stakeholder	Service
2.03 crore BPL families of Andhra Pradesh	Beneficiaries of quality medical care
Government of Andhra Pradesh	Funding
Aarogyasri Health Care Trust	Planning, Implementation, Monitoring & Regulation of the scheme
Insurance Agency	Risk coverage and Field Operations
Network Hospitals	Providing treatment to the Beneficiary
Self Help Groups	Aarogyamitras (facilitators) in PHCs and network hospitals and camps
Banks	Disbursement of funds
Tata Consultancy Services	ICT Partner

ICT/E-Gov Benefits

The ICT solution provides the following main benefits:

- Reduces timeframe to process the case of a patient
- Provides several verification points at each step involved in the process flow
- Provides no space for corruption in the process
- Expedites the disbursement of due payments to hospitals from the insurance company and/or from Chief Minister Relief Fund through integration with payment gateway
- Provides detailed audit trail for all cases to back track and find the root cause for rejections/approvals
- Provides detailed analysis reports based on all possible criteria
- Interconnects the Government of AP with the Aarogyasri Health Care Trust, Insurance Company – Star Health & Allied Insurance Co. Ltd, Primary Health Care Centers (PHC), Aarogyamitras and network hospitals and people living below poverty line
- Provides scope for public to scrutinize whether each rupee spent by the Government has been used for the treatment of BPL families
- Provides scope for all stakeholders to monitor information about the case details, surgeries being performed and payment disbursement to hospitals, irrespective of location
- Helps in standardizing procedures across the hospitals
- Facilitates online view/update of bed capacity of network hospitals thereby ensuring optimal usage of bed capacity
- Helps in monitoring the exact and current status of the patients in hospitals as well as discharged patients
- Provides online payment gateway and accounting modules
- Provides real-time information about medical camps, people screened, in patients, out patients, surgeries conducted, amount claimed and so on.

b. Implementation Coverage (geographical areas covered under pilot, roll-out, next steps, % of total services covered under the lifecycle of projects processes, % of total branches/departments covered by the project)

Pilot Phase (Phase I)

The phase has been implemented in three selected districts of Andhra Pradesh as on pilot basis in the three poorest districts viz. Mahboobnagar, Anantapur, Srikakulam from 1st April 2007. There are 23.16 lakh BPL families in three districts of the State consisting of 94 lakh population. The insurance coverage under the scheme was in force for a period of one year from the date of commencement of the policy and thereafter renewed two times.

Phase II

This phase was intended to benefit below poverty line (BPL) population in the 5 districts of the State viz. West Godavari, East Godavari, Nalgonda, Ranga Reddy and Chittoor. There are 48.23 lakh BPL families in the five districts comprising of a population of 1.68 crores. This phase commenced from 5th December 2007 and was renewed once.

Phase III

The scheme was extended to benefit below poverty line (BPL) population in the 5 districts of the State viz. Medak, Karimnagar, Kadapa, Prakasam and Nellore. There are 34.87 lakh BPL families in the five districts comprising of a population of 1.23 crores. This phase commenced from 15th April 2008 and was renewed once.

Phase IV

The scheme was extended to benefit below poverty line (BPL) population in the 5 districts of the State viz. Hyderabad, Adilabad, Kurnool, Vizianagaram and Visakhapatnam. There are 36.44 lakh BPL families in the five districts comprising of a population of 132.91 lakhs. This phase commenced from 17th July 2008.

Phase V

The scheme was extended to benefit below poverty line (BPL) population in the 5 districts of the State viz. Nizamabad, Warangal, Khammam, Guntur and Krishna. There are 39.80 lakh BPL families in the five districts comprising of a population of 137.34 lakhs. This phase commenced from 17th July 2008.

2. Efficiency Improvement

a. Time and Cost Efficiency Improvements in Delivering the Above Set of Services

The following are the time and cost efficiency improvements provided by the ICT solution

- Online Empanelment of hospitals
- Online scheduling and publishing of health camp schedule to NWH
- Transparent scheduling of medical camps
- System based claim settlement to all the hospitals
- Call center integration to track the status of grievance etc.
- Integration with payment gateway for fast disbursal of funds
- SLA based approval of all cases for expediting treatment to beneficiary
- Workflow based approvals
- Open source based solution to reduce costs
- Online approval of all preauthorization
- Verification of BPL family data.

b. Time and Cost Savings for the Key Stakeholders to Avail the Above Set of Services

The following are the time and cost savings for the key stakeholders provided by the ICT solution

- Reduced the time for approvals of preauthorizations (SLA – 6 Hours)
Facilitated 24 x 7 approvals for emergency cases
- Standardization of procedures and packages across all the hospitals
facilitated quick approvals
- Automated laborious and erroneous process of camp scheduling
- Provided various reports to cater to stakeholder needs
- Automation of claim disbursal based on available amount
- Master data of accounts and fast disbursal of funds

- Alert & warning systems in place for the approvers
- Quick view of all the claims made in the current year by a BPL family
- Using open source solutions to reduce the Total Cost of Ownership
- Immediate blocking of the stakeholders from doing further transactions once malpractice has been observed.

c. Specific Innovative Ideas Implemented in e-Gov Area; Best Practices Implemented Initiatives Integrated with Other Departments

The following are the innovative ideas implemented in e-Gov area

- Transparent and standardized e-empanelment process of Network Hospitals helped remove unnecessary hassles
- Registration of patients screened in Primary Health Centers, Health Camps and network hospitals integrated with toll free call centre
- Online preauthorization module with stakeholders working round the clock and fixed TAT
- Online emergency preauthorization
- Claim processing module
- Developed a payment module first of its kind that allows payments from multiple sources to multiple sources through online system
- Accounting module developed for Aarogyasri Trust keeps track of every penny spent by Aarogyasri Trust
- Audit trail based workflows to make all the stakeholders more accountable for all the actions
- Aarogyasri Messaging Services to communicate to particular group of users
- Alert based system for the workflow approvers to detect any likely misuse of the scheme
- Real time information based system to keep minute to minute track of how the scheme is effectively being utilized by various hamlets/mandals
- Ability to capture evidences and view evidence at every stage of process flows

- Facility to capture public opinions online for more transparency
- Analysis Report for more detailed analysis of data captured by the system
- Agile methodology of ICT solution development adopted to match the constantly changing policies of the Scheme
- Online temporary Blocking of access to stakeholder for non compliance to Scheme processes and immediate restoration on compliance
- Standardization of packages and surgeries
- Payment to Government Doctors for processing Aarogyasri cases other than their normal salary
- Revolving fund concept to improve the infrastructure of Government Hospitals.

III) Enabler Indicators

1. Project Roadmap

a. Vision Defined

The Rajiv Aarogyasri is the flagship of all health initiatives of the State Government with a mission to provide quality healthcare to the poor. The aim of the Government is to achieve “Health for All” in Aarogyandhra Pradesh (Healthy Andhra Pradesh state). In order to facilitate the effective implementation of the scheme, the State Government has set up the Aarogyasri Health Care Trust under the chairmanship of the Chief Minister. The Trust is administered by a Chief Executive Officer who is an IAS Officer. The Trust, in consultation with the specialists in the field of insurance and medical professionals, runs the scheme.

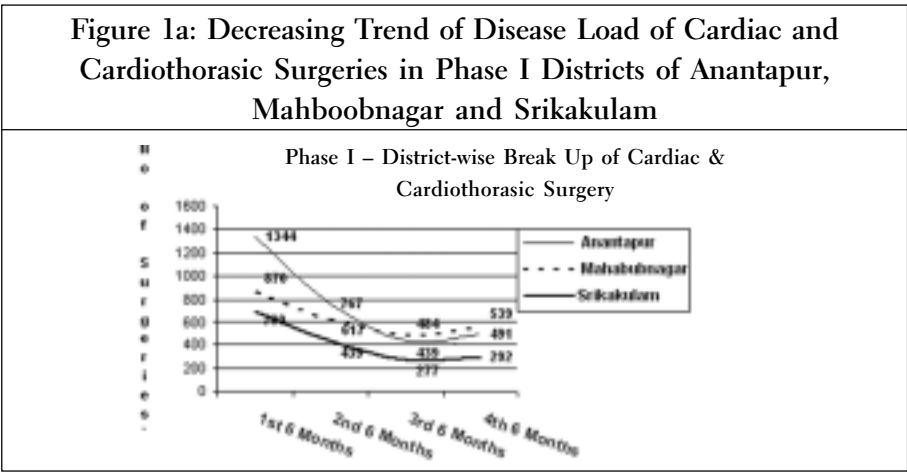
b. Objectives Defined

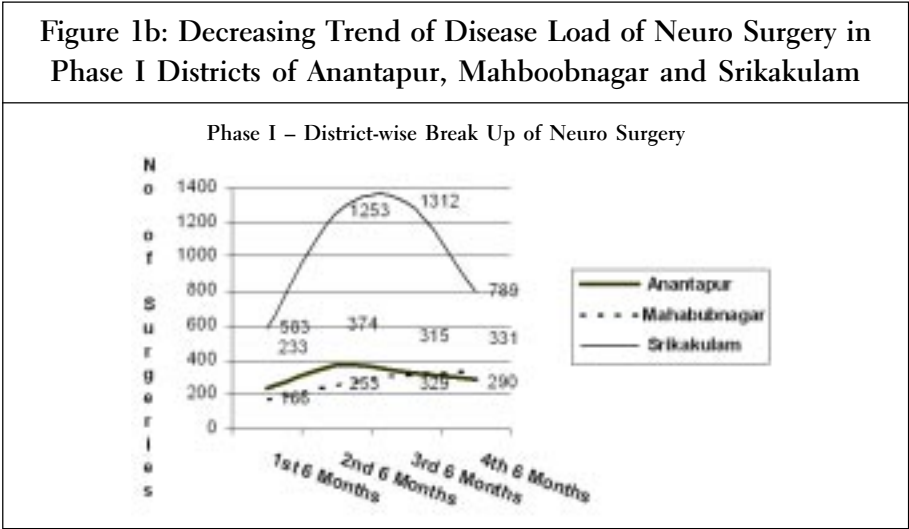
- To improve access of BPL families to quality medical care for treatment of identified diseases involving hospitalization, surgeries and therapies through identified network of health care providers through a hybrid model consisting of tailor-made policy (serviced by Insurer) and self funded reimbursement mechanism (serviced by Trust) to assist BPL families for their catastrophic health needs without compromising the importance of existing Health Care Delivery System of the Government.
- To build up a vibrant online and real-time workflow to implement and control the various facets of the scheme on a 24 hour basis.

c. Measurable Objectives

Before the initiation of the scheme the people below poverty line were not having access to such services and were suffering silently or getting in to debt trap. Hence the benefits as indicated below which are reaching the beneficiaries can be taken as first time benefits.

S. No.	Performance Indicator	Measure of Success	Remarks
1	Reach of the Scheme		
1a	Standard Living Index	50% are illiterate and of Low SLI, 40% Middle Level SLI	IIPH evaluation Report
1b	Rural Reach	87%	IIPH evaluation
1c	Female Population	45%	www.aarogyasri.org
1d	Children	11%	www.aarogyasri.org
1e	Below the age of 45	60%	www.aarogyasri.org
1f	Marginalized segment (SC/ST/Minority)	23%	www.aarogyasri.org
2	Beneficiary Satisfaction Index		
	Improvement in Health Status after the Treatment	87%	IIPH Report
3	Decrease in the disease load	Decrease in cardiac and Neurosurgery disease load over last two years	Figure 1a. & 1b.
4	Screening of Population	19.88 lakhs	www.aarogyasri.org
5	Spread of Rural Health Camps	100%	Since on an average 10 camps were held in villages of each Mandal.





d. Project Milestones

The Rajiv Aarogyasri Scheme, a unique community health insurance scheme being implemented in Andhra Pradesh from April 1, 2007, today covers over 65 million BPL (below poverty line) people in the state. Initially implemented in 13 districts, the scheme has been extended to all 23 districts, including Hyderabad, since July 2008. The Scheme underwent continuous changes since inception due to overwhelming response from the beneficiaries. The following comparative average figures handled in the scheme over a period of time indicate the same:

Period	Districts	Specialities Covered	Procedures Covered	Hospitals	Medical Camps Conducted	Patients Screened	Out Patients	Surgeries/ Therapies	Surgery/ Therapies Amount claimed (Rs.Crs)
01.04.07 to 30.09.07 (6 months)	3	6	166	72	476	128274	11215	5437	28.93
01.10.07 to 31.03.08 (6 months)	8	13	210	108	1546	294471	35580	16278	67.98
01.04.08 to 30.09.08 (6 months)	13	31	863	352	2421	581859	64218	69183	230.07
01.10.08 to 31.03.09 (6 months)	23	31	942	370	4340	594699	196040	152655	454.44
01.04.09 to 28.07.09 (119 days)	23	31	942	346	2891	403339	169004	99260	280.47
Total					11674	2002642	476057	342325	1061.90

The above are milestones recorded by the scheme. On an average for every two months there are around 50,000 surgeries/therapies being performed to the BPL families under this scheme.

2. Process Reengineering & Legal Reforms

a. Major Front-End Process Changes

(i) Eligibility & Identification Criteria

Emphasis was given to cover the BPL population of the state. Andhra Pradesh has advantage of having database of ration cards with Iris biometrics and Digital photo issued to all eligible BPL families by Civil Supplies Department. Instead of reinventing the wheel the Trust took advantage of the unique fool proof database and made the card as eligibility and identification criteria for the scheme.

(ii) Disease Coverage

A careful analysis was done to select the diseases to be covered under the scheme. The following principles were adopted:

1. The treatment for diseases are lifesaving in nature
2. The treatment involves specialist services
3. The treatment for these diseases are not generally available at the district level Government Hospitals
4. The treatment involves high cost inputs
5. The diseases are not covered by any other national programme
6. There are verifiable diagnostic and post treatment Protocols for the procedures.

Based on the above 31 expert group of doctors selected the procedures.

(iii) End-to-End Cashless Packages

Cashless treatment to the patient was envisaged. For this the Trust constituted 31 teams of specialist doctors from government and private hospitals and analyzed all the diseases, listed more than 1500 medical and surgical procedures and finally basing on the criteria mentioned above finalized a list of 942 diseases and packages for inclusion in Aarogyasri scheme. The package includes

- Screening in Health Camps.
- Consultation, medicines, diagnostics, specialist services, complications.
- Implants, grafts, prosthetics.
- Food.
- Cost of transportation.
- Hospital charges etc.

In other words the package should cover the entire cost of treatment of the patient from date of screening at villages/date of reporting at network hospital to his discharge from hospital and 10 days after discharge and any complications while in hospital, making the transaction truly cashless to the patient.

(iv) Pre and Post Hospitalization

The period of coverage under the scheme starts from date of reporting to hospital up to 10 days from the date of discharge from the hospital and is part of the package rates. Thus ensuring cashless service to the patient.

(v) Financial Coverage

The scheme provides to each family financial protection up to Rs.2.00 lakhs in a year for treatment on a family floater basis. The Trust is also covering Cochlear implantation surgeries with package rate of Rs.6.5 lakh for children below 12 yrs old on reimbursement basis to the hospitals.

(vi) Pre-Existing Diseases

All the pre-existing diseases in relation to 942 identified procedures are covered from day one of implementation.

(vii) Financial Inclusion Principle

The scheme is designed to cover all the people who require the treatment. There are no limitations like age, family size, exclusion of the pre-existing diseases etc.

(viii) Premium Collection and Payment

Though contribution of part of premium collection by the beneficiary was considered it was decided that entire premium be borne by the State Government as the effort and expenditure for collection of the so called contribution would outweigh the actual premium.

(ix) Follow-up Services

To optimize the benefit of the surgery/therapy taken under the scheme, packages are also approved for one-year follow-up services (Consultation, Testing and Treatment) to the beneficiary in 121 identified procedures.

(x) Awareness

In order to create awareness among the stakeholders the following activities were successfully undertaken in the scheme:

- **Health Cards:** All the families below poverty line were given Health Cards based on the ration card database to make the people aware of their entitlement under the scheme. This has not only created awareness among the beneficiaries but brought in feeling of possessiveness, empowerment and financial protection among the illiterate people.
- **Mega-Health Camps:** The scheme was launched by Chief Minister through Mega Health Camps in all 23 districts wherein around 50-60 network hospitals with their men and machines (including portable equipment such as CT, Endoscopy, Echo etc) participated. In each of these camps more than 10000 patients were screened. For this purpose assistance from NRHM was also received.
- **Awareness Camps:** Awareness camps were held to the stakeholders in all the districts repeatedly, wherein people's representatives from village level, self help groups, Aarogyamitras, Anganwadi workers, ANMs, Para medical staff and Medical Officers were made aware of the scheme by explaining the scheme followed by lectures in the local language by Specialist doctors to guide these people in identifying diseases.
- **Workshops:** Separate Workshops were held for the Government Hospital Doctors, Network Hospitals and Network Hospital Aarogyamitras to apprise them of the scheme and online processing.
- **Health Camps:** All the network hospitals have to conduct at least one free health camp in identified rural areas to screen the BPL population. Further the hospitals will conduct Information, Education and Communication activities, including that of preventive measures and provide basic treatment facilities for the common ailments for other patients. These health camps are providing advanced screening and treatment of common ailments at the door step of the patient.

b. Major Back-End Process Changes

i. Preauthorization Approval Process

The scheme is controlled at the back-end by Panel of Doctors and Aarogyasri Trust. The panel of doctors from both the Insurance and Trust review each and every case registered online and then provides approvals once they are convinced that the case is genuine and covered under this scheme.

ii. Claims Settlement

All the claims raised by the hospitals have well defined workflow. Depending on whether the scheme is AS-I or AS-II the workflow passes through the respective accounts department. However the final approval and payment will be made by the claim head and CEO.

3. Project Sustainability

a. Financial Model (funding pattern, business model, PPP, etc.)

The scheme is a public private partnership (G2B and G2C models) between the insurance company, the private sector hospitals and the State agencies. The insurance company is selected through a competitive bidding process. Government pays a specified amount to insurance company as premium for a BPL family. All the 23 districts of Andhra Pradesh are split up into Phases. The premium paid by the Government to insurance company is for providing coverage upto 1,50,000 for a BPL family/individual. An additional sum of Rs.50,000 is provided as buffer to take care of expenses if it exceeds the original sums i.e. Rs.1.50 lakhs per Individual/family. In all the scheme covers 942 surgeries of which around 330 are covered by the Insurance Company (AS-I) and the rest are covered by the Aarogyasri Trust (AS-II). All the expenses incurred by the beneficiary right from preliminary diagnosis, travel, surgery cost, follow up cost and return travel cost are covered under this scheme. The panel doctors of both AS-I and AS-II are paid some incentives for the scheme cases approved by them. The Government of Andhra Pradesh has so far spent 990 crores on this scheme and has earmarked 1300 crores for the next financial year. The scheme has broken the myth that Health Insurance is a costly proposition. With its unique implementation procedure of following up each case in an outcome based framework the pilferages were cut and the cost was kept under control. The Government is able to provide insurance coverage of up to Rs.2 lakhs per year on a family floater basis for 2.03 crore

families at a cost of only Rs.440 per family per year. This could be achieved by the Government without cutting in to other provisions in the budget for health care. Further the huge disease and patient load could be substantially managed with the implementation model and the efficient real-time ICT solution. Every day, at least 8000 patients are screened in health camps and PHCs, around 4000 patients get registered in network hospitals, around 2500 patients are treated as outpatients and 1500 patients get inpatient treatment. The scheme is also bringing in quality medical infrastructure and expertise into the state. Several new hospitals have come up at the district and sub district levels. Presently on any given day a minimum of 13000 beds are occupied by Aarogyasri beneficiaries across the state. Hence the scheme has stabilized over a period of two years and is financially viable and administratively feasible.

b. Technology Maintenance

- *www.aarogyasri.org* website is developed using Java/J2EE technology. The usage of Java enables portability. The ability to run the same program on many different systems is crucial to World Wide Web software, and Java succeeds at this by being platform-independent at both the source and binary levels.
- The necessary hardware and software along with the high Internet bandwidth is used in the deployment of the application. The sizing of the system was done based on the number of users, concurrent users, volume of attachments being uploaded and downloaded.
- The system has been integrated with the Mail server, Call centers and soon to be integrated with biometric & GIS solutions and so on
- Technology stack used are:
 - Programming: J2EE
 - Database server: Oracle 10g
 - Application server: JBoss
 - Web Server: Tomcat
 - Architecture: MVC2

- Hardware: IBM p-series (IBM p-series with oracle 10g db is a unique combination and installed for the first time in India)
- Link Load Balancer: Radware
- Internet Band width: TCL – 16mbps and Bharti – 8mbps in redundancy mode.
- The Online web portal was developed initially for only 3 districts covering around 94 lakhs BPL people with public private partnership involving the Insurance Company and the trust. However, within few months of time, the software was enhanced to handle 23 districts covering around 6.56 crores BPL population, 450 network hospitals, 863 surgical procedures, 2 different sources of funding namely Insurance Company and CM Relief Fund.

The application can be easily enhanced to take more surgical procedures, more funding agencies, more network hospitals and more banks through which the money transactions takes place.

c. Disaster Recovery Center

Owing to the criticality of this website it was decided that a comprehensive Disaster recovery plan should be in place. The ICT solution provided by TCS ensures that there is redundancy of all critical components of the application

d. Project Management Team (full time department officials/consultants)

Service Description	Number of Associates
Aarogyamitras at PHC/CHC/Area Hospital	1810
Aarogyamitras at Network Hospitals	1245
Operations Team (Preauthorisation, Claims, Health Camps, Grievance etc)	254
Doctors (Preauthorisation, Claims, Inspections etc.)	175
Field Officers	222
Call Centre Executives	121
Work Stations/Systems (Computer/Servers)	275
Aarogyasri Trust	60
TCS Professionals	38
Total	4200

4. Change Management

a. Change Management Strategy

The scheme is being implemented through an insurance company, selected through a competitive bidding process. The objective of the scheme is to improve access of BPL families to quality medical care for treatment of identified diseases involving hospitalization, surgeries and therapies through an identified network of healthcare providers.

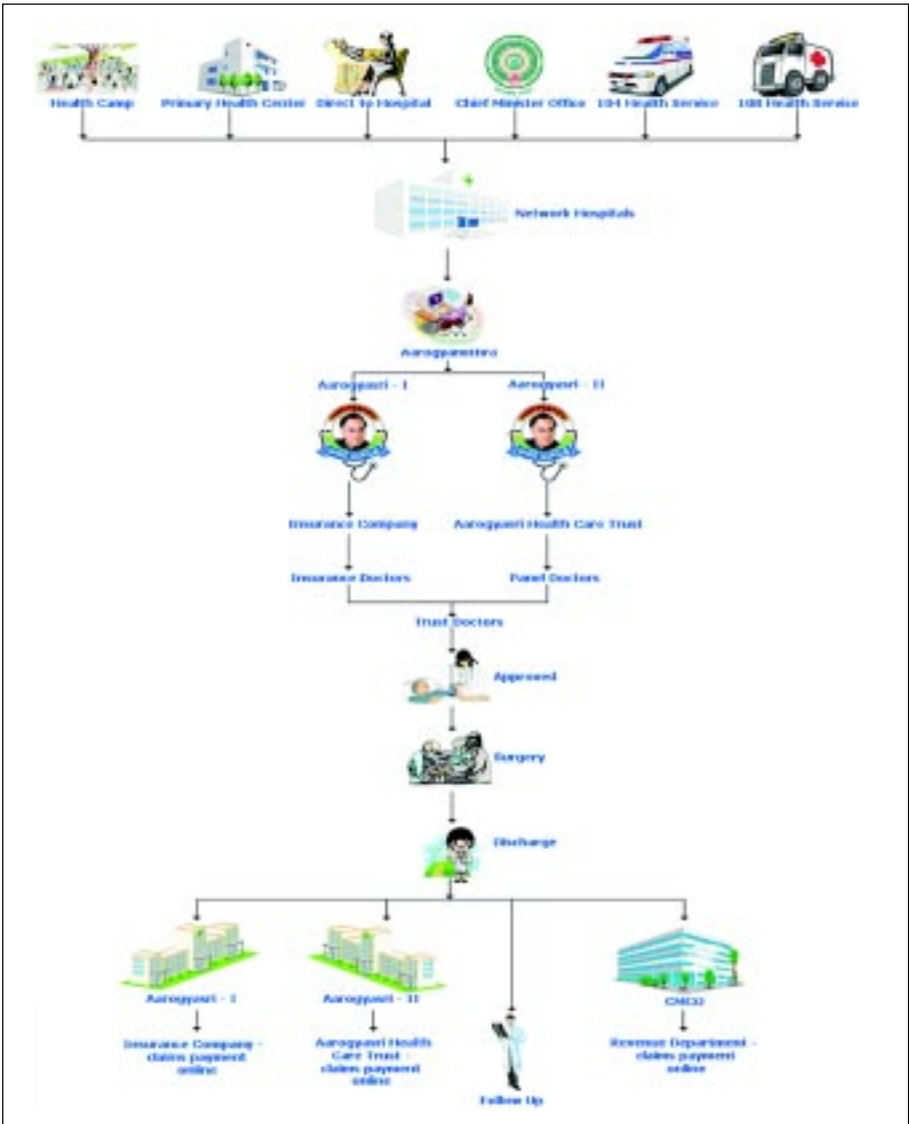
Health camps are the main source of mobilizing the beneficiaries under the scheme. As part of this the AAMCO (Medical Camp coordinators) will organize various communication means (Dandora, Pamphlet distribution, ad in local news paper, shamianas in PHCs etc) to inform the people upfront about these camps. All the network hospitals are conducting regular health camps, which are held as per the schedule and place given by the Trust. Every day on an average 30 medical camps are being conducted all across the state. The NWH are mandated to conduct these camps even in the remote areas of the state. In fact, over 70 percent of the referrals under the scheme are from these camps.

The Government and the Trust have conducted innumerable media meetings, ads in local news papers, TV ads on this scheme to ensure that benefits reach the remotest corners of the state. In addition there is also a toll free number 1800-425-7788 to get any queries clarified or raise grievance against any stakeholder of this scheme.

b. Capacity Building Plan

The scheme started with three districts and then expanded to all the 23 districts of Andhra Pradesh. The Government & Aarogyasri intentionally started with 3 districts to understand the pros and cons of the scheme. After running the scheme for 8 months the Government understood the dynamics of the scheme and came up with some comprehensive steps in running this scheme. The scheme was modified to the following structure to cater to the needs of the scheme.

The scheme is contributing to the infrastructure development of Government hospitals by providing the revolving fund to the deserved hospitals. The TRUST would retain 20% of actual surgery cost of every case provided by government Hospitals and this saving amount would be utilized to develop the hospitals on need basis.



The network hospitals are categorized based on the facilities and quality of services being provided to the patients. Depending on the category, the hospitals would be given permission to address more specialties and with more number of bed capacities etc.

The scheme provided employment to the Self Help Group by deploying them as Aarogyamitras across PHCs and Government Hospitals etc. The training of all stakeholders was done at sub-district, district and state level. A dedicated training team is working to provide capacity building on a continuous basis.

The scheme has been creating a healthy environment among the insurance providers by providing the business opportunity while giving the scope in doing the service to the poor and needy of the State.

ICT Solution Perspective

The ICT solution used to undergo a lot of changes because of changing dynamics of the scheme. So it was very difficult to communicate to the end user. Aarogyasri Trust came up with a unique idea of printing Rajiv Aarogyasri manuals and also conducting workshops across all the districts in Andhra Pradesh. All these steps ensured that all the stakeholders understand the scheme and ultimately provide benefit to BPL families. In addition there are help manuals available on the website which they could refer to for more clarifications. The ICT solution partner –TCS constantly monitors the scheme performance from scalability point of view and makes necessary changes as appropriate and ensure that the site is up and running without any trouble.

c. Leadership Support & Visibility

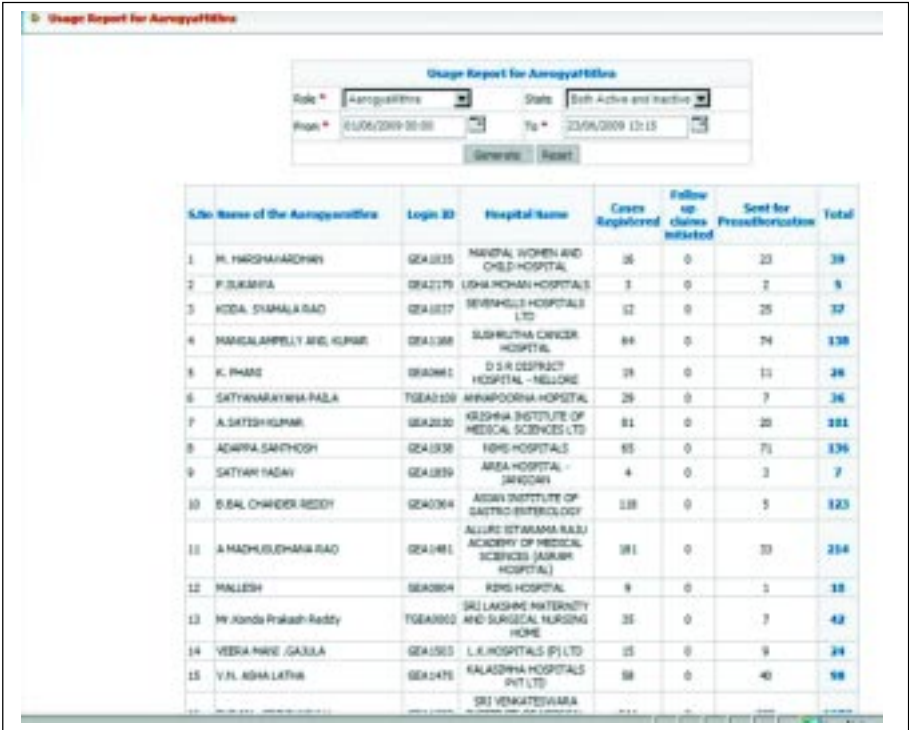
The Aarogyasri scheme is believed to have been conceptualized by the Andhra Pradesh Chief Minister's family. The Chief Minister has ensured that he has participated in all the key events of this scheme. The CM has evinced keen interest and monitors the scheme progress very closely. With the time, the scheme has been expanding and more and more surgeries have been added based on the feedback received from various groups. The honorable Chief Minister of the Government of Andhra Pradesh himself chairs the Rajiv Aarogyasri Trust, which plays a pivotal role in execution of this scheme. The Government has formed a separate ministry for the smooth execution of this scheme. The Trust has two Vice Chairmen – both very senior IAS Officers on its board to ensure that the scheme is architected properly and executed effectively. This conveys the importance given by Government to this scheme as well as magnitude of this scheme. So far the Government has spent around 900 crores in the last financial year and has earmarked 1300 crores for this financial year. The success of this scheme is prompting the Government for contemplating to extend this scheme to other sections of the society – Journalists, Government Employees, Senior Citizens etc.

5. Project Monitoring

a. Monitoring & Evaluation Process

The entire scheme process flow has been automated and incorporated in the portal www.aarogyasri.org. All the stakeholders are provided a user id and password through which they can login to the portal and perform their work. In this way all the data is captured and stored in the online application. The ICT solution has provided various alerts that help in monitoring and controlling of the scheme. There is also a provision to identify any malpractices happening with regards to this implementation.

Please find below attached a screen shot of how the activities of a particular role are being monitored.



b. User Feedback, Project Assessment Mechanism

i. Beneficiary or General Public Feedback

The Aarogyasri website provides a provision on its home page for all users to provide feedback on this scheme. This is available on <http://www.aarogyasri.org/ASRI/FrontServlet?requestType=PublicViewsRH&actionVal=insertOpinion>

Before the beneficiaries are discharged there is an option to provide feedback. This is an integral tool in tracking the quality of medical care received by them.

ii. ICT Solution Users Feedback

All the users of the Aarogyasri application are provided with an option to provide a feedback on the application. The feedback follows a workflow following which the necessary changes are incorporated in the system by the ICT partner as applicable.

iii. Field Level Assessment

The Trust has appointed certain group of people to monitor the scheme at ground zero i.e. the field level. This group thoroughly monitors all the hospitals and reports back to the Trust. Any malpractices found during this course of execution of the scheme are dealt rigorously and may even lead complete removal of the stakeholder from the scheme.

c. Third Party Overall Project Audit Mechanism-Information Available on Website for Public Scrutiny

The ICT solution of this scheme has been designed in such a way that there is audit trail of every action performed by the user. The solution has automated the entire process follow of the scheme. There are many reports available directly on the website without actually signing into the application. The site also contains the last 24 hours statistics as well as statistics since the scheme launch. There is also a detailed dashboard of Aarogyasri statistics which contains the phase wise split up of the amount spent on the scheme since its inception.

Awards

Skoch Challenger Award 2008

The Aarogyasri Health Care Trust was awarded Skoch Challenger Award in the category 'Service Delivery' for its health insurance model in Andhra Pradesh. Skoch Award is one of the highest independently instituted civilian honours that salute people, projects and institutions which went the extra mile to make India a better country and it covers the best of efforts in the area of digital inclusion, financial inclusion and social inclusion.

This is available on http://inclusion.skoch.in/index.php?option=com_content&view=article&id=60

Recognitions***Forum for Health, Geneva***

Aarogyasri Health Care Trust received an invitation to showcase the scheme at the Forum for Health-Geneva 09 held on the sidelines of World Health Assembly by WHO in Geneva on May 20th, 2009. Chief Executive Officer of Trust was selected to be part of a group of luminaries to be panelists for the discussion on 'Better use of IT and information health and healthcare' organized during the event. The Forum served as a platform for ministers and other senior health systems' stakeholders across the world to engage in interactive debate on various aspects of health systems management. The Forum was attended by representatives from 44 countries and all the participants hailed Aarogyasri as a superior technology led intervention. Four countries viz., China, Egypt, Germany and UK held separate meeting with CEO for replicating good features of the scheme. The scheme was acclaimed as a superior low cost technology led intervention used for catering to the health needs of poor people

Planning Commission and Ministry of Health, Govt of India

Recently the scheme was showcased to the Planning Commission and Ministry of Health, Govt. of India. The scheme was acclaimed for its implementation and delivery mechanism.

URL of the website: <http://www.aarogyasri.org>

Replication of the Scheme by other States

Chief Ministers, Ministers and senior administrators of 19 states of India have visited the Trust to study the scheme. Karnataka (Suvarna Aarogya Suraksha Yojana) and Tamil Nadu (Chief Minister Kalaigier's Insurance Scheme for Life Saving Diseases) are well on way of implementation from this financial year. Tamil Nadu has launched the scheme on 23rd July 2009.

(Babu A, IAS, CEO, Aarogyasri Health Care Trust, HM & FW Department, Government of Andhra Pradesh, 3rd floor, Municipal Complex, Near Koti Maternity Hospital, Sultan Bazaar, Koti, Hyderabad, Andhra Pradesh 500095.)

Gyan-Vinimay (e-Classroom)

Ashutosh Mishra

I) Project Overview

All colleges where e-Classrooms have been established, have an acute shortage of faculty. Owing to this, students of the colleges could not work on advanced research areas. Further, in existing system students have least facility of getting exposed to the rapid advancements in engineering and allied fields. This has led to a lesser number of local students getting engaged in prestigious organisations of national repute. Also fewer number of IT industries, market forces and insufficient IT infrastructure has worsen the situation.

Based on the scenario, Government of Chhattisgarh, through Infotech & Biotech Promotion Society (CHiPS) has adopted a planned approach named as Gyan-Vinimay (e-Classroom). e-Classroom is a project of Government of Chhattisgarh aimed at enabling local students to get exposed to latest developments of science, interact on involutes of various aspects with world class resource persons beside having horizontal local audio/video connectivity with fellow college students in a periphery of 150. To assure these arrangements, six colleges of Chhattisgarh are connected to IIT Kanpur. Architecture is 2 MBPS connectivity of VPN over broadband. Well-equipped studios at Kanpur IIT campus as well as four classrooms specifically for e-lectures were renovated. These air-conditioned rooms are treated acoustically, and are appended by a control room situated either in the room itself or just by the side of it. In 2008-09, eleven disciplines were chosen for e-lectures. Topics were suggested by an elite team of college Principals, Professors of the participant colleges and representatives of directorate of Higher Education Department. These syllabi were matched for the parity with team of resource persons, and then finalization of course materials on day/date/hour basis was done.

II) Result Indicators

1. Key Performance

a. Stakeholder-wise Services and Benefits of ICT/eGov Initiatives

‘CHiPS’ is Registered Society promoted by the Government of Chhattisgarh and the nodal agency for propelling IT growth and implementation of IT plans in the State of Chhattisgarh. So this pivotal collaborative arrangement with IITK to set up 6 e-classrooms in State of Chhattisgarh was initiated.

The e-Classroom (“Gyan Vinimay”) project is an e-learning initiative by Government of Chhattisgarh where online lectures using high bandwidth video conferencing connectivity between IIT Kanpur (IITK)/institutes of the State and onsite training programmes are synergized. The initiative benefits both students and faculties.

b. Implementation Coverage (geographical areas covered under pilot, roll-out, next steps, % of total services covered under the lifecycle of projects processes, % of total branches/departments covered by the project)

Initially, in pilot phase, project was implemented in two Engineering Colleges viz. Govt. Engineering College, Raipur and Institute of Technology, Guru Ghasidas University, Bilaspur, and subsequently it was extended to four more colleges Govt. Science College Raipur, Govt. Digvijay College Rajnandgaon, Govt. P.G.College Kurud and Govt.P.G.College Kawardha. Project is funded by Higher Education Department of Govt. of Chhattisgarh.

Two colleges of pilot phase were started with V-SATS from M/s Hughes for connectivity. In roll-out phase, four colleges are connected by terrestrial line, provided by BSNL. In pilot phase only engineering subjects were covered, whereas in roll-out, as many as eleven disciplines are covered in these classes. Experience-sharing between students of Chhattisgarh developed penchant for classes so acute, that it has triggered off a chain of demand calls from institution heads.

Plan of Government of Chhattisgarh is to replicate this experiment by establishing fully operational studio, at Raipur itself, so as to facilitate delivery of e-lectures from Raipur to other colleges of the State, and making it interminable, by telecasting outside state also.

Recently, Government of India has initiated for connectivity over 18000 colleges across the nation under “The National Mission on Education through Information

and Communication Technology”. Government of Chhattisgarh (GoC) has plans to integrate this to e-Classes.

2. Efficiency Improvement

a. Time and Cost Efficiency Improvements in Delivering the Above Set of Services

Government of Chhattisgarh has utilized 50 lakhs per e-Class. Most of the expenditure is on sophisticated equipments and renovation of the room. After establishment of classes students have been benefited in terms of interaction with highly skilled Resource Persons. Had it been a manual system, engaging time of a lecture at regular basis with frequent visits from Kanpur to Raipur would have been a tedious job, that too, one college at a time. So, in abstract terms, e-Classes can be considered as low cost investments.

b. Time and Cost Savings for the Key Stakeholders to Avail the Above Set of Services

Key stakeholders are the students of higher educational institutes. Since it is a web based solution, the cost of face to face interaction has come down to normal Internet rates. Students of all faculties are benefited in bulk, many a time for colleges situated hundreds of kilometers away.

Overall 350 classes have been engaged in 11 disciplines by resource persons from IIT-Kanpur. Cost of e-Classes includes courseware fee, renovation cost and connectivity charges too. Compared with physical appearance of a lecturer from IIT-Kanpur for such volume of students could have cost time a lot more.

c. Specific Innovative Ideas Implemented in eGov Area; Best Practices Implemented

Initiatives integrated with other departments

e-Classroom is a virtual accolade for the state, as it is interactive in nature, established with the help of ICT tools. It will substantially improve the quality of life in the State, particularly in the areas of education, and healthcare, and livelihoods by increasing the reach of services through electronic delivery channels.

These e-Classrooms can also be used as platform for dissemination of tips for healthcare and other telecasts. If circumstances favor, they can be used as tools for dialogues and video conferencing too.

III) Enabler Indicators

1. Project Roadmap

a. Vision Defined

Broad motive of launching ‘Gyan-vinimay’ is to integrate the higher education institutes of the State to world class institutes. Germane rests in the exposure of local students to the most recent advancements and facilitating interaction of hindmost students with quality resource persons. Plan is to create such infrastructure all-over the state.

b. Objectives Defined

The objectives to establish the project as a consecrate are as follows:

- Supplement the capabilities of knowledge institutions through close and intensive knowledge exchange with faculties of IIT-Kanpur.
- Complement areas of gaps in expertise, bridge faculty shortfalls and enhance faculty skill further.
- Facilitate the conventional education system in taking a “skill forward view” as per the future requirements of the industries on the modern technologies.
- Expose local students to a world class institution.
- Making available the latest updation in various faculties to local students.

c. Measurable Objectives

- Feedback for overall relevance of e-Class.
- Performance by number of classes engaged.
- Attendance of classes.
- New demands for establishment of classes.

d. Project Milestones

- Chhattisgarh was the first State in the country to create state-of-the-art virtual classrooms at Engineering Colleges at Raipur and Bilaspur.
- A total of 173 online classes have been conducted for the Engineering students in the year 2006-07.

- Four more e-Classrooms are operational in Government Science Colleges, since 25th August 2008.
- 11 Science disciplines (Physics, Chemistry, Mathematics, Information Tech., Biotechnology, Biochemistry, Botany, Zoology, Geology, Computer Science and Defense Study) have been identified for e-lectures in the four Science colleges.
- A total of 187 online classes were conducted for Graduate/P.G. level science students for 2008-09.

2. Process Reengineering & Legal Reforms

a. Legal Aspects

- i. Initiation of CHiPS for establishing e-Classroom approved by Executive Board of CHiPS.
- ii. Initiation of CHiPS for establishing e-Classroom approved by Governing Council of CHiPS.
- iii. Formation of High Power committee for Syllabus finalization for e-Classroom.
- iv. Appointing nodal officer in each college.
- v. Sharing of class engagement for syllabus of Raipur University with IIT Kanpur.

b. Front-end Reengineering

- vi. Use of live screens in acoustically treated air-conditioned classrooms, instead of open rooms with blackboards.
- vii. Facility of horizontal connectivity to all e-Classrooms at one point of time.
- viii. Interaction online with the lecturer.
- ix. Well established feedback mechanism in place.

c. Back-end Process

- x. BSNL selected as bandwidth provider for the solution.
- xi. Established web based solution with uninterrupted speed of 2 MBPS.
- xii. Connectivity by dedicated VPN over broadband.

- xiii. Equipments selection, procurement, establishment and maintenance by IIT Kanpur.

3. Project Sustainability

a. Financial Model (funding pattern, business model, PPP, etc)

e-Classroom is a hybrid model of Government funded project and Public-Private Partnership. CHiPS has facilitated for IT enabled information system for institutions. Initial funding for establishment of classes was done by Higher Education Department. Recurring expenditure such as Bandwidth charges, Courseware, AMC, Contingency are to be borne by concerned colleges/ Universities with their development funds and with funds raised by Jan Bhagidari Samatis. This one time funding has created asset forever. Monitoring is to be done by Commissioner – higher education department through agencies nominated by him/her.

b. Technology Maintenance

High bandwidth video conferencing connectivity between IIT Kanpur (IITK) and education institutes is the backbone of technical framework. In pilot phase (2006-07) it was V-SAT (Hughes) which provided connectivity. This year (2008-09) connectivity is assumed by terrestrial VPN over Broadband of 2 MBPS, both sides. This was adopted for assured uninterrupted connectivity. BSNL has been paid for the erection/maintenance of this IT infrastructure.

c. Disaster Recovery Center

Since model is real time web based, there is no chance of sudden disaster. But to avoid any repetition, CD/DVD of every eLecture with Date/Time is presented at IIT Kanpur. After the completion of session, all CD/DVD are handed over to Government of Chhattisgarh for records.

d. Project Management Team (full time department officials/consultants)

Chief Executive Officer, CHiPS is the Project Director for the project. For day-to-day operations of the project and preparing department for necessary approvals for smooth functioning of the project is done by a team headed by Additional Chief Executive Officer (IT/BT). Besides Programmer (SI), Public Relations Officer of CHiPS has also been added as a part of team, to cover State of affairs.

4. Change Management

a. Change Management Strategy

As a matter of fact, visuals are absorbed faster than audio signals. So, e-Class is an initiation to change the whole conventional blackboard class to a virtual video class. Many topics of the syllabus of Ravi Shankar University, Raipur were covered by faculties of IIT Kanpur. The topics which were engaged by IITK faculties were decided by a team of local professors.

b. Capacity Building Plan

Because of huge number and heterogeneous nature of users (like local teachers, students and operators) a comprehensive multifaceted, multidirectional, multilayered training programme is resorted to. Towards capacity building activities, various onsite programmes were conducted for local faculty members, by IIT-Kanpur.

c. Leadership Support & Visibility

This knowledge sharing project soon became the hot favorite of policymakers, and matter of penchant amongst administrators. Though, initially it was for three colleges only, it virtually started in four colleges. Before session was over, there were two new proposals in waiting. Vision of educational heads and administrators is far ahead to create a big infrastructure across the State.

5. Project Monitoring

a. Monitoring & Evaluation Process

- (i) **Business Model:** One of the major tasks for the implementation of the project was to select the business model for e-Classroom project. After a series of meetings and discussions, it was decided that initial cost of establishment will be borne by the Department of Higher Education GoC. Recurring expenses will be taken care of by the Directorate of Higher Education or institutes themselves, followed by PPP model with Jan Bhagidari Samitis.
- (ii) **Departmental Coordination:** Owing to the widespread reach of the project it was necessary to have coordination. For this, Nodal officers are appointed, to expedite the e-Classroom activities within and coordination with state authorities. Meeting of CHiPS officials with institute Nodal and Principal is a regular routine in which various issues are addressed.

- (iii) **Adoption & Change of Mindset:** One of the challenges was to change the mindset & attitude from the existing manual to electronic or online lectures. Accordingly, a session of presentation and discussions with the departments, mandate to implement the e-Classroom, was adopted.
- (iv) **Availability of IT Infrastructure:** In many of the colleges, basic computer education is already in place. IT based Audio pronunciation experiment halls, called English labs, are also there in many institutions. So, computer savvy persons and a computer infrastructure was available in most of the colleges. For smooth functioning of the e-Classroom project, the needed IT information was provided by BSNL, for connectivity and video conferencing hardware, software synergized with lectures were made available by IIT Kanpur.

b. User Feedback, Project Assessment Mechanism

There is a strong introspection system evolved by CHiPS, by way of:

- (1) A weekly e-Classroom feedback is sent by all users (students and faculty) to CHiPS with their inputs on the functionality and operational aspects of online lectures.
- (2) e-Classroom feedback received shows enthusiasm in users especially students.

c. Third Party Overall Project Audit Mechanism

It is planned to get such audit performed by team of AC/commissioner higher education and IIT Kanpur people in year 2009-10.

(Ashutosh Mishra, IFS, Additional CEO, Chhattisgarh Infotech & Biotech Promotion Society (CHiPS), Department of Information & Biotechnology, Government of Chhattisgarh, Office of CHiPS, Raipur, Chhattisgarh. The author can be reached at aceochips@nic.in or pro-chips@nic.in).

Online Filing of RTI Complaint and Appeal at Central Information Commission

Pankaj K P Shreyaskar and Durga Prasad Misra

I) Project Overview

Background

The Online Filing of RTI Complaint and Appeal has institutionalized the convergence of ICT with the Indian – Right to Information Act, 2005. Tested provisions of the RTI Act, 2005 with regard to a practical regime, wherein the citizens can have secure access to information, which so far have been under the control of Public Authorities (PA) has been a hallmark of this Act. In order to promote transparency and accountability in the matters concerning the Public Authorities in particular and the government in general, it is important to improve upon the functioning of the Public Authorities and its officers with regard to timely completion and effective monitoring of a task.

Stake Views

Implementation of RTI Act has three different stake views: Demand, Supply and the Adjudication– All circumscribing the array of stakeholders and their need for an effective e-enabled RTI System:

- Demand pertains to the information seeker which follows the issues and constraints faced by information seeker while filing for information request and its subsequent follow up.
- Supply pertains to Public Authorities, PIOs, Nodal Department responsible for implementation of RTI Act and Administrative Training Institutes involved in imparting training on RTI Act. This dimension covers the issues and constraints faced by Public Authorities beginning from receipt of an RTI request to the supply of information to the applicants.

- Adjudication pertains to the Appellate Authorities and Information Commissions both at the Center and the State levels.

Project Scope

Implementation of the three years (2005-06, 2006-2007, 2007-2008) of RTI Act reveals that there is a huge gap between demand and supply side of information. This may largely be attributed to the poor record management, lack of automation and the inefficient usage of the computerization in the government organisations. However, the roll out of the 'Right to Information Act 2005 is a singular and equally momentous culmination of the legislative initiative post 73rd and 74th amendment of the constitution of India from the stable of first set of 'do-gooders'.

Considering the above obligations and the regime of the NeGP *vis-à-vis* Right to Information Act, 2005, it was envisaged to ensure coverage of the project towards enabling the RTI Complaint and Second Appeal process through an ICT based system ensuring equal opportunity to the citizens at large. This system was to confirm the requirements of the RTI Act and make available the requisite platform to facilitate the rights of a citizen in an efficient manner.

This confluence has maintained the e-Gov initiatives through the involvement of ICT and the proposed benefits.

II) Result Indicators

1. Key Performance

a. Stakeholder-wise Services and Benefits of ICT/eGov Initiative

Project Stakeholders

This project is a key initiative driven by CIC and NIC under the aegis of National e-Governance Plan (NeGP), which sought to acquire the key benefits of ICT and deliver the RTI system over the digital network for the citizens. The project stakeholders included representatives of:

1. *Central Public Authorities*

Public bodies falling under the jurisdiction of central government.

2. *Citizens of India*

The citizens of India including the Non- Resident Indians.

3. *Civil Society Organisations.*

Key Services Offered

The module delivers following key services related to the Government:

- a. Availability of a workflow based e-enabled RTI System.
- b. Availability of a single window access of information for all of the second appeal and complaints that have been registered with CIC.
- c. Availability of information related to all the actions and decisions taken by the officials at different stages.
- d. Availability of status trackers, as per the defined workflow for the RTI System, so as to assist the designated owners to adhere to the timelines as prescribed in the RTI Act.
- e. The system allows the concerned authorities to understand the status of the appeals at the scrutiny process itself. viz. status of – whether an infructuous entry is updated, whether returned, whether forwarded to appropriate authority, or further documents sought.
- f. The system also allows the concerned authorities to know whether comments have been sought from them, date of receipt of their submissions to the commission, the date of hearing schedule, the venue of hearing, mode of hearing, whether through VC or otherwise, and the decision with video-conferencing all relevant details.
- g. The system also provides information about the citations of the decision passed by the commission in a particular case
- h. Availability of auto-generated hearing notices and its e-mail notifications to all concerned parties.
- i. It also assists the authorized users of the system to generate various documents like official notes, daily cause-list, disposal reports and generation of designer reports comprising of various dynamic queries which may be used by various statutory organisations and by the parliament as an indicator for monitoring the implementation of RTI Act.

The Online Filing of RTI Complaint and Appeal delivers following key services related to the Citizens:

1. Availability of a single window solution from the government for all the information relating to RTI Complaints and Appeals.

2. Allows for submission of Complaints and/or 2nd Appeals in both online or in hard copy format to the CIC.
3. Provides guidance to the citizens over the conditions on when to file a “Complaint” or “Second Appeal”.
4. Auto generation of and unique registration number which can be used by the citizens for further correspondence or tracking the status of the complaint/appeal online.
5. Pertinent to the Second Appeal process the system gathers a history of information related to the RTI application submitted and the First appeal filed. This information captured is on account of the nature of response of the PIO, Appellate Authority for RTI Application and First Appeal respectively. The nature of response is well-categorized under four domains viz; No Response, Info Denied (Refused), Unsatisfactory response, Partial reply etc. Citizens are required to upload a copy of the order as indicated. Availability of such information facilitates the decision on an appeal by the Appellate Authorities.
6. In case of denial of information its detail as to under which provision of the Act the information has been denied.
7. This module also allows citizens to submit/upload any other relevant document which they deem fit in support of their claim.
8. It provides for the demographics of the Appellant. The system however offers for an optional menu (not mandatory as per law) which may be filled in by the appellant, if they so desire. The demographics enables the policy makers to analyze the reach and usage of the RTI Act by the appellants in respect of urban rural divide, literate/illiterate users etc.
9. Spam is one of the growing concerns over the internet exchange of information. In order to minimize its occurrence the system also provides for a verification code to be filled in by the user.
10. It even allows the user to save the form in draft mode and assigns a draft id for future use to retrieve the draft again for updation and final submission.

These inputs assist in generating reports such as:

1. Report on various categories of respondents.
2. Report on the special category of respondents which enables the officials to take a view about an early disposal of cases concerning senior citizens and physically challenged persons.

The above-mentioned enablers benefit all the stakeholders and this has become possible due to a balanced intervention of e-governance and Information and Communication Technology (ICT).

b. Implementation Coverage (geographical areas covered under pilot, roll-out, next steps, % of total services covered under the lifecycle of projects processes, % of total branches/ departments covered by the project)

Whereas democracy requires an informed citizenry and transparency of information, which are vital to its functioning and also to contain corruption and to hold Governments and their instrumentalities accountable to the governed, the Act provides for setting out the practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority.

The portal <http://rti.india.gov.in> has nationwide content coverage in terms of information on the Complaint and Second Appeal which facilitates its target audience and beneficiaries including the citizens of India of all age groups and demographic backgrounds, the Ministries, Departments and associated offices, Central Government offices, UTs & District Administrations, Legislative & Judicial Institutions of the Government, Public sector enterprises and organisations, Corporate Sector & Business Establishments, National and International Media Agencies and NRIs across the globe. This web based solution not only facilitates the key provisions of this Act, but also allows seamless dissemination of information in a transparent and effective manner.

The roll out was planned as per the following timelines:

1. Establish front-end RTI Complaint & Appeal System on July 17, 2008
2. Establish back-end RTI Complaint & Appeal System for online requests on July 17, 2008

- 3. Migrate and manage the existing database to the new system by December 1, 2008
- 4. Establish the back end RTI Complaint & Appeal System for old and new updates by December 1, 2008

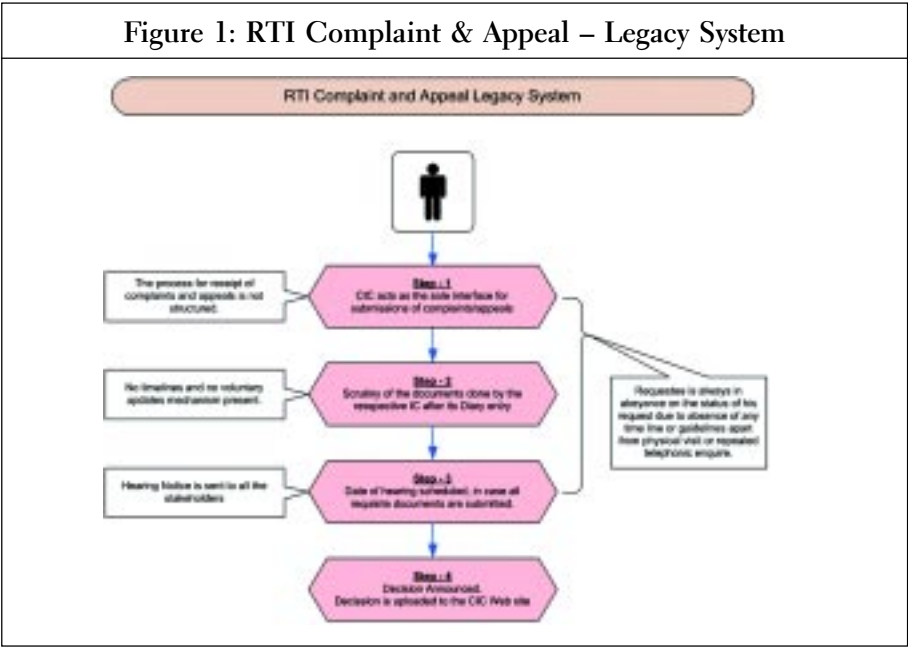
The team is responsible for the successful completion of Online Filing of RTI Complaint and Appeal adhered to the planned roll out and made the system available with entire consolidated database to the *public at large* on December 1, 2008.

The *total number of services envisaged* during the fruition of this project has been successfully implemented within the scheduled timeline. In the meantime the system catered to the requirements of the CIC providing for all the services visualized.

All the Public Authorities have been kept in purview of this system. The system has a drop down list of all the Public Authorities in a manner which facilitates the citizens for filing of a complaint/appeal/query/plea.

2. Efficiency Improvement

a. Time and Cost Efficiency Improvements in the Delivering the Above Set of Services



The time and cost analysis with respect to the Online Filing of RTI Complaint and Appeal revolves around the comparison between the legacy system and the automated system. This analysis caters to the overall life cycle of the service delivery through the front end module in support with the back end workflow system. The time and cost analysis is explained below two heads Legacy System and Automated System.

b. Time and Cost Savings for the Key Stakeholders to Avail the Above Set of Services

Time and Costs associated with RTI Complaint & Appeal

The following are the major indicators of impact on time and cost analysis, especially through Phase-1 & Phase-2, of the manual system v/s the automated system is provided below:

Case Considered for – Time (Hours), Cost (Rupees) – Phase 1			
The dynamics of Phase 1 represent the activities beginning from that stage when the Appellant/ Complainant decides to file an appeal/complaint before the commission and it stretches to the pre scrutiny stage in the registry of CIC/ICs			
The time elements –		Legacy	Automated
T1.1:	Time required in delivery of the documents to the Central Receipt at CIC through post (legacy) <i>vis-à-vis</i> online (automated)	24.00	0.50
T1.2:	Time required in distributing it to the concerned ICs registry from the central receipt section	6.00	0.50
T1.3:	Time required in the verification of the submitted documents	72.00	72.00
T1.4:	Time required in responding the appellants seeking for further documents, if documents are incomplete	24.00	0.50
T1.5:	Time required in resubmission of the documents by the appellants	48.00	0.50
Total Time for Phase-1: T1 = T1.1+T1.2+T1.3+T1.4+T1.5		174.00	74.00
The cost elements –		Legacy	Automated
C1.1:	Carrying and Delivering Cost through post	30.00	-
C1.2:	Cost involved in seeking further documents from the appellants (Government's loss)	20.00	-
<i>Contd...</i>			

Contd...			
C1.3:	Cost of resubmission (Appellant/Complainant's loss)	30.00	-
C1.4:	Indirect Cost resulting into delayed submission and loss of time in getting the petition processed (Appellant/Complainant's loss) *	1,000.00	-
C1.5:	Indirect Cost for loss of productivity due to repeated scrutiny of the same petition (Government's loss) **	1,000.00	-
C1.6:	Opportunity cost incurred in completing this deliverable (Government's loss) ***	1,000.00	-
Total Cost for Phase-1, C1 = C1.1+C1.2+C1.3+C1.4+C1.5+C1.6		3,080.00	-
* The time taken and the cost incurred to rearrange the documents and redrafting of the petition based on the inputs received from the commission. This may involve engaging new legal consultant, printing and copying of necessary documents and dispatching the modified documents to the commission.			
** Loss of productivity as scrutiny does not culminate admission of a petition. The entire process of scrutiny involves an officer of the Joint Registrar, an assistant and a data entry operator. The loss is estimated as remunerations for nearly few man hours that is lost.			
*** Opportunity cost indicates the loss of productivity in repeating the scrutiny on the cost of other petition being scrutinized.			
Case Considered for – Time (Hours), Cost (Rupees) – Phase 2			
The dynamics of Phase 2 represent the activities beginning the scrutiny of a petition till its first time disposal after hearing.			
The time elements –		Legacy	Automated
T2.1:	Time required in the scrutiny of the documents	10.00	10.00
T2.2:	Time required in responding the appellants seeking further documents required for processing of the appeals	24.00	0.50
T2.3:	Time required in notifying the scheduled Date of Hearing to the parties	24.00	-
T2.4:	Time involved in visiting, attending the hearing and going back by the petitioner (Time to Petitioner)	4.00	4.00
T2.5:	Expected time of hearing by a bench in the commission (Time to Govt.)	0.50	0.50
Total Time for Phase-2: T2 = T2.1+T2.2+T2.3+T2.4+T2.5		62.50	15.00
Contd...			

Contd...			
The cost elements –		Legacy	Automated
C2.1:	Cost of informing the scheduled date of hearing to the parties *	60.00	-
C2.2:	Indirect Cost resulting into delayed submission and loss of time in getting the petition processed (Public Authority's loss)	1,000.00	-
C2.3:	Opportunity costs incurred while completing the entire procedure of its first time disposal (Cost to Petitioner)**	1,000.00	-
Total Cost for Phase-2: C2 = C2.1+C2.2+C2.3		2,060.00	-
* There are at least three parties involved i.e. CPIO, the Appellate Authority and the Appellant			
** The time consumed in visiting the commission, attending the hearing and going back hinders the scheduled or new activities which he/she loses. In effect the petitioners schedule for the day takes a major hit and reflects as a negative cost to the new/scheduled activities he/she could have completed.			

Note: The case above refers for a petitioner at given location. The cost and time for any of the locations in India on an approximate basis will remain the same as the petitioner has to appear for the hearing to the nearest Video Conferencing facility of NIC in the district headquarters.

Time and Cost – Comparative Metrics				
Sl. No	Comparative Indicators	Manual System	Automated System	% of Reduction
1	Total Time taken (Phase1 + Phase2)	236.5 Hrs.	89 Hrs.	62.30%
2	Total Cost incurred (Phase1 + Phase2)	Rs.5,140/-	NIL	100%

The above metrics provides an indicative analysis delineating the fact that due to the automated system the Percentage pecuniary Reduction is completely eliminated and with respect to time the same has reduced to 62.3% – A commendable feat.

c. Specific innovative ideas implemented in eGov area; best practices implemented initiatives integrated with other departments

- The overall implementation of the National Portal of India complies with the standard practices like website quality standard ISO 23026:2006 and

Software engineering standard ISO 25051:2006 for Software Product Quality requirement and evaluation (SQuaRE) of which RTI Complaint and Appeal System is a part.

- The quality characteristics associated with this application development were functionality, reliability, usability, accessibility, efficiency, maintainability and portability.

III) Enabler Indicators

The Enabler Indicators are primarily the processes that are implemented to achieve the above-mentioned results. For the purpose of these Awards the Enablers are being evaluated on selected attributes listed below. Nominations should address the required information as per attributes below, and if desired important additional information for the purpose of this Award may be given.

1. Project Roadmap

a. Vision Defined

This will be a major challenge for public authorities in the arena of 'Information Housekeeping'. By improvement in data management practices and by computerization of records and work flows the time may not be far off when citizens may locate on their own the status of their requests in the work flow artery of public authorities. The Act itself in section 4 mandates as much. This has been integrated into the solution in hand and is being used effectively.

b. Objectives Defined

To establish an automated system, RTI Complaints and Appeal, which facilitates the processing of complaints and appeal submitted by the citizens of India and manage the whole lifecycle from submission to closure as directed by the provisions of RTI Act, 2005.

c. Measurable Objectives

Output based indicators

The number of cases processed for the disposal of the cases when the new system came in force as compared to the legacy system rose up by 25%. The number of RTI applications received for knowing the status of the cases in the commission as Public Authority went down significantly by 18%.

Time based indicators

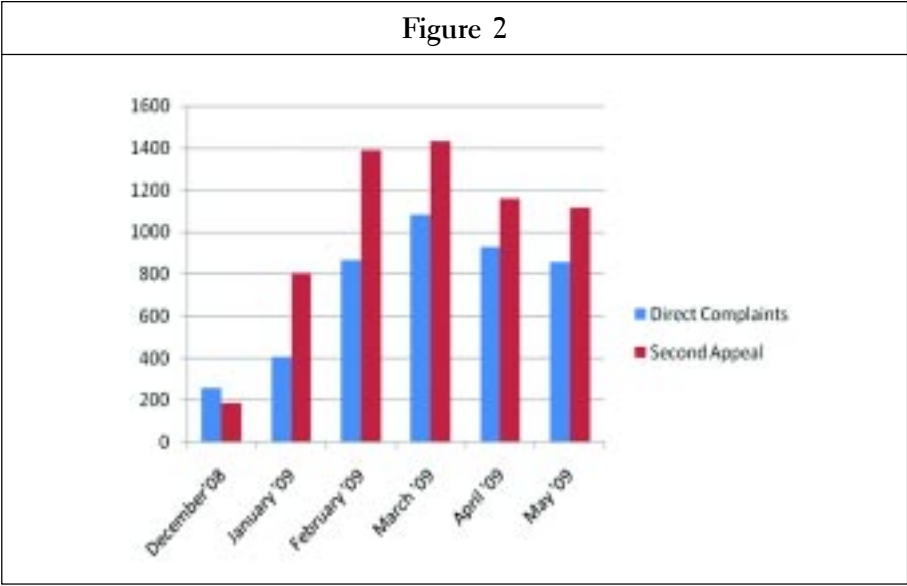
The time taken for one Complaint/Appeal from the stage of submission to closure has been reduced to minimal by the availability of RTI Complaint and Appeal Automated System (Please refer **Time and Cost – Comparative Metrics**). The legacy systems were not efficient or effective, hence, could not process all request as per the delivery timelines.

d. Project Milestones

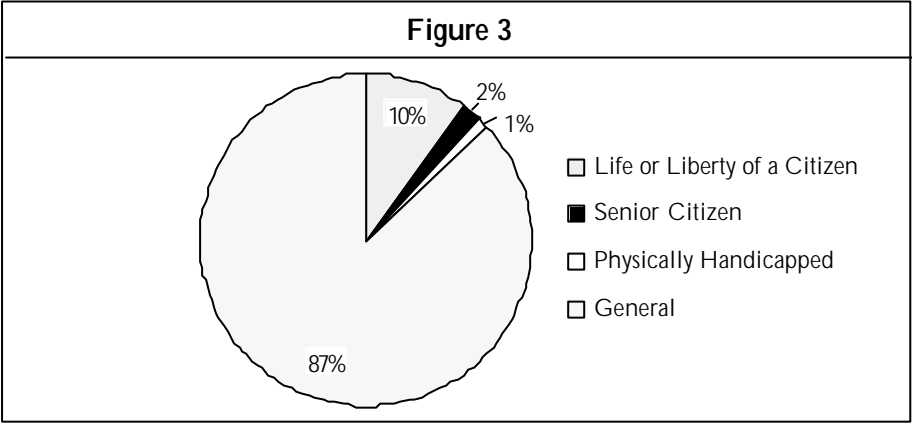
As per the front end deliverables the system was ready for use by July 17, 2008. The back end system for the new requests was also active since July 17, 2008. Simultaneously, the back end system for the previous data was built through a planned migration process once all concerned became comfortable working with the system after parallel usage of both the systems for around five months. And the entire RTI Complaint & Appeal system was ready for use for all stakeholders. The legacy data, since April'06, available with the CIC, in various formats, was migrated to the current system with incorporation of major workflow stages and a comprehensive system upholding the veracity of information was available to the citizens by 1st December 2008.

Trend analysis for the RTI Complaint & Appeal System

- Online applications have been showing increasing trend as against the conventional mode of filing applications.



- Since the status of the cases at various stages are available in public domain, request for information at CIC is showing a decreasing trend in Figure 2.
- Prior to launch of this system only basic information could have been generated. But now reports on much diverse information are being generated for use by the policy-makers in drawing future road map regarding RTI implementation in the country (Figure 3).



2. Process Re-engineering & Legal Reforms

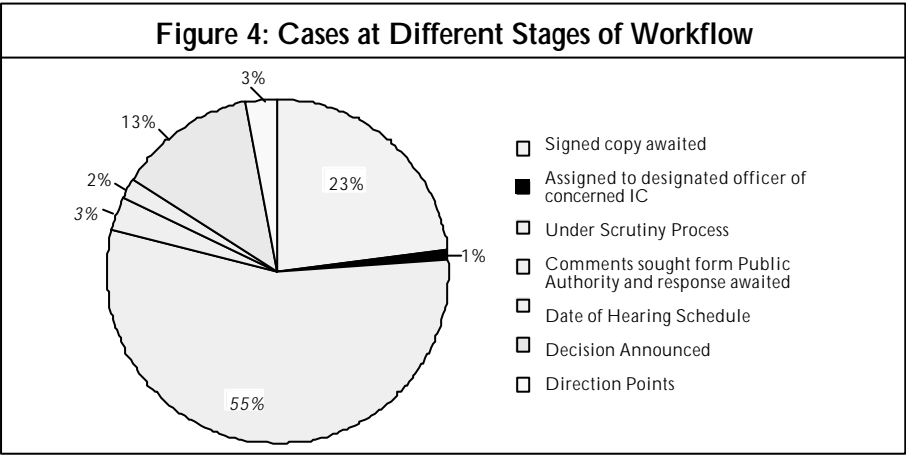
a. Major Front-end Process Changes

The RTI Complaint & Appeal Automated System was developed on the basis of the ingredients of the requirements of the Act, retaining the basic characteristics of the legacy system and the citizens' feedback along with the experience of the commission. In order to eliminate the unwanted time-lags and streamline the filing process of Complaint and/or Appeal to the CIC two simple user friendly online forms have been designed in coherence with the RTI Act. On the other hand in order to provide the point-specific information regarding various stages of the application a 12 stage internal workflow system has also been built and implemented in CIC.

The Process of Citizen Module

This front-end module facilitates the citizens to submit their Complaints and/or 2nd Appeals to the CIC online. A citizen can visit the site <http://rti.india.gov.in>, fill up the desired form and submit his/her Complaint/Appeal online. A choice is made available to the visitor either to submit the form at one go or save the form as a draft mode for final submission at a later date. Once it is finally

submitted, the complainant/appellant is prompted by the system to take a print out of the filled form, sign the form and send the signed form to the CIC in view of requirements of the rule framed under the Act for further processing of the petitions. While generating a hard copy, the system also generates a unique registration-number, which, can also be used by the citizens for further correspondence or tracking the status of the complaint/appeal online. While filling the forms information regarding priority category, if any, are also being captured to help CIC dispose the petitions within stipulated period as laid down in the RTI Act. The citizens can access this module by visiting <http://cic.gov.in> and the National Portal as well.

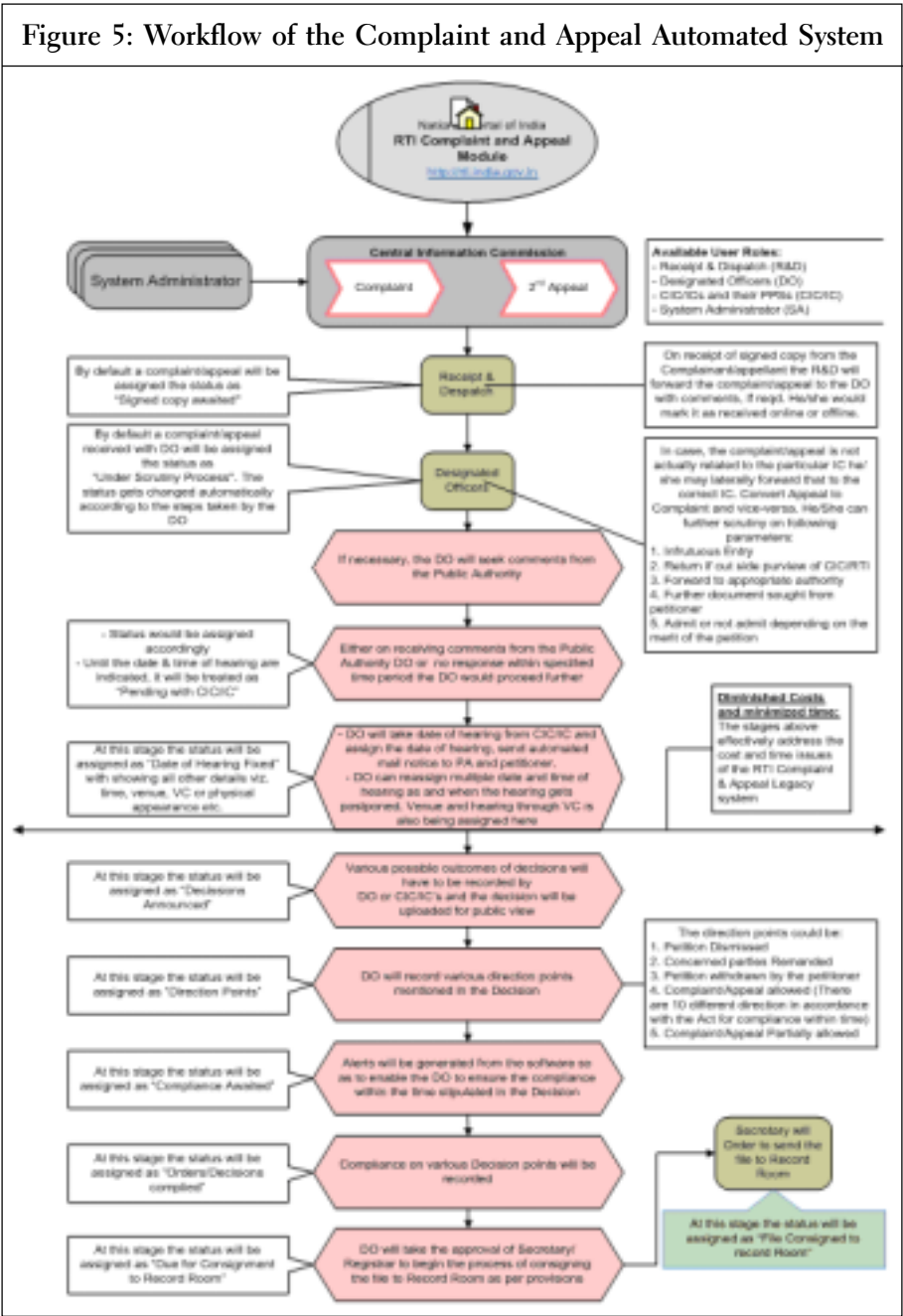


b. Major Back-end Process Changes

The back-end module aligns on the deliverables at the office end in compliance with the provisions regarding time schedules enacted in the RTI Act. A total of 12 stages have been devised with multiple sub-stages/options to proceed through the life cycle of a complaint/ appeal (Refer Figure-5 for details). All actions or decisions taken by the respective officials at the different stages in the process flow of the complaints/appeals are captured. It also facilitates auto-generation of hearing notices, electronic dispatch of the decisions through e-mail to the concerned stakeholders. This system not only facilitates easy tracking of cases but also monitors the workflow for speedy disposal of cases. This module also assists in, generating various documents like official notes, daily cause-list, disposal reports and generation of designer reports comprising of various dynamic queries which may be used by various statutory organisations and by the parliament as an indicator for monitoring the implementation of RTI Act as mandated.

The Process of Administrative & Workflow Module

The workflow in Figure 5 delineates a generalized process for the RTI Complaint and Appeal system which includes twelve stages. The first stage applies for the



receipt of the complaint/appeal which received by central registry and is assigned to a designated officer of concerned information commission with the date of receipt and the receipt is duly acknowledged by the designated officer. On receipt of the complaint/appeal, the request is scrutinized with regards to the validity, veracity and integrity and the status of the scrutiny is reflected on the system not only for requester's perusal but also for the Public at large. The scrutinized information is also sent to the Public Authority for their comments. Once the comments are received and date of hearing is scheduled decision is announced based on the outcome of the hearing.

Once the decision is announced various direction points mentioned in the decision are recorded which can range well from its dismissal to imposition of penalties, from remanding the petitions to amending the practice conforming the Act by the Public Authorities. On the basis of direction points parties receives mail alerts from the software so as to maintain compliance within the stipulated time period . During the intervening period the petitioner can see the status of his case being read as compliance awaited. Once the compliance on various decision points is recorded the secretary of the commission orders the designated officer to begin the process of consigning the file to record room. Status for this stage of action will be read as 'File consigned to record room'.

3. Project Sustainability

a. Financial Model (funding pattern, business model, PPP, etc)

RTI Complaint & Appeal System is a non-profit initiative under the National Portal of India project and aims to bring the ICT benefits in the Government functioning so as to effectively disseminate information to the citizens & significantly contribute to the NeGP plan.

b. Technology Maintenance

The RTI Complaint and Appeal System is hosted in the Internet Data Centre of NIC and leverages upon the National Portal of India infrastructure with a primary objective of ensuring 24x7x365 support, scalable, secure, accessible, manageable and highly reliable systems. Following are the key highlights of Infrastructure:

- Multi-Layered Architecture making the portal Application, Database and front-end servers independent of each other
- Clustered Server components to cater to millions of simultaneous hits with high availability

- Storage Area Network to meet the exponential data growth
- Multi layer Security infrastructure to enhance Security & Reliability
- Use of Open Technologies to facilitate interoperability.

The robust infrastructure and technology know-how to ensure smooth and uninterrupted delivery of results to millions of stakeholders simultaneously on the Net via effective load management strategy has also been leveraged by the system.

c. Disaster Recovery Center

NIC infrastructure allows for a robust physical and technical environment, affording users the reliability and flexibility needed to support the mission-critical system or application operation needs. The Data Centre is ISO 27001 (Information Security Management System) certified with a disaster recovery centre at Hyderabad.

d. Project Management Team (full time department officials/consultants)

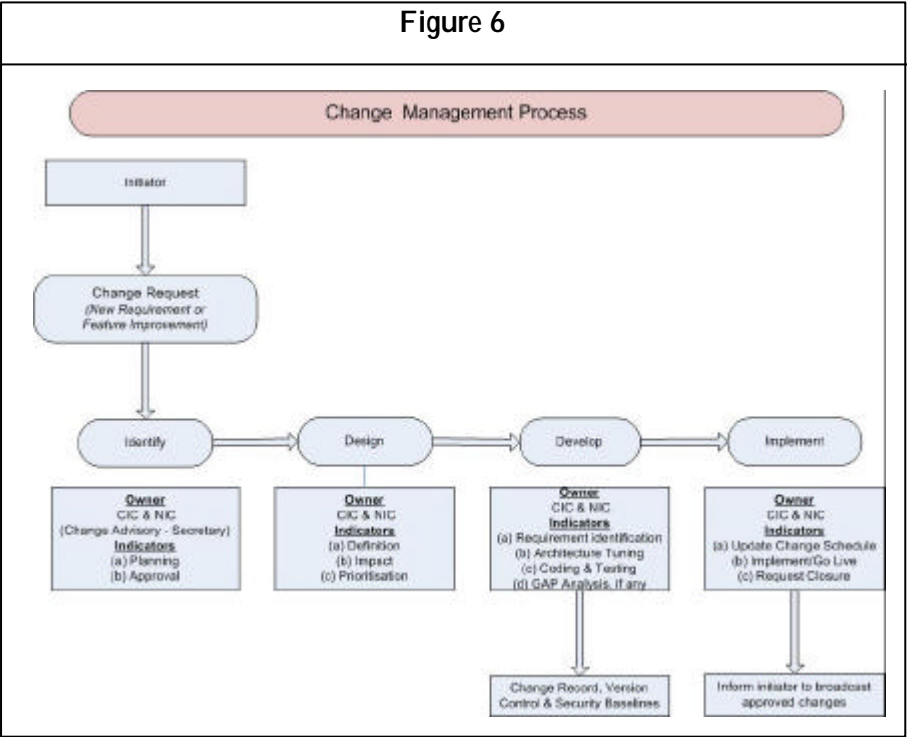
The project management team comprised of team members from CIC and NIC wherein there was a dedicated Project Manager, system architect, software developers, and implementation support professionals. Secretary, CIC lead the overall team and the Joint Registrar held the responsibility of the entire coordination so as to ensure the completion of the project as scheduled. The Chief Information Commissioner and Information Commissioners provided useful guidance whenever required.

4. Change Management

a. Change Management Strategy

The Change Management strategy utilized for this project focused on the following aspects:

- Maximum visibility, increased responsiveness, better predictability and improved system
- Process driven work steps to handle the effective change in a controlled fashion
- Track and manage change activities and maintain traceability of the assets
- Effective allocation of work to support teams.



In an overall context the initiator requested for a change which followed the project management phases as illustrated above in Figure-6 viz. Identify, Design, Develop and Maintain. Owners for the above phases were set so as to initiate and approve the requirements. Each phase had an indicator for measuring change be it in requirement definition, architecture design, prioritization or through asset classification, version control or security baselines. On approval of changes from all owners the change manager broadcasts the same to the RTI team.

b. Capacity Building Plan

With an effective and robust IDDI Framework in place, the plan for capacity building curtails to different needs such as:

- 1. Monitoring Progress as per desired levels
- 2. Inter departmental collaboration between CIC and NIC
- 3. Capacity management
- 4. Training and handholding

5. On site deployment of handholding experts to impart on job training and troubleshooting as and when need arises.

c. Leadership Support & Visibility

The project has entailed the leadership and visibility engraved through the directions of Secretary, CIC and the Senior Technical Director, Data Centre and Web Services Division from NIC. It is under their leadership that firstly a well-balanced confluence was achieved which trickled down to each member of the team. Such visibility not only embedded the drive for a desired and effective system in place, but also enhanced the commitment level of the team because of the sole reason that they started visualizing the dream their leader envisioned. The output has been a much needed system which has tried to implement the directives of RTI with the benefits of ICT.

5. Project Monitoring

a. Monitoring & Evaluation Process

Ensuring the implementation of the project in regard to the timelines, deliverables and budget requirements are the basic objectives of this stage. Here, the team leaders from CIC as well as NIC monitored the project progress during the implementation leading to its successful completion.

Key Activities

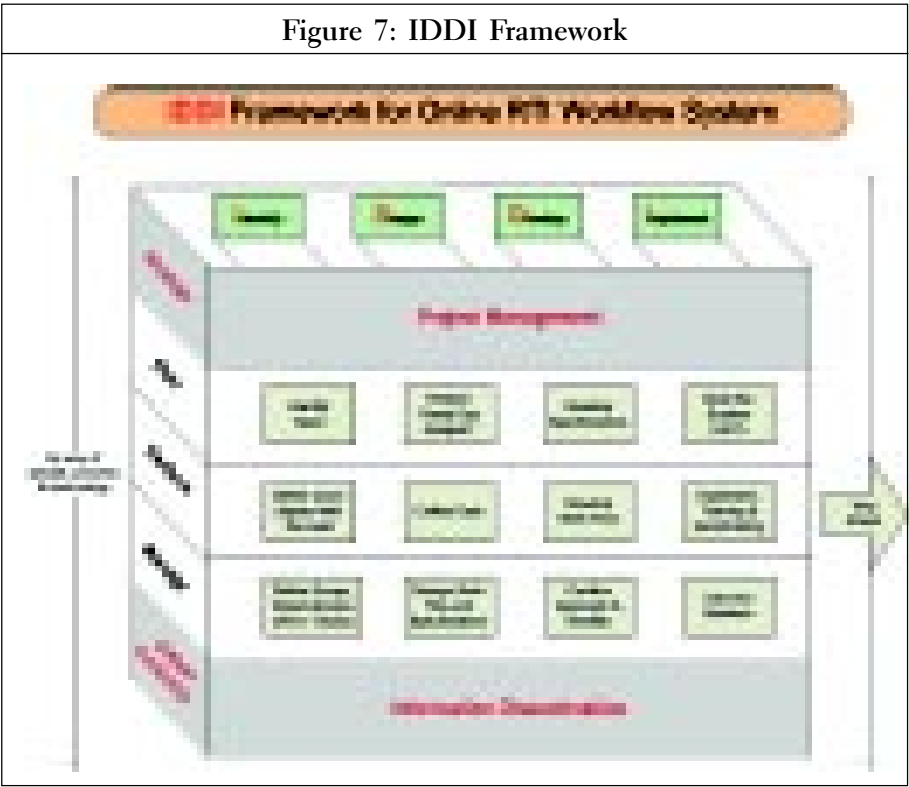
The important component of Project Monitoring is a planned and deliberated approach such that it:

- Clarifies objectives and fully understands ground realities;
- Identifies inter-linkages between various tasks and optimizes results;
- Ensures quality in delivery through SLA enforcement;
- Incorporates the concerns of major stakeholders;
- Uses state-of-the-art program management tools, such as Microsoft Project, to track the progress of the effort, and
- Regularly updates the stakeholders on various project development activities.

This Project monitoring team managed the overall project execution and ensured that key objectives are met and issues are highlighted in a timely manner. Further as part of the project monitoring it was important to identify the linkages

between the tasks. These linkages were highlighted as soon as the task begun so as to ensure optimization of results and avoid duplicity.

Keeping in view the RTI regime and their obligations, a team with members from Central Information Commission (CIC, New Delhi, India) and National Informatics Centre (NIC, New Delhi, India) grouped, analyzed the challenges to realize the potential and concurred to a robust IDDI framework comprised of four different phases i.e. Identify, Design, Develop, Implement to achieve the goal. In cognizance of the framework each of the phases are elaborated below (Figure 7).



Identify

- *Identify the need:*
 - a) To adhere to the provisions of Right To Information Act, 2005
 - b) To build a computerized automated system for applying the various facets of RTI Complaint and Appeal through online medium

- c) To provide a status tracking system of the complaints and appeals pertaining to RTI
- *Identify the key personnel involved in achieving the goal:*
 - a) Team from Central Information Commission (New Delhi, India) and
 - b) National Informatics Centre (New Delhi, India)

Define a Project Charter comprising of the following:

The objectives of NIC & CIC, functional and geographical scope, the ownerships, timelines, dependencies, review mechanisms and process of handling risks and issues.

- *Conducting a AS-IS-WHERE-IS basis study identifying:*
 - a) To be hosted under the infrastructure of the National Portal of India at the Internet Data Center located at NIC Head Quarters
 - b) To identify and understand the existing formal and informal processes
 - c) Understanding the start as well as the end points of the process, various process linkages between information commissioners and validation of the same.

Design

- *Conducting 'Need-GAP' Analysis:*
 - a) Requirement of an efficient automated system for RTI Complaint & Appeal
 - b) Enable status tracking information over the entire lifecycle
- *Conducting Process reengineering:*
 - Study on areas where process re-engineering is required
- *Designing the technical architecture:*

The system was designed by way of critical parameters associated with availability of application and total number of transactions per module

- *Designing the forms:*
 - i. Forms designed as per the re-engineered processes

- ii. The design of forms allowed attachment of necessary documents
- iii. Security of the forms was a key factor while designing the forms e.g.; security from spammers
- iv. Key parameters considered while designing of forms – simplicity, relevancy, flexibility for draft submission & consistency in data structure

Develop

- *Development based on two modules:*

- a) Front end: Citizen Module
- b) Back end: Administrative & Workflow Module

- *Development of a Workflow Document:*

Generate a workflow document to be used as a benchmarking tool for future processes to be measured

- *Development of Forms:*

To develop forms as per the provisions of the RTI Act and design specifications spread across two modules i.e. Citizen and Workflow

- *Workflow development:*

To develop the work flow in concurrence with the GAP analysis & process maps by following the provisions of the RTI Act

Implement

The high level stages of the 'Implement' phase required the system to be build on and tested through UAT so as to measure the performance, acceptance, and implementation, make provisions for training, parallel run and handholding and device strategies to maintain and operate the system. Outcome is the "RTI Complaint & Appeal Automated System" and the system has been implemented to get to business from 1st December 2008.

This four-stage project management methodology shown above shall focus on following three aspects:

Facilitate Communication

- All the key personnel involved in the project identified as being interdependent ensured information sharing by keeping each other

informed of all the project related activities. This was made possible through periodic updates, progress reports, informal briefings, pre-planned meetings and briefings, minutes of meetings copied to all the key stakeholders.

Loose team boundaries:

- Given the above nature of interactions, the team ensured that the boundaries are more permeable and the team members interact with each other on a frequent basis. Continued knowledge sharing between teams was also encouraged.

Quality assurance:

- In order to guarantee effective functioning of quality assurance procedures, the team established critical controls including definitive ethical standards, quality assurance checklists, and independent reviews. The major benefit derived was in the form of an assurance, to CIC, that each task is being conducted under a uniform control environment utilizing the same methodology, no matter where the work is performed.

b. User Feedback, Project Assessment Mechanism

The system provides users with a contact list as mentioned below:

Shri Pankaj K. P. Shreyaskar,
Deputy Secretary & Joint Registrar
#310, August Kranti Bhawan,
Central Information Commission, New Delhi 110066
Telephone & Fax: 011-26717354
Email: pkp.shreyaskar@nic.in, rti@india.gov.in

Citizens utilize the above contact to provide feedback on the existing system and help cognition towards effective enablement of RTI well aligned with the NeGP.

c. Third Party Overall Project Audit Mechanism

Considering the sensitivity of the information provided through this online transaction processing system the project has been audited for web application security over the OWASP model by Cyber Security Division of NIC.

Usability and robustness of the system is being tested by PRIA and NCPRI, Civil Society Organisations.

(Pankaj K P Shreyaskar, Deputy Secretary & Joint Registrar, Central Information Commission, New Delhi.

Durga Prasad Misra, Scientist - 'D', National Informatics Centre HQ, New Delhi).

India Development Gateway

C Kathiresan

I) Project Overview

- India Development Gateway (InDG) is a nation wide initiative that targets specific country needs in the domain of rural and social development.
- The initiative aims to provide credible information, products and services that respond to the real and strategic needs of the rural communities, especially the marginalised and poor, in local languages. It catalyzes the use of ICT for knowledge sharing among development stakeholders representing from Government, NGOs, community based organisations, private, and Academic, Research Institutions leading to development.
- InDG reaches out to the unreached through its online Multilingual portal (www.indg.in) and offline products and capacity building activities.
- www.indg.in covers important six sectors related to rural livelihoods, i.e., Agriculture, Primary Education, Health, Social Welfare, Rural Energy and e-Governance. The portal hosts multilingual information on over 2400 topics in six languages (Hindi, Tamil, Telugu, Marathi, Bengali and English). The content in the portal has been shared by over 200 institutions from varied background, including rural communities.
- A range of multilingual offline products in the six identified sectors are also available for use. Capacity building of Master



trainers of Village Knowledge centre operators in the areas of IT literacy is the other key activity taken up as part of the initiative.

- The quality of multilingual content and focus areas addressed in the portal got national level attention. The portal was launched by Hon'ble President of India on July 4, 2008 at Vigyan Bhawan, New Delhi.

II) Result Indicators

1. Key Performance

a. Stakeholder-wise Services and Benefits of ICT/eGov Initiatives

India Development Gateway provides services to the first level service providers by 2 ways

1. **Online:** Through the multilingual portal www.indg.in
2. **Offline:** Various outreach programmes, multimedia products and publications.

Outreach programmes includes multi-stakeholder consultation workshops, master training programmes to the kiosk operators, capacity building programmes to the content providers and ICT literacy trainings to the community members

b. Implementation Coverage (geographical areas covered under pilot, roll-out, next steps, % of total services covered under the lifecycle of projects processes, % of total branches/ departments covered by the project)

Starting from the inception of this initiative, participation of rural communities and the people working closely with them has been one of the unique characteristics of India Development Gateway. This was made possible through the outreach activities of InDG which included events and field visits by the InDG team, for interaction with people at community level.

Over 60 such events and numerable field visits were organised by the InDG team in collaboration with various institutions across the states of Jharkhand, Andhra Pradesh and Tamil Nadu, where the initial piloting was done. The states were chosen as representatives for the languages of Hindi, Telugu and Tamil.



Outreach Partners: Alternative for India Development, Zoom Developers (Jharkhand); Byrraju Foundation (Andhra Pradesh); and DHAN Foundation (Tamil Nadu) are the outreach partners with whom InDG team organised various programmes at grassroots level.



Ashwini Centre Operators, AP VLEs training at Garhwa and Dumka, Jharkhand



Amalapuram, Andhra Pradesh



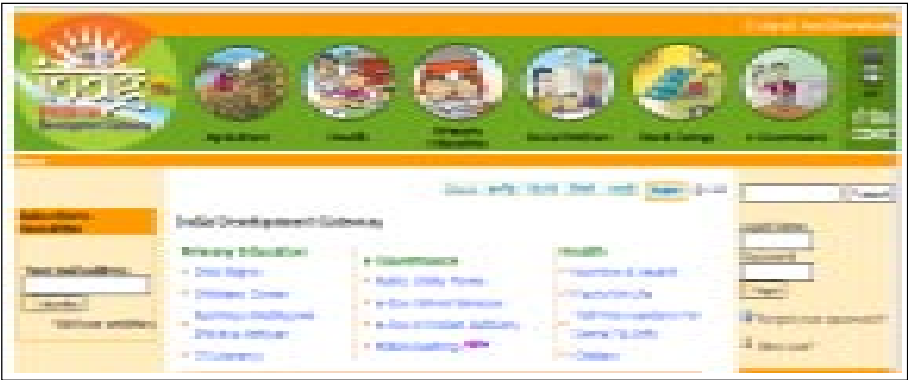
Garhwa, Jharkhand

2. Efficiency Improvement

The multilingual portal (www.indg.in) developed as a part of India Development Gateway Project is the backbone for delivering various citizen centric content services. This portal is recognised as unique one, because:

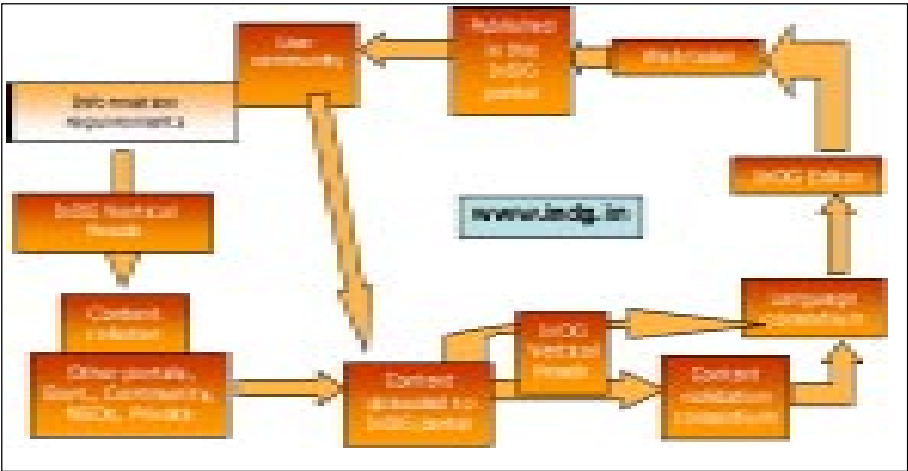
- It hosts content covering 6 important sectors related to rural livelihoods (Agriculture, Health, Primary education, Social Welfare, Rural Energy and e-Governance)
- Content in 6 languages (Hindi, Marathi, Bengali, Telugu, Tamil and English)
- More than 2000 unique topics across 6 sectors
- Decentralized content management system by automated content flow process that ensures free flow of authenticated, unbiased, value added content

- Multi-stakeholder approach in need identification, content collation, translation and validation.



Quality of Content

- Regional specific need identification workshops organised at various states are the backbone for the content framework
- Content Management Process (given below) adopted in *www.indg.in* ensures the relevancy and accuracy of the content



- The content is being validated by selected experts in domain and language, before uploading into the portal
- Services like Dynamic Market Information is being updated daily basis
- Regional language content are validated by language experts from the respective states

- The content is designed keeping in mind the target audience, i.e. the first level service providers at village level
- Content is organised sector-wise and the important topics are highlighted in the Home Page, helping the user to get overall idea about the content available in the website, in turn, reducing the bounce rate
- Unicode fonts are used for the regional language content ensuring universal access; user need not to download fonts
- Language buttons helps the user to switch between languages on every page.
- Content available in HTML, PDF, Flash, Audio and video formats
- Users can easily save, print and send the web page
- Icon based content arrangement for easy navigation

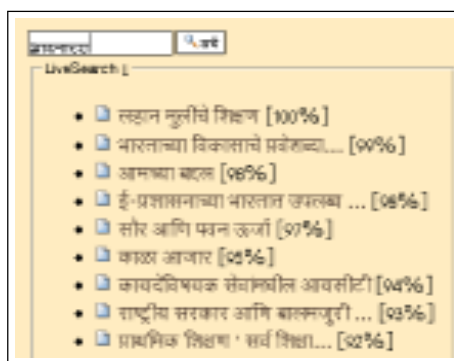


- SMS based content delivery for the specific user community (e.g. Market information and Ask an Expert)
- Expandable boxes – It helps the user to get the overview of the content available in a particular page. If he/she needs further information, by clicking on the topic, the expandable boxes will provide the details.



Usability of the Portal

- Portal has been developed on PLONE, an open source Content Management System (CMS) that provides unique support to Indian language content
- The website has been developed using open source tools and Unicode fonts which aids in universal access. It is platform and browser independent.
- Multilingual Search – Provided at every webpage helps the user to search any topic of their interest in the available languages
- Content Upload Section – This feature facilitates the user to upload his/her content directly into the portal in 4 steps. Upon verification of the content it will be either published or rejected
- Multimedia Content – User friendly multimedia content arrangement. Progressive straming facility helps the user to access the multimedia content even in low bandwidth in remote areas.



- Features like multilingual discussion forum, partnership form, ask an expert, opinion polls, feedback form are making the portal more interactive and helps user to share their views in their own language

Our study indicates that www.indg.in is mostly visited for the following reasons

1. Access to relevant information that address the latent needs of rural people (e.g. Health information, especially reproductive health related to women)
2. Livelihood opportunities (Access to market information through DMI, simple tips for managing pests, farm enterprises, credit availability etc..)



- 3. Access to information that saves time and reduces drudgery (availability of online forms, passport application, insurance and schemes related forms)
- 4. Capacity building in terms of IT skills (Village Knowledge Centre Operators and first level service providers are now more confident in using local language)
- 5. Linkages among stakeholders (Access to information on various development stakeholders in a single platform. It helps reinvention of activities in most cases)

Feedback in the Portal

I have been really astonished looking at this website and people who are involved in sharing this information. The website is really helpful and it needs to be advertised to the masses in towns and villages at a higher level. I will do my part forwarding to groups. I felt to write an e-mail to thank the team, on the good work done.

– Varma gottumukkala.

This is really a very good informative; useful website. It gives us all the information we need. We were all in need of such kind of website. Thanks for the same.

– Arun Kumar Karua

InDG website is very useful one to all the citizens of our nation. It gives not only the details, but also gives solutions to the various problems. India, like developing country, needs this kind of site very much. Its newsletter in most of the languages is a good idea.

– M.Balu

It is an excellent information site for the development of Rural India where real India lives. Keep it up.

– Sunil Kumar

Feedback from beneficiaries:

Mr. K.S. Ramalingam, Farmer, Gopichettipalayam

I came to know about Dynamic Market Information provided by www.indg.in website. I browsed through the market information page of www.indg.in portal in tamil. With the help of wholesalers profile and price comparison published in the DMI page, I contacted the Coimbatore Banana Market dealers and scheduled my harvesting period. Please make a note that I got these idea only because of the comparison of price given for the seven major markets in the DMI page of www.indg.in website

Mr. Ashraf, Cochin

I am Ashraf, 48 years old, a wholesale fresh fruits trader in the Cochin market in Kerala state..... Nowadays, I am getting calls from the primary producers, i.e., the farmers from various states and they are ready to supply the commodities at better prices, which are mutually beneficial to them as well as to me. Even some retail buyers and general public are contacting me for direct trading. Thanks to DMI for facilitating better contacts, which also helps in speedy transaction, time saving, better service, and of course, better price

Mr. Santosh Kumar, CSC Operator, Garhwa (Jharkhand)

InDG's ICT training programme at Garhwa gave me an opportunity to know about this initiative. The www.indg.in portal of InDG is unique thing for me.

It provides information in Hindi on all important topics of our interest i.e. Agriculture, Primary Education, Health, Energy. Also the capacity building training organised by India Development Gateway is very useful for VLEs like me.

Recognition by other Organisations

National Institute of Rural Development has recognised www.indg.in web content as an important one empowering rural India and InDG team is going to be associated with various rural development related training programmes organised by NIRD.

The following portals have provided www.indg.in link in their web pages

- Government of Andhra Pradesh
- Government of Jharkhand
- CSC Portal
- Tamil Nadu Agricultural University
- e-Gov Knowledge Exchange (NISG).

III.) Enabler Indicators

I) Project Roadmap

a. Vision Defined

‘Reaching the Unreached especially poor and backward’

b. Objectives Defined

- Strengthen first level service providers to discharge services more effectively
- Educate the actual end user on various issues in the identified 5 verticals (Health, Primary Education, Agriculture, Rural Energy & E-Governance)
- Linkages with other portals and initiatives of similar nature

c. Measurable Objectives

- Leverage the unique partnership structure of the Gateway to build strong credibility and brand equity

- Deliver value added content and services through five verticals on the Gateway, through an online as well as offline presence
- Propagation of Government schemes through the Gateway
- Use local languages to the extent possible for content delivery and services
- Ensure strong pro-poor and pro-woman orientation in all programming
- Build a framework for financial sustainability.

d. Project Milestones

- Developed a platform for knowledge sharing in local languages (www.indg.in)
- Network of partnerships (200+) for content sharing and outreach
- Piloted the utility of InDG through the outreach activities in select locations of the country
- Capacity building of knowledge centre operators on basic IT skills
- Launch of the portal by the Hon. President of India, Smt Pratibha Devisingh Patil on July 4, 2008.

2. Process Re-engineering & Legal Reforms

Major front-end process changes

Governing Council has the right to do the major front end process changes

Major back-end process changes

PRSG and C-DAC has the right to do the major front end process changes

3. Project Sustainability

a. Financial Model (funding pattern, business model, PPP, etc)

The project is supported by Electronic Governance Programme Management Unit (EGPMU), Department of Information Technology, Govt. of India

Along with partners few value-added services has been developed to offer on cost basis (Multimedia products, SMS based services, e-learning courses)

b. Technology Maintenance

All the activities related to the project including hosting and maintenance of the multilingual portal www.indg.in is done by C-DAC, Hyderabad

c. Disaster Recovery Center

C-DAC, Pune

d. Project Management Team (full time department officials/ consultants)

Sl.No.	Name	Designation
1.	Dr. Sarat Chandra Babu	Director
2.	Dr. C. Kathiresan	Project Manager
3	Ms. B. Vijayalakshmi	Vertical Head
4.	Ms. Latika Sehgal	Member Technical Staff
5.	Mr. Jitendra Prasad	Editorial Executive
6.	Mr. Jagadish Babu	Programme Manager
7.	Mr. Srinivas Rao	Manager - Outreach
8.	Ms. Krishna Priya	Project Engineer
9.	Mr. Ramaraju	Multimedia Designer
10.	Dr. Girija	Health Sector Consultant
11.	Ms. Simi	Editorial Assistant
12.	Mr. Laxman Rao	Project Engineer

4. Change Management**a. Change Management Strategy**

Project Management is done on rotational basis

b. Capacity Building Plan

Members undergo various training programmes at regular intervals such as team building, leadership quality, technical workshops etc.

c. Leadership Support & Visibility

Constant support and guidance from authorities directed the InDG team to new heights. Team spirit has been created among members, which helped the project to experiment innovative ideas.

5. Project Monitoring**a. Monitoring & Evaluation Process**

The project is monitored and evaluated at regular intervals by GC and PRSG

Governing Council

1. Dr M.S. Swaminathan, MP and Founder, MSSRF - Chairman
2. Secretary, IT, GOI - Co-Chairman
3. Additional Secretary, E-Gov, EGPMU, DIT - Convenor
4. Deputy Resident Representative, UNDP
5. Management Information Officer, World Bank
6. Director, Dept. of Economic Affairs, GOI
7. Director, Datamation Foundation
8. Managing Director, ISAP
9. Director General, C-DAC
10. Director General, NIC
11. Chief Executive Officer, NISG
12. MD and CEO, Media Lab Asia
13. Resident Rep. Comm. & Advocacy, UNDP
14. President, NASSCOM
15. Executive Director, MAIT.

Project Review & Steering Group

Chairman: Joint Secretary, E-Gov, DIT

Member-Convenor: Shri A.K. Balani, Director, DIT

Members

- Smt. Neeta Verma, Senior Technical Director, NIC
- Dr. N. Sarat Chandra Babu, Director, C-DAC, Hyderabad
- Shri Piyush Gupta, NISG, Hyderabad
- Shri. J.K. Tyagi, Dy. FA, DIT
- Smt. Renu Bhudhiraja, Scientist 'F', DIT

b. User Feedback, Project Assessment Mechanism

- i. Feedbacks received in the portal

- ii. Kiosk operators
- iii. Outreach partners
- iv. Project Review and Steering Group

c. Third Party Overall Project Audit Mechanism

Note: Not available for this project.

(Dr. C Kathiresan, Project Manager, India Development Gateway, C-DAC, JNTU Campus, Kukatpally, Hyderabad. The author can be reached at kathiresanc@cdac.in).

e-Krishi-Market Driven Agricultural Initiative through IT-Enabled Agri Business Centres in Kerala

Rathan U Kelkar

I) Project Overview

e-krishi is a market-driven agricultural initiative that envisages facilitating and enabling farmers to sell their produce using the ICT network of Akshaya. The project envisages facilitating and enabling farmers and other stakeholders through Agri Business Centres to interact with Agricultural Service Providers in the Private, Government and Non-Government sectors.

The project provide a web-based solution enabling the small- and medium-farmers as well as owners of large landholdings.

The project is piloted in Malappuram district of Kerala State through 146 Akshaya e-kendra. Malappuram is basically an Agrarian society and about 70 per cent of population are depending directly or indirectly on agriculture for their livelihood. Nearly 50 per cent of the working population are engaged either as cultivators or as agricultural labourers.

There have been several national initiatives aimed at improving the conditions of farming community. In Kerala these initiatives have been led by various organisations such as the Department of Agriculture, Kerala Agricultural University, Commodity Boards (such as coconut, spices, rubber etc.) and NGOs. However, all these efforts were all directed at increasing the *production* and *productivity* of crop plants by promoting good agricultural practices and post harvest processing of harvested products. But in spite of increased productivity, the farmer was forced to satisfy with only 20 to 40 % of the market price depending

on the perishability of the produce, with the middlemen pocketing the rest. Therefore, even a 20% increase in productivity by more efficient practices and modern methods resulted in only an effective benefit of 4 – 8 % to the farmer. Other methods lacked sustainability as they either depended on subsidies, or were designed for large scale farmers and not for small homesteads. Hence, the challenge remained to improve the peasants condition in a sustainable and substantial manner.

It is in this context Kerala State IT Mission the Apex ICT implementation agency in Kerala came out with a novel idea “e-Krishi” to address the gap in agricultural information flow and transaction management.

II) Result Indicators

The Result Indicators are primarily the outcomes and key achievements of the project. For the purpose of these Awards the Results are being evaluated on selected attributes listed below. The nominations should address the required information as per attributes below, and if desired important additional information for the purpose of this Award may be given.

1. Key Performance

a. Stakeholder wise Services and Benefits of ICT/e-Gov Initiatives

The most significant differentiator of this proposal compared to other ICT enabling agriculture interventions implemented elsewhere is that this initiative is built on the already existing PPP model of Akshaya whose credibility has been established by the communities themselves. Hence, the accessibility of the Agri-Business Center and its ownership by the community is no longer a challenge. The benefits of the project are:

1. Increased yields converting non-performing agricultural assets to performing asset.
2. Empowering small farmers with real time information, collective bargain of prices for his crops, agricultural engineering knowledge & advice that is customized for the small farmer.
3. Facilitating institutional credit, Performing agriculture support systems, Efficient and cost effective logistics support
4. Bringing in documentation practice in Agriculture confirming quality of produce effecting in high value products.

Benefits to Member Farmers

- Access to warehouse, markets with prevailing price information
- Access to schemes, subsidies, modern agricultural methods, best practices, soil testing, seeds, plantlets, fertilizers, pest control
- Facilities for grading agricultural produce and ensuring correct price for their produce
- Logistics support, cost sharing possibilities
- Access to micro credits
- Agri Insurance support/faster claim processing
- Access to Accounting practices, Documentation support.

Benefits to member Agricultural Input Providers

- Buyers/exporters to post their pick up quantities by date, by market-venue/warehouse
- Plan logistics routes for collection of agri-produce in advance seeing the offer quantities from farmers in various locations
- Contact farmers producing any specific crop and confirm purchases in advance facilitating better control over supplies.
- Select farmers for producing any specific variety of crops on contractual basis integrating supplies of seeds/plantlets, farm maintenance etc.
- Easy access to customers, facility for systematic campaigning/demonstrations
- Efficient management of schemes/programs
- e-platform assisting in real time transactions.

Benefits to member Agricultural Activists, NGOs, Government organisation

- Informed decision-making on policy issues
- Facilitates Integrated approach
- Dissemination of agri-based interventions becomes more structured and precise and customized
- Faster and larger reach to stakeholders is ensured due to networking.

b. Implementation Coverage (geographical areas covered under pilot, roll-out, next steps, % of total services covered under the lifecycle of projects processes, % of total branches/ departments covered by the project

Piloting of the project was done in Malappuram with the participation of the existing Akshaya e-Kendra Entrepreneurs.

The success and sustainability of e-Krishi lies in adopting a participatory approach right from the project initiation stage. With this aim in mind a chain of grass root level clubs (Bhoomi clubs) were formed across the district from December 2006 onwards.

Adding e-Krishi portfolio to Akshaya Centres

For implementing the e-Krishi Project the Akshaya Centres available in the district was used as the parent unit and the e-krishi Project is piggy backed on it. Only those Akshaya Centres which satisfied the basic selection criteria were converted into e-Krishi centres. At present there are 146 e-krishi centres in Malappuram District.

Upgrading Akshaya Kiosks to e-Krishi Centres

Out of a total of 102 Panchayaths e-Krishi centres are located in 85 Panchayaths. The remaining Panchayaths are not agriculturally important and hence e-Krishi facility was not included as a service under Akshaya.

E-Krishi centres were provided with books, CDs and other IEC materials.

Bhoomi Clubs

In order to have a direct link between the farmers Agriculture Department, e-Krishi, Local Self Government etc... the association of farmers call Bhoomi Club were formed under the e-Krishi Centres. The membership of this restricted two representatives from different farmers group such as Padasekshara Samithi, Kera Samithi, Harithasangham etc... Bhoomi club coordinate e-krishi activities with the support of Akshaya entrepreneurs and field coordinators attached to the project. This is an organisation consisting of representatives from different farmers groups like padasekara samithi, kera samithi, Haritha sangam, farmers' SHG etc...

Composition of Bhoomi club

Panchayath president – chief patron

Agricultural officer – advisor

All local body members – special invitees

Leading farmers President, Secretary, Joint secretary, Treasurer, Executive Members.

A total of 85 Bhoomi clubs are formed in 80 panchayats. Some of the panchayaths have more than one Bhoomi club. Out of the 85 Bhoomi clubs 7 clubs have been registered under the Travancore Society Act there by they can function as a recognised NGO and can operate projects of government.

Various activities are being organized under the auspices of Bhoomi clubs in different parts of the district such as soil testing camps, agro clinic, pest and disease management training, Farmers day celebration, Organic farming etc.

2. Efficiency Improvement

a. Time and Cost Efficiency Improvements in the Delivering the Above Set of Services

The problems faced by the farmers of Kerala are characterised by the homestead system of cultivation, small holdings, fragmented farms, weak infrastructure and the involvement of numerous intermediaries in marketing. Out of these e-Krishi project aims to help the farmers in marketing their produces. E-Krishi leverages Information Technology to connect village farmers to wholesale markets and vice versa and thereby limiting the role of intermediaries to a great extent.

Increased transaction using e-krishi website.

The E-krishi portal helped the farmers in transacting business and the growth rate is exponential. This is evident from the fact that the value of commodities transactions have increased exponentially from 50 lakhs during pilot phase to a staggering 35 crores in 2009.

Conversion of fallow lands to paddy fields.

Farmers in Kerala were moving away from paddy cultivation, as there was no assured market for their produce and the price was so low that it could not even meet the cost of production in many cases. This resulted in farmers keeping their lands fallow. With the advent of e-krishi platform the farmers could post their harvest details on the site and the entire harvest was procured by the civil supplies department in Kerala and that too Rs.2-3 more than the prevailing

market price. Attracted by the fortune and an assured market, the neighbouring farmers follow suit.

b. Specific Innovative Ideas Implemented in eGov Area; Best Practices Implemented Initiatives Integrated with other Departments

Setting up a Toll free Number and call center exclusively for the farmers

Success of e-krishi, apart from providing help in marketing, is because it provides scientifically sound, economically viable, culturally compatible and practically feasible solutions to agricultural problems through their farm advisory services especially where the services of agricultural officers are not easily available. The toll free call centre (1800-425-1661) which is operating under e-krishi is helpful to the farmers as they can get the services of trained agricultural experts who know the local conditions to solve their agricultural related problems without delay. Many of the e-krishi centres are equipped with digital camera to take photographs of pests and diseases. These pictures can be e-mailed to the agricultural experts and the farmers get timely advices on how to manage pests and diseases. One main advantage of this is that the farmers gets the advice in time without any delay. Several cases of successful management of pests and diseases through timely intervention have been reported. Similarly some of the e-krishi centres have facility for soil testing. This helps the farmers to test the soil samples by themselves and get the correct recommendation from the agricultural officers of the panchayath just before fertilizer application thereby saving on the fertilizer cost.

III) Enabler Indicators

The Enabler Indicators are primarily the processes that are implemented to achieve the above-mentioned results. For the purpose of these Awards the Enablers are being evaluated on selected attributes listed below. Nominations should address the required information as per attributes below, and if desired important additional information for the purpose of this Award may be given.

1. Project Roadmap

a. Vision Defined

The vision of the project is to establish a connected farmers community throughout Kerala who have access to information on Market Demand, Prices, Good Agricultural practices, Quality agricultural inputs supported by a technology-enabled robust transaction platform that facilitates all their off line

activities. Such a platform is of at most significance when in global parlance. Agriculture comprises Farming, Forestry, Fisheries and Livestock. The need to integrate activities from policy-making to grass root implementation requires a platform incorporating various Government departments and other stakeholders.

b. Objectives Defined

The key output from the initiative shall be the facilitation and integration of economic activities of all member stakeholders involved in Agriculture thus enabling conversion of under-performing and non-performing agricultural farms into high yielding farms of quality products in demand in the market. Key components of the initiative include-Establishment of a robust IT-enabled platform, where the members can seek information, transact and make or receive electronic payments.

c. Measurable Objectives

Virtual Aggregation

The existing commodities trading system prevalent in Malappuram, and in Kerala as a whole was based on the conventional “*farmer-middleman-local market-wholesale market system*”. This effectively meant that farmers are forced to sell their goods at throwaway prices to the local trader or intermediaries. The situation is further aggravated due to the absence of adequate warehousing and the small size of produce, rendering it uneconomical for long distance transport. This is where the virtual aggregation potential of e-krisi came in. One of the main roles of e-krisi was to make use of the physical transmission capabilities of intermediaries – aggregation, – while dis-intermediating them from the chain of information flow and market signals. While the middlemen used their strength in physical aggregation of commodities by collecting products from small farmers for trade with wholesale merchants, e-krisi portal used the strength of virtual aggregation far more effectively to save farmers from the clutches of middlemen. E-krisi portal has the capacity to virtually aggregate any product posted by farmers from a ward to District level. Aggregation can be for a product available for sale currently or a product that will be available for marketing at a future date. This information not only helped the farmers but also wholesalers, exporters and processors.

The strength of virtual aggregation was effectively demonstrated by the farmers in Katampuzha.

Majeed a local farmer had 1000 ball of copra for sale which was too small a quantity to attract any big businessmen. He was therefore at the mercy of the local trader who quoted Rs 8/ball of copra. At the suggestion of the local E-krisi entrepreneur (Mr.Aslam), Majeed posted his produce for sale in the e-krisi portal. Almost immediately, he got a response from as far away as Maharashtra where a merchant was willing to pay Rs 12/ball copra provided it is possible to arrange an entire lorry load of ball copra. That is where the e-krisi entrepreneur Mr Aslam stepped in to help. He posted a "*ball copra wanted*" advertisement in the site specifying the rate of Rs 12/ball. Within a couple of days the site was overflowing with responses from farmers who posted all the ball copra they had, elated at the prospect of getting more than 50% higher price than the local market. Thus, using the strength of virtual aggregation it was possible to find out and market at a better price the total quantity of copra available for sale in that area. The logistics was quickly worked out and the trade effected successfully.

Virtual aggregation has also helped in value addition. Seeing the benefit of aggregation many of the farmers have formed clusters and even fixed the date of harvest so that they would have a specified quantity of coconut daily. (Anamangad region). The group then went on to set up a copra drying unit. Since there was a regular supply of nuts, the unit functioned throughout the year and the copra so produced was sold to oil mills. This value addition of coconut was possible only because of the strength of aggregation made possible by the e-krisi portal.

Virtual Aggregation of responsive farmer community of about 100,000 with a cumulative farm land of 100,000 hectares cultivating priority crops as determined by the market demand

Enrollment of buyers/exporters in key markets including manufacturers in processing Industries.

Enrollment of agricultural input providers: seeds, plantlets, fertilizers, pesticides, technology/methodology providers/consultants, test laboratories and so on.

Designating Warehousing facility providers in respective geographical regions

d. Project Milestones

After the overwhelming response received from the user community during the pilot implementation, it was decided to expand e-krishi programme in 125 panchayths in nine districts. For this a Samagra e-krishi project was prepared and circulated among the LSGs. Those panchayaths which approved the programme earmarked funds for implementing the same in their Panchayaths-State-wide collection of farmers was effected based on a structured questionnaire designed for capturing the same. The database thus built up is now uploaded to the e-Krishi portal .

E-Krishi Portal

Based on the dynamism achieved as a result of e-krishi activities and also based on the requirements e-Krishi portal was designed. (<http://e-krishi.org>). The main features of the portal are as follows:

- a. Free Registration for buyers and sellers
- b. Information about produces for sale
- c. Information about produces to buy
- d. Crop Information
- e. Weather Information Daily and weather forecast for seven days
- f. Daily Market Price
- g. Agriculture related video programme
- h. Farm records of the holdings (being posted). Using it is possible for the agriculture officers to know the details of each and every farmer in the village. Similarly the information of marketable commodities is also made available. e-krishi portal is also linked with three other agriculture portals of Kerala namely kissankerala.net, vuatkerala.org, vfpc.org

2. Process Re-engineering & Legal Reforms

The e-krishi project established linkage with 26 government departments/NGOs/Co-operatives and Civil supplies cooperation, Local Self Government, Agmarknet, NAFED, Milma who are the major agri-procurement agencies in the State were also brought into the network, thus assuring a fair price and assured market for the Farmers, eliminating middlemen, who siphoned off a major chunk of profits.

3. Project Sustainability

The Project rides on the back bone of CSC centres in Kerala viz., “Akshaya” which was implemented on a PPP mode, the sustainability of the project is thus assured as a synergistic relationship was crafted between Akshaya and e-krishi.

4. Change Management

Capacity building programmes were regularly conducted under E-krishi project: One day workshops for farmers and entrepreneurs were conducted in 30 centres. 120 Panchayath board meetings, e-Krishi projects were presented by field coordinators in the board meetings. 154 Bhoomi club meetings were organised, 26 Trainings for agricultural officers carried out, 75 Buyers meet were organised this year.

(Rathan U Kelkar, Director, Kerala State IT Mission, ICT Campus, Vellyambalam, Thiruvananthapuram, Kerala. The author can be reached at director@keralaitmission.org).

Implementation of the Indian National Tsunami Early Warning System

T Srinivasa Kumar

I) Project Overview

In one of the deadliest natural disasters of recent times, the Indian Ocean tsunami, formed by an underground earthquake below the sea bed in the Indian Ocean on 26th December 2004, affected almost all the countries surrounding Bay of Bengal.

It is difficult to predict tsunamigenic earthquakes, but with the latest technologies, an early tsunami warning is possible. An early warning to administrators and the public can help save **400 million people** living in India's coastal regions. India can also share the information with neighboring countries.

Shortly, after the disastrous December 2004 event, the Ministry of Earth Sciences, Government of India, commissioned a tsunami early warning system development and chose the Indian National Centre for Ocean Information Services (INCOIS) to set up the 'National Tsunami Early Warning Centre'. INCOIS provides ocean information and advisory services to the society, industry, government, and scientific community through sustained ocean observations and systematic and focused research. INCOIS, a knowledge and information technology enterprise for the oceanic realm is pursuing focused programs in the areas of Ocean Observation, Ocean Modeling and Ocean Information & Advisory services.

INCOIS developed the tsunami early warning system using state-of-the-art IT and geospatial technologies with the help of Information Technology industry major Tata Consultancy Services (TCS). The first-of-its-kind implementation

in the Indian Ocean region, provides real-time information to INCOIS scientists, helping them detect, assess and monitor tsunamigenic earthquakes and issue tsunami alerts.

There were two different early warning systems in place by the time INCOIS wanted to set up the ITEWS.

The Pacific Tsunami Warning Center (PTWC) has an Early Warning System which is qualitative and uses Earthquake information only for evaluation of tsunami generation; Warnings apply to the entire coast/region/basin based on the EQ Magnitude. This system has a very high rate of False Alarms and these can be mitigated by the induction of BPR's which get real time data and design a solution that is based on Modeling

The Japanese Early Warning System is quantitative and it Uses Earthquake information for selection of closest scenario from pre-run model database (Travel times, run-up heights and Directivity maps). This approach narrows down the areas to which Tsunami Warning has to be issued. But this needs to be fast and has to be improved for accuracy.

The Indian National Tsunami Early Warning System is based on the best of breed of technology and helps in –

- Accurately detecting tsunamis in the Indian Ocean
- Alerting potentially affected countries surrounding the Indian Ocean
- Predicting travel time for the Tsunami to reach a particular location along the coast
- Disseminating tsunami alerts to scientists, administrators and the people, helping reduce the damage to life and property
- Gives locations of impact, key contact persons, areas of inundation with expected heights

II) Result Indicators

1. Key Performance

Key Stakeholder is the Ministry of Earth Sciences. The National Tsunami Early Warning Center set up at INCOIS hosts the solution. This solution built indigenously has helped in predicting the impacts of all recent earth quakes apart from serving as a repository of all earth quake related info. With this new tsunami

early warning system, INCOIS has achieved recognition in the ocean services organisations and is now helping other coastal countries formalize processes for establishing tsunami early warning systems.

Performance Indicators Achieved by the System

- Elapsed time of Less than 10 Minutes from earthquake to Watch issuance
 - 100 % Accuracy of earthquake parameters – location, depth, magnitude
 - Overall elapsed time less than 20 minutes in case of Tsunamigenic Earthquakes
- Elapsed time from issuance to receipt of an identified earthquake is less than 3 Minutes
- 100 Percent of countries in Indian Ocean receive timely Watch
- Elapsed time to tsunami evaluation & detection is less than 8 minutes from earth quake identified
- System geared up for self corrections in case wave height is varying and can cancel a warning with immediate verifications
- 24x7x365 fully automated Watch office(power, computers, communications, 24/7 operations) with trained staff monitoring the center
- Regular exercising of the system with over 1000 events recorded since inception of the centre.
- Over Hundred regional broadband seismic monitoring stations contributing to real-time data for earthquake notification related to tsunamis.
- Over 150 sea-level stations contributing real-time data for catastrophic-inundation notification related to tsunamis.
- Risk assessment and hazard mitigation integrated into coastal planning and management at the national level.
- Centre is working as Regional Tsunami Information Centre for all Indian Ocean Countries and has instituted the Development and dissemination of guidelines for mainstreaming marine-related hazards into coastal planning and management.

The implementation has been successful and has been appreciated by many national and international technical forums with coverage in various GIS magazines, journals, and newsletters. The solution also received the “Geospatial solution of the year award” from Geospatial Today, a premier geospatial technology magazine and won INCOIS “the Special Achievements in GIS Award” as a user from a list of over 100,000 ESRI users worldwide.

This project of national importance helps mitigate colossal damage to life and property by a tsunami in the Indian Ocean which threatens 400 million Indian citizens. The solution is envisaged to cover all of the coastal population of the country and in the current implementation has capabilities to capture real time data from all seismic stations across the world, while also capturing BPR & Tide Gauge data from all national and international buoys in near real time. The mission critical system also can issue warnings in less than 20 minutes enabling the Ministry of Home Affairs to take up evacuations in time before dreaded waves hit the coast. Proper mechanisms of Decision Support Systems have been established for disseminations.

2. Efficiency Improvement

Prior to the establishment of this center, India was dependent on the Pacific Tsunami Early Warning Center that used to issue warnings to this region also. However, these needed to be correlated to Indian conditions before the Ministry of Home Affairs could embark on disaster management and often served as a postmortem solution rather than a proactive one. But with the new system, the center can predict the exact location and wave height of Tsunamis with actual timing of impact. The application identifies the exact inundation areas thus reducing the evacuation costs incurred by various state and central governments.

- The project has been successfully executed within the time and budget, exceeding client expectations. With this, INCOIS has an ultra modern state-of-the-art National Tsunami Early Warning Centre thus showcasing exemplary skills in delivering alerting systems within the time frames
- Project Delivery has showcased indigenous strengths in the scientific domain
- There are two tsunamigenic zones in the vicinity—the Andaman-Sumatra trench in the Bay of Bengal and the Makran coast in the Arabian Sea and this explains the need to install BPRs in the two regions. INCOIS, in

association with TCS, has generated simulations of possible 550 scenarios of triggering of tsunami after massive earthquakes

- Getting positive references from other scientific organisations across the world in the similar areas
- TEWS Application can be customized with minimal effort for other nations in the region to mitigate the dreaded Tsunami.

III) Enabler Indicators

1. Project Roadmap

INCOIS is an autonomous body under Ministry of Earth Sciences, Government of India started with a mission “To provide ocean information and advisory services to the society, industry, government and scientific community through sustained ocean observations and constant improvements through systematic and focused research”.

The National Tsunami Early Warning Center at INCOIS was set up to mitigate potential colossal loss of life and property due to Tsunami in Indian Ocean which cause severe threat to nearly 400 million of our population.

The Tsunami Early Warning System was envisaged to give warnings on possible tsunamis within 20 Minutes of capturing a Tsunamigenic earthquake. Today, the centre can be proud of having an application which sends an event recording along with the result of an analysis based on pre-run scenarios within 10 Minutes.

The National Tsunami Early warning Center was inaugurated on October 16, 2007 and the system was functional from June 2008 to receive online data from all international stations. The centre has been equipped with state-of-the-art technology to record and retrieve information on need basis, thus making it the most modern Tsunami Early Warning System. The project is covered under warranty support and maintenance till October 2010.

There is a roadmap to provide similar services to all the countries in the Indian Ocean as the Model Evolution done for Indian scenarios can be re-used. India is currently able to send information on need basis to all neighboring countries in the Indian Ocean.

2. Process Re-engineering & Legal Reforms

The System was made possible with significant process changes in the data acquisition system and analytical tools like –

Ocean Data Acquisition and Monitoring: Receiving data and Loading data into Database from 4 seismic networks, 50 Tide gauges ((36 by Survey of India (SOI) and 14 by National Institute of Ocean Technology (NIOT)) and 5 Bottom pressure recorders from different subsystems and from different organisations in near real time.

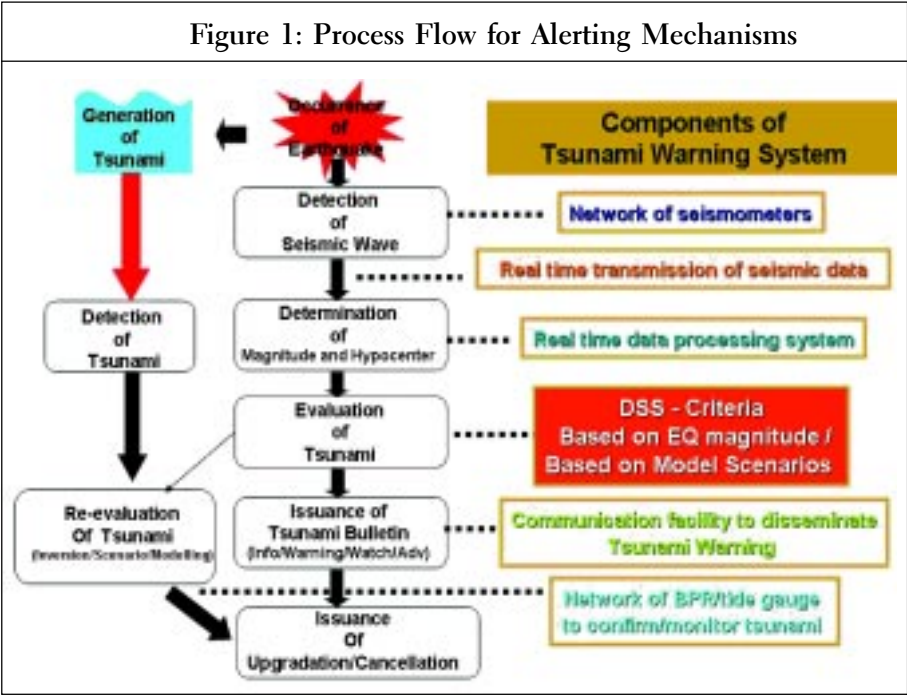
Online data extraction and monitoring is provided for Tide Gauges, Bottom Pressure recorders, and Seismic data as well.

Data Warehouse and Decision Support System: Application has been developed with a robust data warehouse loaded with a wide range of pre run Tsunami model scenarios.

Tsunami Advisory bulletin Dissemination: Decision Support System (DSS) will disseminate the Advisory bulletin with Inundation Areas for Warning, Watch and Informs to INCOIS officials, and with approval from INCOIS it will send to the Ministry of External Affairs. The Center can disseminate the message to all the District collectors, Village heads/contact persons through different modes viz., Phone, E-mail, PDA, satellite phone, Web, News Media for the effected areas.

Through this solution an excellent process of information dissemination has been put in place. This process is tested many times over a self correcting mechanism is put in place. Since the ministry of home affairs is primary agency for evacuations in the event of disasters, it is imperative that there is a Government to Government communication mechanism needs to be refined to ensure that the validated information is reached quickly and correctly.

The center has established a process thereby enabling alerts that go out of the system are reached to the correct people at the right time for necessary actions. The following figure depicts the same:



Reusability:

- The solution can be very easily customized to other countries (Around 26) which are affected by tsunami in Indian Ocean
- Model Scenarios can be generated for any given country. Automated scripts are in place to Run and Load into the Data warehouse using any satellite data thereby making extensions to storm surges and cyclone detections, easily
- Inundation mapping (GIS) is used as in other Citizen Hazard notification projects
- Dissemination mechanism is useful for projects with dissemination of Warning, Watch and Information.

3. Project Sustainability

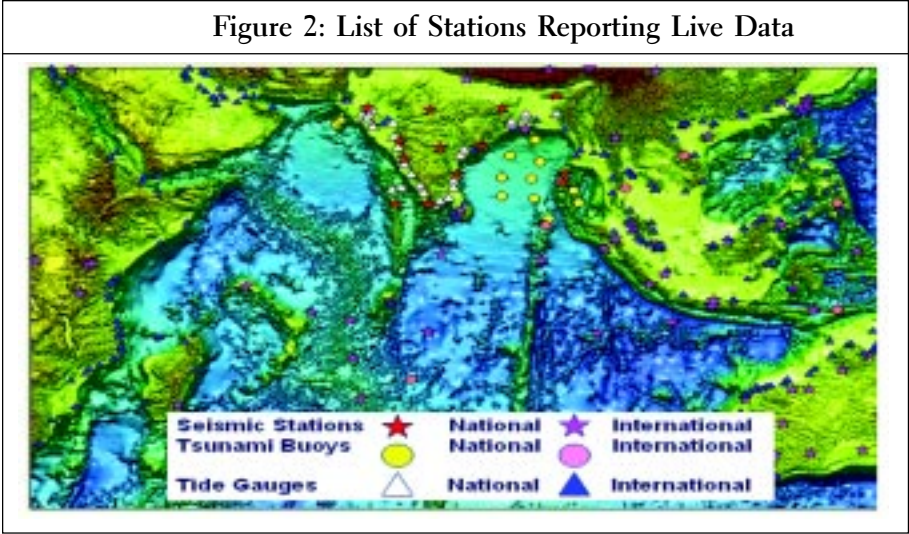
There are numerous agencies which participated in this project. All the relevant government & national scientific organisation jointly worked on blue printing the project. The Government departments DST, DOS and the Ministry of Earth Sciences (MoES) which was the nodal agency jointly agreed to appoint INCOIS as the project owner. India’s premier organisations National Remote Sensing

Centre (NRSC), Indian Metrological Department (IMD), National Institute of Ocean Technology (NIOT) and Survey of India (SOI) joined hand-on-hand with INCOIS to plan and execute the project. In total 14 different organisations and 150 engineers and scientists were involved in the project.

Indian TEWS is unique in the world, because it is the only one of its kind to monitor, simulate two tsunamigenic zones. Other features which make this project unique include:

- Set up the National Early Warning Center for operation on a 24x7 basis
- Instituted a mechanism to sustain the system to generate and issue ‘warning’ and ‘watch’ advisories, as the responsible national agency
- World Class, Global website with Search Facility for Pre-run Model database
- Built a User-Friendly Decision Support System with content from Pre-run Models
- Interfaces to International User Community through a structured Mechanism
- Ability to Issue and Backtrack any warnings of Tsunami and Storm Surges through a proper approval hierarchy.

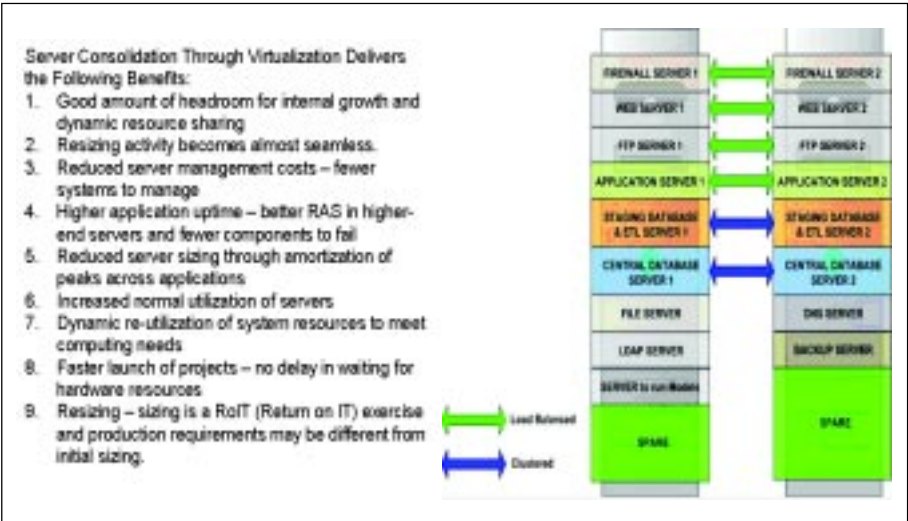
Currently the system is operational with hundred percent redundancies so that the Information received from various sensors is recorded live. The following figure depicts the list of such stations:



Initiatives of this kind need to be based on architectures that have inbuilt redundancy to give full availability of services. The following hardware, networking & communication infrastructure has been configured to achieve the high availability:

- IBM P590 & P570 Server for hosting Web servers, Application servers, Database servers, Storage server, Backup servers, File server and Metadata servers.
- IBM IntelliStation Z Pro workstations
- Firewalls for high security
- Disaster Recovery Site with online mirroring facilities
- LAN, WAN, Wireless (WiFi/WiMAX) connectivity
- Seamless interaction with communication facilities like VSAT, INSAT DRT Reception Station, INMARSAT, INSAT MSS Receiving terminals and Virtual Private Network.
- Video wall

The following figure describes redundancy & capacity built into the servers:



4. Change Management

Initiatives of this kind help mitigate the challenges posed by Mother Nature to the extent possible. However, such technology initiatives have to be constantly

upgraded. There are few challenges and pending action plans on which INCOIS is working:

- Numerical Models have certain error level depending upon the model mesh size. Increasing the mesh size will improve the accuracy, but the computing power will need to be increased. To implement a system with higher mesh size, advanced super computer needs to be used
- Developing the web portal in local languages
- Generating Mass Awareness among the people living in the coastal areas
- Increasing the center's capability to include warning mechanisms for Cyclone and Storm Surges
- Including Weather Intelligence Portals to ensure an end-to-end coverage of security of coastal population.

5. Project Monitoring

A Joint Application Development methodology was followed for building scientific components of the project thus mandating frequent involvement of the INCOIS team along with Tata Consultancy Services in project reviews.

An operational procedure has been set up to monitor every single event and evaluate the same. This enables the self correcting mechanisms for accurate results.

Constant Reviews of the development process with involvement from the center director and other ministry officials resulted in an excellent showcase of the country's capabilities.

The following are some of the memorable quotes –

“A state-of-the-art early warning centre is established at INCOIS with all the necessary computational and communication infrastructure that enables reception of real-time data from all the sensors, analysis of the data, generation and dissemination of tsunami advisories following a standard operating procedure. Seismic and sea-level data are continuously monitored in the Early Warning Centre using the custom-built software application jointly developed with M/s Tata Consultancy Services (TCS) that generates alarms/alerts in the warning centre whenever a pre-set threshold is crossed.”

– Press Release on the occasion.

“Now, we have systems in place to predict the likelihood of tsunami within 30 minutes after a quake in Indian Ocean system. Efforts are on to bring this down to seven minutes.”

– Mr. Kapil Sibal, the then Union Minister for Science and Technology (now, Union Minister for Human Resources Development),
After dedicating the Tsunami Early Warning Centre set up at Indian National Centre for Ocean Information Services (INCOIS).

“The information about magnitude, location and depth at which an earthquake has occurred is fed into computers which pick up an appropriate scenario and simulate formation of tsunamis. We are able to issue tsunami alerts within 30 minutes of an earthquake.”

– Dr. Shailesh Nayak, Secretary,
Ministry of Earth Sciences, Govt of India.

The Tsunami early warning Centre at INCOIS is the most modern state-of-the-art National Tsunami Early Warning Centre. It has the capability to detect earthquakes in the Indian Ocean whose magnitude is greater than 6 on the Richter scale, and issue a warning in less than 13 minutes”.

– Peter Koltermann, Head, Tsunami Unit,
Inter-governmental Oceanographic Commission.

(Dr. T Srinivasa Kumar, Head-ASG, Indian National Center for Ocean Information Services, Ministry of Earth Sciences, INCOIS, Ocean Valley, Hyderabad. The author can be reached at srinivas@incois.gov.in).

Gujarat Common Entrance Test

Manish Bharadwaj

I) Overview

The Directorate of Technical Education, Govt. of Gujarat is responsible for regulating the growth of technical education in the State of Gujarat (<http://dte.gswan.gov.in>). It regulates the approval, regulation of admission and/or fixation of fees, affiliation of all the technical institutes in the State which includes all diploma, degree and post-graduate courses in engineering, pharmacy as well as MBA/MCA. At present there are over 300 institutes in the State with an intake capacity of over 100,000 seats.

The Gujarat Technological University (GTU) <http://www.gtu.ac.in> was setup by the State in 2008 to regulate the affiliation, examination, curriculum development etc., in the technical colleges. The Director, Technical Education has been officiating as the first VC as well as the CEO of the GTU.

II) Result Indicators

1. Key Performance

a. Stakeholder wise services and benefits of ICT/eGov initiatives

b. Implementation coverage (geographical areas covered under pilot, roll-out, next steps, % of total services covered under the lifecycle of projects processes, % of total branches/ departments covered by the project)

GCET 2009 is the Entrance Test conducted by Gujarat Technological University (GTU) for admissions to Masters of Business Administration (MBA) and Masters of Computer Application (MCA) courses in all affiliated Institutions across Gujarat.

This project serves the needs of the University in automating the examination delivery process and ensuring quicker turnaround time for creating content, publishing question papers, evaluating candidate responses, and announcing results. This project also provides a fully technology based solution for student counseling through online allocation of college seats

Candidates seeking admission through the GCET entrance exam are provided a unique student experience in test taking, by ensuring a transparent testing & evaluation process. The online counseling saves the candidates (and in many cases their parents) the hassle of travel to a central city for seat allocation.

Benefits to Candidates

- An application system where students could apply online from anywhere based on their convenience.
- Easily downloadable “Admit Cards” which ensured that they need not wait for the normal post to reach them.
- Better test-taking environment is at the venue with better ambience.
- Knowing their Score as soon as they submit their exam and walking out with the Printed Score Card.
- Online counseling for seat allocation is very transparent & system driven.

Benefits for GTU

- A system where daily reports of Application form status, location-wise made available.
- A system which ensured complete security of the Question papers.
- A system where candidates impersonation checks were carried out very well
- A real time reporting system through which the CoE gets to know the status of registration, and the exam takers at each location.
- End of the day analysis of scores
- A clean, transparent and malpractice-free examination
- Logistically free transparent online counseling process.

This was the first time in India that any State-level (Government) Entrance Exam was conducted online. The Exams were conducted from July 1, 2009 to July 5, 2009, at 37 Online Test Centers across 21 Institutions in 11 cities across Gujarat. A total of 22,797 candidates took this 2 hour Online Test, in three batches every day. The Final results were announced on July 5, 2009 and the actual admissions will be completed by July 30, 2009.

2. Efficiency Improvement

a. Time and cost efficiency improvements

In the online GCET 2009 Exam, the candidates were provided with complete user-friendly features right from registration for the exam, opting for test centre and scheduling of exam besides the online testing experience and instant evaluation, batch-wise merit list generation, overall merit generation, selection of institutes, and finally the actual admission.

The application system, which enables the students to apply for the GCET exam, was available online. This was hosted on a level-3 data centre, ensuring very high levels of uptime & concurrency. The candidate could complete the online form at his/her convenience, saving the updated information at any time, and could submit the online application, after verifying that all details were entered correctly. The candidates could also upload their photographs into the application system. After submission of application, real-time update of status was displayed to the candidates. Post candidate scheduling for the entrance exam, the candidates were able to download the Admit cards, from any PC with internet access.

The online exam was itself packaged in a very user friendly manner. The demo practices for the exam were provided to the candidates well before the exam as well as in the exam hall. Instant score sheets were given to the candidate at the time of submission of test. The batch wise results of all the candidates were processed simultaneously across all centres and the merit list put on the website. This was updated at the end of each session. Final merit list was published soon after the last batch.

The counseling for the MBA/MCA Programs including institute allocation was done online through the Admission Committee, counseling and admission for all BE/B Pharm. and Diploma Engg./Pharm., Courses in the State (<http://www.gujacpc.nic.in/> www.jacpcldce.ac.in).

b. Specific innovative ideas implemented in eGov area; best practices implemented Initiatives integrated with other departments

The entire project used cutting-edge technology and offered innovative solutions to address the requirements, in the following areas:

Application Processing

The candidate application system, enabling the students to apply for the GCET exam, was available online. This was hosted on a level-3 data centre, ensuring very high levels of uptime & concurrency. The candidate could complete the online form at his/her convenience, saving the updated information at any time, and could submit the online application, after verifying that all details were entered correctly. The candidates could also upload their photographs into the application system. After submission of application, real-time update of status was displayed to the candidates. Post candidate scheduling for the entrance exam, the candidates were able to download the Admit cards, from any PC with internet access.

Exam Delivery

The entrance exam was conducted online deploying 2100 terminals in 37 online test centers setup at 21 Institutions across 11 cities in Gujarat. The entrance test was conducted in 3 batches every day, for 5 days, and 22,797 candidates took this test across Gujarat. The test was conducted using the terminals in the college computer labs. Over 80 servers were deployed centrally for this project and the entire set-up was pre-certified by an IT team

Question Papers

A massive content creation exercise was undertaken so that every batch gets a different set of questions, but with same level of questions. Over 4,000 items were generated – each with a topic/sub-topic and difficulty level tags. The question papers for each of the batches was randomly generated and authored into an online system.

High Security COE

The question packs resided at the high-security CoE office located in the GTU premises. These question paper packs were securely transmitted to each of the test centers, every day, just before the scheduled exam time.

The Controller of Examinations sitting in GTU premises could see real time, the registration and progress of examinations at individual test centers through an online dashboard with real-time information from each of the centers.

Result Declaration

Instantaneous evaluation of candidate responses ensured that the individual candidate scores were computed and displayed to the candidate on test completion. This feature ensured complete transparency of the examination process and enhanced the candidate's belief in the admission process of the University. The Final results have been announced and the counseling for admissions will be underway in a couple of days.

Online Counseling

For the first time, the counseling for all professional courses in the state, right from diploma to Post Graduate was being conducted online. All the institutions and the courses being offered are uploaded online and students log-in in to the system to make their choices of courses- institutions. This is a complex, dynamic process which involves hundreds of choices and priorities that the students need to make online. The system then runs a batch process that sifts through each of the priorities of the students, and allocates seats based on their academic & GCET scores. The Final results were announced on July 5th, 2009 and the actual admissions will be completed by July 30th, 2009.

This software was developed for the GTU & Directorate of Technical Education, Government of Gujarat by NIC and was deployed as a candidate portal. www.gujacpc.nic.in

III) Enabler Indicators

1. Project Roadmap

GCET Entrance Test is conducted by GTU for admissions to Masters of Business Administration (MBA) and Masters of Computer Application (MCA) courses in all affiliated Institutions across Gujarat.

The enormity of the scale of GCET demanded a meticulous approach and judicious use of preparation time.

Number of candidates: 22,797

Number of exam centres: 37 Online centres

Number of cities: 11

Number of computers: 2100

Number of days: 5

Number of batches: 3 per day

The online examination delivery engine and the online authoring tool were designed for easy setup and require minimum configuring. This ensures that the project is a highly replicable & scalable model. The entire facilities & infrastructure was provided by the University and such kind of infrastructure is not uncommon across other Universities as well. This model can be replicated by all other entrance exams in the country and a good precedence on how it can be done has been set by Gujarat.

2. Process Re-engineering & Legal Reforms

Gujarat Common Entrance Test, GCET 2009 is the Entrance Test conducted by Gujarat Technological University (GTU) under the aegis of the Directorate of Technical Education, Govt. of Gujarat for admissions to Masters of Business Administration (MBA) and Masters of Computer Application (MCA) courses in all affiliated Institutions throughout Gujarat.

This project serves the needs of the University in automating the examination delivery process and ensuring quicker turnaround time for creating content, publishing question papers, evaluating candidate responses, and announcing results. This project also provides a fully technology-based solution for student counseling through online allocation of college seats.

This project also serves the need of candidates seeking admission through the GCET entrance exam, by providing a unique student experience in test taking, by ensuring a transparent testing & evaluation process. The online counseling saves the candidates (and in many cases their parents) the hassle of travel to a central city for seat allocation.

The challenges addressed by implementing the online process of examinations & counseling are:

- Transparent exam process
- Security of exam delivery
- Strict impersonation & malpractice checks

- Creation of large question banks and randomization of question paper for each of the batches
- Instantaneous, accurate & automatic evaluation, without human intervention
- Immediate sharing of scores with candidates
- Scalable, transparent & efficient mechanism for counseling & seat allocation – eliminating the need for travel
- Standardizing of infrastructure across 2,100 College PC and network based exams
- Planning around power outages & threats of floods
- Acclimatizing the college teams to handle high-stakes Computer Based Exams
- MeritTrac Services, one of India's leading assessment companies is the assessment partner. MeritTrac managed the entire technology & delivery process of the exam.

3. Project Sustainability

a. Financial Model (funding pattern, business model, PPP, etc)

The Online GCET is a highly sustainable and replicable model that can be used by all Universities and Educational Institutions across India, where candidates would apply for appearing in an entrance examination. The entire facilities & infrastructure for the online exam was provided by the University and such kind of infrastructure is not uncommon across other Universities as well.

The GCET Fee was fixed at Rs.1000 for MBA or MCA (Rs.750 for SC/ST candidates) and Rs.1500 for combined MBA and MCA (Rs.1000 for SC/ST candidates). In all 22,797 candidates had registered for the online test. Over Rs.20 million were received by GTU as registration fees. The entire technology and delivery process for online testing and result processing was developed by MeritTrac Services, Bangalore at cost of Rs.6 million. The question bank was developed by EdCil, Noida which supplied over 4,000 questions of different difficulty standards in under Rs.0.8 million. Thus this Project is evidently financially stable for such operations.

The GTU is also contemplating providing CDs of question papers out of its question bank so as to make the candidates prepare well for online GCET next year. Apart from that, in the same fee, the candidate would be given an option to appear for a second test to improve one's score from next year onwards. GTU would also provide checked answer sheets to candidates after their test on payment of certain fees. This will add greater transparency to the entire online process and make it more error free as well as generate revenues to make this online testing financially sustainable.

At the 37 online centres across 11 cities, the infrastructure was provided by the technical colleges. GTU had provided financial support in terms of invigilation staff deployment, provisioning of financial support for result printing, generators for supplying uninterrupted power for the examination etc.

b. Technology Maintenance and Disaster Recovery Center

MeritTrac Services was selected for managing technology and delivery process of the exam. The main features of the technology support provided by them for the online exam was:

- Secured Distributed Computer Based Exam across 2,100+ seats in a batch
- Remote Exam Centre Management with live updated Dashboard
- Centre Control Unit set-up at the COE office
 - Real-time live exceptions handling
- Highly secure content management with encrypted password, live upload and download across all 37 centers
- Impersonation checks across all stages of exams from application processing to Exam score cards

The features of the test delivery engine were:

- Global Standard Testing Engine
- Capable of supporting multiple question types including
 - Multiple Choice (Incl Yes/No, True/False)
 - Multiple response
 - Hot spot

- Drag & Drop
- Fill in the blank
- Match the following & Ranking
- Descriptive
- Adheres to QTI & SCORM standards

The Controller of Examination at the GTU manned the main control room of the exam. The CoE features were:

- Candidate Management System (CMS)
- Setup of CMS Server which will be the
 - Repository of Application Data – online form and OMR
 - Creation of encrypted Registration Database for each Exam Center
 - COE Dashboard that provides information on Exam Progress
- Setup of CMS Client which will be the trial “Exam Center” where
 - Trials of Registration Database of Exam Center
 - Trials of Candidate Response of Exam Center
- Question Bank System
 - Setup of Question Bank System Server where
 - All questions will be uploaded
 - Question papers will be generated and encrypted
 - Setup of Exam Delivery System which will be the trial of the “Exam Center” where
 - Trials of question papers will be conducted
- Secure & Reliable Connectivity
 - Setup of secure and reliable Internet connectivity
 - Ensuring secure and reliable local LAN
- Information Security Audit

Adequate safety parameters were inbuilt into the system to make it error free and tamper free. Sufficient redundancy was incorporated to plan for any technical

fault. Data backup and storage was made very judiciously and kept in custody of GTU for future use regarding result analysis, RTI etc. The Question Bank was in the custody of the Controller of Examinations, and kept in a secure & confidential location as per defined norms. These test forms are kept ready in a format which is ready to be uploaded to the server and if needed, separate test forms can be maintained for each test session. The CoE directly uploads the relevant test forms to the site server in each location using secure network. This has to be repeated for every session as the test forms will be deleted from the site server immediately after every session.

The features of Exam Security were:

- Secure CoE Office
 - Access control & Information Security Audit to ensure high security at COE Office
- Secure Question Paper Generation
 - Automatic generation of Question Paper using random question papers within the question paper design
 - Automatic encryption of Question Papers after generation
 - Randomization of questions and options within the question paper so that candidates sitting next to each other do not get the same questions at the same time.
- Secure Question Paper Transmission
 - 256 bit encryption for question papers
 - Passwords released 15 – 30 minutes before exam by SMS to decrypt the question papers
- Exam Center
 - Removal of data from Server, immediately after Test
 - Access into Exam Center only for authorized people displaying identity cards
 - Biometric Authentication of candidate

- IP Cameras /Web Cameras for exam center invigilation. The recordings are available for review
- Mystery Audits conducted by MeritTrac and college personnel
- Result Processing
 - Physical access control to the COE Office where result processing will be done
 - Automated tool for merit list generation ensures high security
 - Access to CMS Server only to authorized personnel wearing identity cards

c. Project Management Team (full time department officials/ consultants)

Under the leadership of Sh Manish Bharadwaj, IAS, the Director, Technical Education, Govt. of Gujarat as well as CEO, Gujarat Technological University the inhouse team of GTU and DTE along with technical experts from MeritTrac as well as Prof. Abhishek Mishra, Professor Business Policy at IIM, Ahmedabad collaborated to make the online GCET 2009 a grand success.

4. Change Management

To switch from the conventional pen and paper based examination system for providing admissions in professional courses like MBA/MCA and to introduce technology driven online testing system which is highly efficient, highly transparent, highly cost effective, highly impregnable to flaws in conventional exams – delays in conduct of exam or tabulation and evaluation, flaws in question, printing errors and host of other *malafide* and *bonafide* goofups. This switch is NOT very easy. It requires utmost conviction on the testing authority that they can deliver and create a system which is acceptable by the candidates and the colleges.

GCET 2009 is the first initiative of online examination by any State. Even CAT is going online from 2010 onwards.

To make it possible, it required

- developing a core team which shared the vision and believed in its realization.
- enabling provisions in Admission Rules

- identifying robust, error free and reliable Question Bank which could meet the requirements.
- Identifying colleges with the requisite infrastructure
- Sufficient public declaration to prepare the students. Providing demo CDs to prepare.
- Deploying efficient technology to undertake online test, to provide instant results, to generate merit list at end of each batch.

5. Project Monitoring

User Feedback, Project Assessment Mechanism

The feedback from the students has been excellent. Here is one such mail received from a candidate:

Student Voice

From: kathak mehta [mailto:kathak.mehtaa@gmail.com]

Sent: 08 July 2009 13:45

To: gcet@gtu.ac.in

Subject: gcet'09

Like most of the others, when I heard about GCET going online, I was a bit skeptical and apprehensive. But the apprehensiveness soon transformed to contentment as i took the test on 1st of July. The whole online system and the functioning of GCET '09 does claims a special mention. The entire system from registering at the test centre till we got the score cards was indeed commendable. The functioning was user-friendly and smooth. The online test system was devised in the most considerate way, with one question appearing on the screen at a time, facility for going back and forth and also an option to mark a particular question for review later, along with question numbers catalogued on a side panel whereby the candidate can jump to any question as required. A meticulously developed and a well maintained system for online aptitude examination. Kudos!

Kathak

This project has received wide media attention and the following are some links to press articles:

- <http://timesofindia.indiatimes.com/Cities/Ahmedabad/GCET-goes-online-/articleshow/4727031.cms>
- <http://timesofindia.indiatimes.com/Ahmedabad/23000-students-set-to-take-online-GCET/articleshow/4721917.cms>
- http://www.dnaindia.com/academy/report_you-may-get-a-second-shot-at-gcet-in-the-same-year_1270971

(Manish Bharadwaj, IAS, Director, Technical Education, Govt. of Gujarat Directorate of Technical Education, Govt. of Gujarat, Gandhinagar, Gujarat. The author can be reached at email: mb_guj@yahoo.com).

Old Age Pensioner's Payment & Monitoring System

Mahendra Narayan Singh

I) Overview

Dhanbad is a city in the state of Jharkhand famous for coal mining. It has 112 coal mines with a total produce of 27.5 Million Tonnes and an annual income of 7000 Million Rupees through coal business, because of this, it has been called the “Coal Capital” of India and the “City of Coal”. Tata Steel, BCCL, ECL and IISCO are some of the companies having coal mines in the district. Coal-mining, Coal washing and coke making are the main coal related industries in the city. Dhanbad is among the top 100 fastest growing cities of world. Among the Rail Divisions of Indian Railway, Dhanbad East-Central Railway Division is among the highest revenue generating in the country. It also comes under Indian Railway freight Corridor. Dhanbad is a city with potential:

- It has been declared as a Millennium City under JNNURM among 63 selected cities in the country.
- 4000 MW Power plant is in the process of construction.
- Two large dams namely Maithan & Panchet with 200 MWatt Hydel power generation capacity.
- One large lake Topchanchi is located in the district.
- It has large number of technical institutions such as ISMU, CIMFR, DGMS, Medical and Engineering Colleges.

City has Logistical Advantages in terms of Road connectivity, Rail connectivity, Air connectivity, Media presence and Tourist attractions.

The city is located on Grand Trunk Road (NH-2) connecting Dhanbad with Kolkata and Delhi. NH-32 connects Dhanbad with Ranchi (State Capital) and Jamshedpur (Iron City). The city being Gateway to Santhal Pargana. Dhanbad has excellent rail connectivity. It is on Grand Chord (Delhi – Howrah) rail line. Local Airport is available. Almost all leading electronic and print media have their presence in Dhanbad. Maithan, Panchet Dam & Topchanchi Lake are excellent places of tourist attractions in Dhanbad. Baba Baidyanath Dham temple, Deoghar is located about 110 Km from Dhanbad. Jain Shrine of Parasnath is located about 45 Kms. from Dhanbad City.

Milestones in e-Governance

ICT in various sectors in Government departments has taken a step forward in the district of Dhanbad. District Administration and the District Centre of NIC along with the deputy commissioner posted in the district has been a guiding force in promoting G2C, G2G and G2E services in the district. Strong commitments towards enhancement of e-Governance policy has led to the implementation of web based Treasury Information System, Smart Card based District Transport department, web enabled Public Grievance Redressal System “SAMVADH”, e-Nagrik Sewa for issue of Residential, Caste, Income, Birth & Death certificates, e-Swarojgar for self-employment, e-nibandhan (Registration), Prisoner management System, Visitor management system for Jail, Victory (Commercial Tax Computerization), GPF/CPS Computerisation, iMO and e-POST for post offices and a host of departments in the district, which has resulted into citizen centric government services.

The availability of better and better technological solutions coupled with managerial innovations has given rise to the scope and options for improved structures, delivery systems and quality of governance. It is now well established that responsiveness, transparency and accountability are the three main “non-negotiable ingredients” for effective-Governance.

ICT Infrastructure:

- JHARNET (SWAN) connectivity available to all district level offices and block offices.
- Block level Computer Center, JHARNET and Broadband Connectivity.
- 38 Panchayat offices and 115 PRAGYA-KENDRA (CSC) has computers and Internet connectivity.

- District Computer training center established and training being imparted to all government officials.
- LAN has been established in all offices of the government of the district level.
- District Call Center for NREGA and HELPDESK Center at Collectorate established.
- Videoconferencing facility available at District Collectorate, Jail & district court.

II) Result Indicators

1. Key Performance

a. Stakeholder-wise Services and Benefits of ICT/e-Gov Initiatives

District Administration

Services:

- Better monitoring and tracking of Pensioners record
- Tracking of Pension disbursal Block/Panchayat-wise, Bank/PO-wise, pensioner-wise
- Category wise reporting/listing
- Easy redressal of Pension related complaints
- Advice summary report for all blocks and banks/Post Offices.

Benefits:

- Centralized database system.
- Timely Pension Disbursal via Banks or Post offices
- Ensuring Transparent Regime
- Gearing towards total inclusion
- Ameliorating poverty
- Convenient delivery mechanism.

Assistant Director (Social Security)***Services:***

- Block-wise fund utilization report made simpler
- Better monitoring and tracking of Pensioners record and fund allocation.

Benefits:

- Transparency in record keeping and fund monitoring
- Timely compliance of Government orders.

Sub-divisional Officer***Services:***

- Verification of new application for Old Age Pensioner
- Easy verification and tracking of applications received through web-based software.

Benefits:

- No duplicate in Sanctioning of New IGNOAP
- Maintenance of records made easy.

Block Development Officer***Services:***

- Online advice generation at block level
- Preparation of Treasury bill made simple and effortless
- Secured User based Online addition, deletion and modification of pensioner's data
- Verification and tracking of applications received
- Bank/Post Office wise tracking of advices and fund management
- Monthly report generation
- Category-wise reports/listings.

Benefits:

- No duplicity in Sanction of new beneficiary under IGNOAP

- Better fund utilization
- Greater accountability
- Elimination of impersonation at Panchayat level
- No need of camps for disbursement of fund and collection of acknowledgement receipt.

Panchayat Sewak

Services:

- Online tracking of Pensioner's detail as well as payment detail
- Online availability of monthly advice report
- Tracking of new application for IGNOAP
- Category-wise listing and report generation.

Benefits:

- Manual record keeping not required
- Physical verification of beneficiaries eased out
- Panchayat wise fund management
- Manual preparation of monthly advice enlisting all Pensioners' detail not required.

Government Treasury/Banks/Post-offices

Services:

- Availability of online Bank/Post Office wise advice list
- Availability of online Panchayat and Village wise of Pensioner's list
- Branch-wise submission of DD or transfer of money through CBS.

Benefits:

- No Advance Contingency (AC) bill required at treasury level
- Monthly account preparation of Treasury made simple
- Verification of Pensioner through online availability of record
- Increase in Account Holder thus fulfilling the goal of financial inclusion.

Citizen/Old Age Pensioner (Beneficiary)

Services:

- Can submit online application for inclusion of new pensioners from nearby Kiosk
- Can check his/her Pension Payment status as well as advice generation status
- Payment directly through Bank/PO account nearest to his/her Panchayat.

Benefits:

- Elimination of Middlemen
- No need to wait for any announcement of Camps for the payment on a date fixed by the block administration
- Cost and Time saving for beneficiary
- Increase in savings for distress situation.

b. Implementation Coverage (geographical areas covered under pilot, roll-out, next steps, % of total services covered under the lifecycle of projects processes, % of total branches/departments covered by the project)

The district has a full-fledged administrative set-up with one Sub-division and eight Blocks further fragmented into 383 Panchayats and again into 1348 revenue villages. There are 4 Police Sub-divisions and 52 Thanas & O.P.s. There are other important departments, which have administrative set-up right from district level to village level to implement and execute schemes and programmes.

Total Area	:	2995 Sq. Km.
Total Population	:	2397102 (2001 census)
SC Population	:	15.98% (382969)

Geographical Areas Covered Under Pilot

The project was first implemented in Head quarter block Dhanbad of total area of 12882 Hectare. There are 67 Panchayats covering 85 villages in the Dhanbad Block. Total 3176 IGNOAPS beneficiaries having accounts in 58 Banks/Post Offices have been benefited by implementation of this pilot project since the month of April 2008. During the pilot period the first step was data entry,

modification and conversion from Old National Old Age Pensioner's Scheme (NOAPS) for eligible IGNOAP. Workshop and training for Block Development Officers, Panchayat Sewaks, Computer Operators, Bank Managers, representative of Post Offices, volunteers of Zila Saksharta Vahini and Press was organized. Awareness regarding creation of new Web-based Old Age Pensioner's Payment & Monitoring System was generated through various workshops, reviews and public meetings.

Roll-out

After the successful testing and implementation at Dhanbad block office the project was rolled out in rest of 07 blocks (i.e, Govindpur, Baliapur, Topchanchi, Jharia, Nirsa, Baghmara and Tundi) of the district covering total area of about 21557.5 Hectare. Total panchayats covered under these blocks are (383-67=316) having 1263 villages. Furthermore this process was also implemented for **State Old Age Pensioners' Scheme** in all 08 blocks. Total No. Of pensioners benefited by this project in the district is 33812 of which 24468 are beneficiaries of IGNOAPS and 9344 are beneficiaries of SOAPS. Database has been updated and corrected for all 08 blocks.

Next Steps

The same system is being extended to other Components of National Social Assistance Programme like Indira Gandhi Widow Pension Scheme, Indira Gandhi Disability Pension Scheme and Swami Vivekanand Handicapped Pension Scheme.

We are also taking lead for customization of the software for other districts of the state of Jharkhand.

% of Total Services Covered Under the Lifecycle of Projects Processes

The project is primarily delivering G2C services with mixture of G2G services. Some of the key services that are being facilitated are:

- a) Receiving online application from citizen for inclusion of new pensioners with all the details and proofs like age, family income, BPL details, disability proof, Bank/PO account details etc.
- b) Online entry, modification and deletion from Block offices. This module is supported with UNICODE. User password has been provided to all the BDOs for security and authenticity of data.

- c) Monthly branch-wise advice generation from Block offices.
- d) Monitoring and tracking of pension payment by all the stakeholders.
- e) Complete record of pensioners, fund, advice generation, addition of new pensioners, category wise report generation and summary report.

% of Total Branches/Departments Covered by the Project

Administrative Departments covered partially or fully by this project are mentioned below:

- Ministry of Labour Employment and Training Department, Government of Jharkhand
- Directorate of Social Security
- District Social Security Office (DC office)
- Revenue Department (Sub-divisional office)
- Rural Development Department (Block Development Office)
- Panchayati Raj Department (Panchayat Offices)
- Finance Department (District Treasury Office, AG Office)
- Nationalized/Co-operative Banks
- Post Offices
- Common Service Centre.

The project is fully implemented for Indira Gandhi National Old Age Pension Scheme (IGNAOPS) and State Old Age Pension Scheme (SOAPS). It will be further extended for other social security schemes.

2. Efficiency Improvement

a. Time and Cost Efficiency Improvements in Delivering the Above Set of Services

1. Online Registration of application reduced the time for submission of application at the appropriate level. The process of sanction of application got expedited through close monitoring at the highest level.
2. The opening of personal account in Bank/Post Office in the proximity of the beneficiary cuts down the cost and time in getting pension amount.

3. The search and know your payment status provides vast information regarding the details of pensioners and the payment made, which otherwise the pensioners used to fetch from government officials and for this they had to cover long distance to reach to the government officials several times.
4. The Bank/Post Office-wise bill of advice for payment is generated online at block which is submitted to the Government Treasury. The treasury branch of the Bank issues draft pay order to concerned branch or post office for crediting the accounts of beneficiaries. The banks complete this process within 7 to 15 days. Which it used to take months in the previous system?
5. Provision for automatic entry of State Old Age Pensioners into IGNOAPS is there so that as soon as a State Old age Pensioner of BPL family enters age of 65 years and becomes eligible for IGNOAPS. Thus time in sanction gets negligible and also cuts cost involved in the process of sanction of new pension under IGNOAPS.

b. Time and Cost Savings for the Key Stakeholders to Avail the Above Set of Services

District

- Monitoring and Supervision made online cutting time and cost for report generation.
- Preparation of report and category wise list of beneficiaries made easy.
- Fund allocation made easy, accurate and prompt.
- Institutional mechanism for filling up of vacancies.
- Compliance time for government queries and cost involved in it significantly reduced.

Sub-divisional Officer

- Sanctioning of new applications forwarded from block offices done online.
- Sanctioning time reduced from 30 days to 1 week.
- Identification of duplicacy made easy.

Block Development Officer

- No need of getting monthly report from Panchayat. It is available online.

- Advice preparation time has reduced to few hours. Earlier it used to take at least a week.
- Number of queries at block offices reduced drastically.
- Banks/Post offices have become centers of orientation for pensioners instead of Block.
- No burden of distributing money by organizing camps, thus reducing time and cost for disbursal of pension.
- Tracking of Pension Payment requires no time.

Panchayat Sewak

- No manual record keeping. A printout in the form of hardcopy serves this purpose.
- No manual advice preparation required.

Govt. Treasury/Banks/Post-offices

- No withdrawal of Advance Contingency bill.
- Digital advice bill made updation of bank record easy.

Citizen/Old Age Pensioner (Beneficiary)

- Visit of Blocks by pensioner for knowing the status of payment of Pension negated. Instead he can visit kiosks; bank/post office which is in his proximity. This has cut on huge cost and time of beneficiaries.
- Bank/Post Office Pass books can be verified through availability of online data of his/her payment status month wise.
- New sanction of pension become easy and transparent. He can fill application from any kiosks.
- Inculcation of saving tendency among beneficiaries.

c. Specific Innovative Ideas Implemented in eGov Area; Best Practices Implemented

Initiatives Integrated with Other Departments

- Transparent and accountable system for sanction, payment and record keeping, cutting several layers of governance.

- It is based on End User based approach.
- **Integration of the scheme with the core banking solution (CBS):** Through CBS the payment can be centralized and made instantaneously in the pensioners' account. Most of the nationalized banks have a processing fee for CBS but they have agreed to waive processing fee for CBS.
- **Grievance Redressal Mechanism:** Integration of the Grievance Redressal System "SAMVADH" with this project.

III) Enabler Indicators

1. Project Roadmap

a. Vision Defined

Ensuring smile on the faces of senior citizens through web based ICT application through selection of eligible beneficiaries, timely pension disbursal, total financial inclusion, increasing saving tendency, delivering convenience and finally achieving the social security goal of the government policy.

b. Objectives Defined

The main objective behind the implementation of this project was to develop an efficient, transparent and accountable system of pension payment through banks/post offices. Other main objectives are:

1. To ensure proper monitoring and supervision of the scheme.
2. Timely payment in a transparent and accountable manner.
3. To ensure that the discipline and guidelines of the scheme are being implemented in true spirit.
4. To eliminate intermediaries by payment through banks/post offices.
5. To create a database for other social assistance programmes.
6. To remove burden of movement of the Old Pensioners to district and block offices.
7. To improve the productivity of the BDOs and Panchayat Sewaks so as to facilitate the usage of the available work force for other work while leveraging technology to reduce the enormous work load of the Panchayat Sewaks.

8. To ensure the availability of data in digital form for preservation, analysis and reporting.
9. To increase the saving tendency among pensioners.

c. Measurable Objectives

- i. Opening of personal accounts of pensioners in Banks/Post Offices.
- ii. Online advice generation.
- iii. Online receipt of applications for new sanction under IGNOAPS or SOAPS.
- iv. Automatic detection of duplicate entries.
- v. Search option for tracking of Pensioners' detail, payment status.

d. Project Milestones

This project was initiated in the month of January 2008 in Dhanbad block on the pilot basis. The experience of pilot was used to customize the software to all eight blocks and existing beneficiaries of State Old Age Pensioners Scheme(SOAPS). The software was hosted on the NIC State Server in the month of April 2008. The project has been fully implemented from April, 2008. Next aim is to customize the software for other social security schemes like Indira Gandhi Widow Pension Scheme, Indira Gandhi Disability Pension Scheme, Swami Vivekanand Handicapped Pension Scheme and other welfare schemes like Food Security Schemes, scholarship schemes etc.

2. Process Reengineering & Legal Reforms

a. Major Front-end Process Changes

1. Standard printed form of application dispensed with by receipt of online application.
2. Physical presence of pensioners in a camp done away – with instead payment of pension through the bank/post office made compulsory
3. No written report is required.
4. Grievance redressal process made online.

b. Major Back-end Process Changes

1. Bank/post office-wise advice generation at the Block level thus eliminating the manual advice generation by the Panchayats and Blocks.
2. Payment of pension through banks/post office made mandatory.
3. Process of sanction of new beneficiaries through online mechanism.
4. Scope of integration of the scheme with CBS.

3. Project Sustainability**a) Financial Model (funding pattern, business model, PPP, etc)**

- Developed from available internal resources of the district
- In-house data entry
- NIC State Unit Server used for hosting of the web based application
- Trained staff of blocks engaged in Advice generation, Data verification and maintenance.

b) Technology Maintenance

- VB .Net has been used as front-end
- SQL Server 2000 database in back-end
- UNICODE support
- User level security.

c) Disaster Recovery Center

Storage of data and the whole application at NIC State data center.

d) Project Management Team (full time department officials/consultants)

Assessing the horizontal breadth of the project, interdepartmental team under the leadership of Deputy Commissioner involving District Welfare Officer, SDO, District NIC Unit, Assistant Director (Social Security department) and Block Development Officers was constituted.

Shri. S. K. Choudhary, IAS, Principal Secretary, Department of Labour, Employment & Training – He supported the project by giving his suggestions on initiation of the project.

Shri. Ajoy Kumar Singh, IAS, Deputy Commissioner, Dhanbad – I was closely involved in all aspects of the project implementation right from the project conceptualisation to its implementation.

Shri. Jagjit Singh, District Welfare Officer, Dhanbad – Support to the software development team in providing guidelines of the NSAP schemes and helping in data migration to the new system from old manual system.

Shri. Dinesh Kumar Mishra, SDM, Dhanbad – Administrative liaison with all Block Development Officers and Panchayat Sewaks.

Shri. Mahendra Narayan Singh, DIO NIC – He supported the project through System study and design and using software development team of existing programmer available at Rural Development Department and NIC.

Smt. Pushpanjali, Programmer NIC – Developed the software by using Front end and back end tools required for the project.

Shri Ambarish Kumar, Assistant Programmer-cum-Computer Operator, R.D. Department – Full time support in programming and data migration.

4. Change Management

- a) Change management strategy
- b) Capacity building plan
- c) Leadership support & visibility

Regular workshops were organized to share the ideas and to brief about the changes to all the stakeholders on the issue.

The project has been a success due to the various capacity building efforts taken up by the project team. Workshops and trainings were organized to apprise the root level functional staff of the changes and the benefits that would accrue to them through the use of web based application meant for Pension Payment. Training was also imparted to the operators of Common Service Centers so that they are comfortable using the system.

The leadership was provided by the D.C. who always chaired the meetings/workshops etc.

5. Project Monitoring

- a) Monitoring & Evaluation process

- b) User feedback, project assessment mechanism
- c) Third party overall project audit mechanism.

Internal monitoring and evaluation of the process was done at the district level in monthly review meeting. The status of new applicants, fund availability, advice generation, and payment etc were regularly monitored. Local press, media personnel were suggested to get the voice of key stakeholders about the inconvenience and problems in Operationalisation of the new system. “SAMVADH” also helped in monitoring and evaluation of the project.

The Dhanbad district administration has handed over the work of SOFTWARE EVALUATION and IMPACT ASSESSMENT STUDY to Indian School of Mines University as step towards conducting self-evaluation through a third party which is in progress.

The feed back from stakeholders and media shows that pensioners, panchayat sewaks, BDO's are happy with the implementation of the system as it has simplified the process and enhanced their efficiencies. Further, the top officials are satisfied because this system helps in providing better and timely information.

Implementation Challenges

1. Technical difficulties and inter departmental coordination in such large scale project: A high level team in the chairmanship of DC with competent professions was formed to ensure that the complex and challenging task of development of software and digitization of authenticated data of such a large number of beneficiaries is managed properly. The regular review meetings of committee was quite helpful in resolving the problems in time.

2. Opening of account of all pensioners with zero balance in Banks and Post Offices was not easy as rural branches have less man power to operate these branches.

3. Cultural change to ensure that the employees support the system solution: Regular workshops were conducted along with a general awareness campaign about the project and the benefits that would accrue to the respective stakeholders. This ensured that the employees supported the system implementation and cooperated for the same.

4. **Lack of computer skills among employees:** Extensive training of the employees for using computers and the application developed for the project was undertaken to ensure that the system once functions could be used effectively.

Key Lessons Learnt

With proper change management, departmental staff is happy to co-operate in ensuring the success of the e-governance initiatives.

This project helps not only in saving time and money but also helps in better adherence to the guidelines, which in the manual system were easy to violate.

(Mahendra Narayan Singh, District Informatics Officer, National Informatics Center, D.C. Office, Collectorate Building, Dhanbad – 826 001, Jharkhand, Telephone no. 0326-2312404 (Off.); 0326-2310165 (Res.), Fax no. 0326-2312602.)

Hospital Management System – Tripura

C K Dhar

I) Project Overview

The Hospital Management System project is implemented in the State of Tripura, a primarily backward state in the remotest corner of North East India.

Being a geographically isolated state, railway based transportation facility is unavailable. Transportation by AIR is costly. Only alternative is transportation by Road all the way from West Bengal via Assam almost circling half of Bangladesh. This escalates the project cost in terms of transportation expenses and simultaneously delays the project schedule. The minimum delivery time required is 45 days and sometimes extends to 60 to 120 days in situations of landslides and road blockades.

Availability of ICT tools and equipments, in local market is almost nil in terms of quality and quantity. Dependence is on mainland states and national level suppliers and vendors. Provision for adequate spares and replacement equipments is mandatory in any ICT based project plan. But it is not always possible to maintain spares inventory due to lack of adequate fund and escalation of project cost, due to reasons mentioned.

ICT based job scope is almost nil in private sector and a bare minimum in Government Sector. As a result the natural tendency of trained manpower in this state is to join the national level companies in mainland states. Since the development stage, provisioning quality manpower becomes a prime issue and largely affects the implementation schedule. We are to depend on “availability of manpower” in place of “availability of quality manpower”, continuous training and grooming. Future sustainability of a project is uncertain as the trained manpower may join better jobs in mainland states.

General awareness and interest on ICT based projects is very poor in government/semi-government. organisations. Co-operation and support is not available at all layers of an organisation. We are to start slow and gradually build up with best compromise between citizen and organisation’s interest. Training and awareness campaigning is done on regular basis before and after implementation to sustain the project. Mostly Head of departments lack ICT vision and some who does have, find it difficult to make it workable in the organisation.

II) Result Indicators

1. Key Performance

a. Stakeholder-wise services and benefits of ICT/eGov initiatives

The key features of e-Hospital@NIC are providing an integrated solution for hospital and clinic needs, real time access to patient records, ward management, patient management, patient admission and disposition, investigations, laboratory services, reports, supply management, facility management etc.

The system generates statistics and reports to support better planning. The statistical data can be viewed in the form of charts and graphs for better perceptions.

e-Hospital@NIC – consists of a range of application modules that support the administrative, financial and clinical information needs of today’s Government hospital. Each module can be implemented individually or be combined to form an integrated system to suit any of the hospital’s needs.

- OPD Registration
 - IPD Registration & Bed-Head Ticket
 - Requisition for Diagnostic Test and Clinic Module
 - Ward Management
 - Cabin Management
 - ICU Management
 - OT Management
 - Blood Bank Management
 - Laboratory Module
 - Administration Module
 - Billing/Cash Module
 - Online Blood Donor Search and Blood Bank Status
- Contd...

Contd...

- Health Service Advance Booking System
- Medical Records
- Touch screen Kiosk Module

(Payroll, Accounts, Personnel) and many more

b. Implementation coverage (geographical areas covered under pilot, roll-out, next steps, % of total services covered under the lifecycle of projects processes, % of total branches/ departments covered by the project)

HMS is implemented and fully functional in the State Owned Government Medical College & Hospital at Agartala, the Capital City of Tripura. All departments are successfully running the HMS software in daily activities.

2. Efficiency Improvement

a. Time and cost efficiency improvements in the delivering above set of services.

OPD Patients	: 1000 (Average)
IPD Patients	: 800
Blood Bank Service	: 24 X 7
Doctors	: 160
Nurses	: 250
Paramedical Staff	: 130
Emergency Service	: 150 per day

b. Time and cost savings for the key stakeholders to avail the above set of services.

Turnaround time for patient services has improved manifold. Data entry for outdoor patients is done once only and has reduced the transaction time. Template based processing system has reduced the processing time for paramedical staff & doctors.

c. Specific innovative ideas implemented in eGov area; best practices implemented

Initiatives integrated with other departments

The blood bank service is made transparent to citizen in the form of a web-site, which displays donor list with contact numbers, current blood position in blood bank of all blood groups, contact numbers for blood banks service.

III. Enabler Indicators

1. Project Roadmap

a. Vision Defined

One of the top most areas of concern to the common man is health care services. The load on Government hospitals is increasing day-by-day along with population increase and pro-people policies of Union and State Government on Healthcare sector. Mainly down trodden masses are being served by Government hospitals in rural and urban areas. A core group is working in NIC for providing one stop ICT solution for Health Sector embracing healthcare and e-Gov standards. e-Hospital^{@NIC} is designed and developed to help small size to large size Government hospitals to deploy ICT solution at a very affordable cost.

b. Objectives Defined

A product suite to improve the quality and management of clinical care and hospital health care management in the areas of clinical processes.

A flexible and easy to use solution to deliver real benefits in terms of ITeS from outdoor clinics, IPD, Laboratories, Blood Bank and hospital as a whole.

An application on Linux and Windows platforms and can be easily customised to suit the requirements and reflect priorities of hospital management team.

c. Measurable Objectives

- Hospital-wide management and seamless integration of Information across various Departments of the Hospital.
- Availability of comprehensive Information about patients.
- Deriving and archiving Medical Records data from all departments to help in medical research.
- Automation of mundane tasks to help the hospital to focus on patient needs.
- Efficient monitoring of day-to-day activities in hospital
- Continuous process improvement through integration of information available at various departments for better patient care.
- Remote access to relevant information in order to ensure better services to patients.

- Possibility of electronic transfer of patient's records in the event of inter-hospital transfers

d. Project Milestones

- Formal Decision by various stakeholders
- Budgetary Provision
- Step by Step implementation at
 - OPD registration
 - Cash Counter
 - Laboratory and Pathology
 - IPD registration
 - Ward & ICU management
 - Student Management
 - Blood Bank management and public services

2. Process Reengineering & Legal Reforms

a. Major Front-end Process Changes

Integrated HIS designed to manage the administrative, financial and clinical aspects of a hospital. This encompasses paper based information processing as well as data processing machines which includes digital photographs.

b. Major Back-end Process Changes

Manual process of record maintenance and achieving is replaced by MIS reports generation and achieving. Laboratory, cash counter, X-Ray unit, reporting by doctor etc. in each and every unit the patient ID is used to recall the patient details and the present status/report is inserted.

3. Project Sustainability

a. Financial Model (Funding Pattern, Business Model, PPP, etc)

The Application software, project implementation, maintenance management & consultancy is offered free of cost by NIC-Tripura.

PPP model is adopted for all counter operations and daily basis summarization work.

b. Technology Maintenance

Hardware installed is under 3 year warranty by supplier. Breakdown calls are lodged into call center over telephone or e-mail. An additional system is maintained for every 5 systems, in a location for immediate replacement by site support personnel.

After completion of 3 years, hardware performance shall be reviewed and new systems shall be induced to replace the degraded systems.

c. Disaster Recovery Center

A full time data centre is installed at NIC-Tripura with an installed capacity of 3Tb data storage. The centre is operational 24X7.

d. Project Management Team (Full Time Department Officials/Consultants)**NIC**

1. Shri. C.K.Dhar, State Informatics Officer, NIC
e-Mail: chayan@nic.in, Phone: 0381-2324053, 09436120416(M)
2. Shri. Nilkamal Dey Purkashtha, Asst. Programmer-B, NIC
e-Mail: nilkamal@trp.nic.in, Phone: 0381-1314640

Health Department, Government of Tripura

1. Shri. S.K.Roy, IAS, Commissioner (Health), Government of Tripura, Agartala-799001
e-Mail: sudipkin@yahoo.com, Phone: 0381-2325058, 09436120045(M)
2. Shri. Susanta Sen Choudhuri, MRO, Agartala Government Medical College and GBP Teaching Hospital, PO: Kunjaban, Agartala, Tripura-799006
e-Mail: senchoudhuri@rediffmail.com, Phone: 0381-2353112, 09436126920(M)

4. Change Management**a. Change Management Strategy**

A centralized web-site is maintained at NIC-Tripura State HQ, all change requirements and queries are posted here by team members. Software patches are uploaded on the site with appropriate header, date and install instructions. The

patch is downloaded simultaneously from all sites by site support personnel and implemented as per guidelines. Users are briefed on the change operation on job.

b. Capacity Building Plan

Internet based online payment facility is planned in near future. Discussion is going on with some of the leading banks for payment gateway interface.

c. Leadership Support & Visibility

Hon'ble Minister, Department of Health & Family Welfare, Govt. of Tripura & Secretary, Health & family Welfare, Govt. of Tripura is constantly driving the project throughout the year. It is their vision that has improved the health services by adopting appropriate ICT tools.

5. Project Monitoring

a. Monitoring & Evaluation Process

Monthly review meeting is held by project implementation team to review current status and status of requirements / improvement suggested in the last month are reviewed.

b. User feedback, Project Assessment Mechanism

Data quality and turnaround time is reviewed by user on fortnightly basis and feedback is provided to the implementation team.

c. Third Party Overall Project Audit Mechanism

HMS is currently under ISO certification process and hopefully shall be completed by August 2009.

(C K Dhar, State Informatics Officer, National Informatics Centre, Tripura State Centre, 2nd Floor, Treasury Bldg, Office Lane, Agartala-Tripura, Telephone no.0381)-2324053(O), email: sio-trpr@nic.in, chayan@nic.in).

Hospital Management System – Gujarat

Vineet Mishra

I) Project Overview

IKDRC-ITS is a tertiary care twin institute of public sector rendering state-of-art services like dialysis, kidney/ liver transplantation, lithotripsy, etc. to patients from all over the country, suffering from kidney and urological ailments. The three pillars of education, service and research on which this institute functions, are equally well developed, inter-dependent and strong. To make these areas more proficient, computerization was installed in 1998 first for transplant patient related services and research.

Now HMS has been upgraded to provide umbrella of services to all three areas viz services, research and education; and for administration. The aims were:

1. Streamlining the operations
2. a. Updated information for administration, on every OPD patient visiting the institute
- b. Updated information for treating doctors on every OPD/IPD patient
3. Online and updated information on every procedure including surgeries performed on every patient
4. Discharge information
5. Complete records of all patients, which will help in generating statistical information as well as for research studies
6. Try to move towards paperless stage
7. Ensure smooth operations and user-friendly environment.

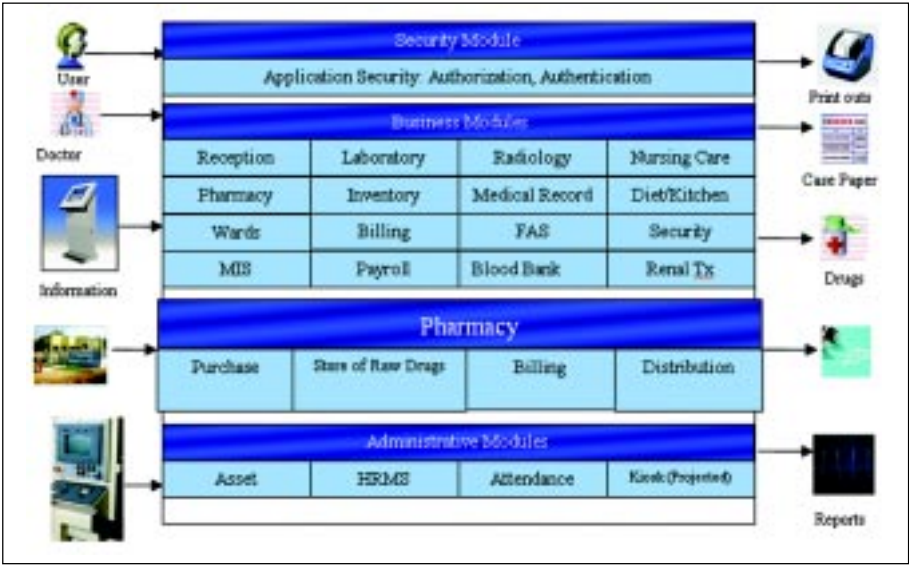
This has led to efficient data entry management, catering of services, identifying the problem areas and strategies to solve them. In addition to these it has led to transparency of the system with immediate availability of any kind of information related to the institute. Regular updating of the website of institute at 3 monthly intervals is also a task for this system.

HMS provides very effective policy decision making tools for middle & top level management. HMS provides strong front-end for hospital user for the customized and re-engineered processes to ensure optimum utilization of equipment and man power. The HMS monitors pre-defined health indicators and the embedded reporting facilitates decision making by the hospital management and state level administrators for policy and strategic decisions. The patient benefits the most by getting well managed hospital services, health care details and other related services. HMS system supports electronic workflow management. The major advantages of a workflow system are as follows:

- Sharing of critical patient information among users of different modules with secure rights management
- Enhanced process quality and patient service mainly due to managed circulation of patient information across departments and greater control over decision-making
- Traceability of actions for a critical patient condition
- Improved efficiency of hospital staff
- Elimination of unnecessary steps and self-awareness amongst hospital users about his/her roles and responsibilities
- Hospital Staff feels completely involved in the entire process and capable of getting answers to important questions in a timely fashion
- Streamlines responsibilities of user and clarifies roles of every employee
- Provides optimized patient flow leading to improved treatment outcomes
- Saves time and keeps staff and patient connected with each other.

HMS runs in seamless integrated manner covering all the modules as mentioned below. HMS is state-of-the-art healthcare solution to provide better care to patients by addressing all the major functional areas of the hospital & the entire gamut of hospital activities. HMS improves Automation

of Hospital’s Functions as well as standardization and integration of workflow across all modules.



II) Result Indicators

1. Key Performance

a. Stakeholder-wise Services and Benefits of ICT/eGov Initiatives

- 1. Patients & their relatives
- 2. Doctors & Supporting Staff
- 3. Director
- 4. Total Solution Provider (Pioneer Infotech)
- 5. Real-time advance of the patient & discount % can display online at each transaction
- 6. Better response time to patient for their queries and outstanding dues
- 7. Easy availability of patient data.

b. Implementation Coverage (geographical areas covered under pilot, roll-out, next steps, % of total services covered under the lifecycle of projects processes, % of total branches/departments covered by the project)

The Coverage and Usage for HMS is as follows:

No. of System Users	150
No. of Permanent Doctor	91
No. of Modules	18
No. of dept. specific modules	3
Size of Database	2.5 GB
No. of Employees	458
Max Number of Simultaneous Users	93
No. of Node/Computers On Network	112
No. of Departments covered	17
Average No. of Transactions (Daily)	
• Outdoor patients – New/followup Case	500
• Pharmacy	450
• Pathology	3000
• Radiology	1100
• Procedure	250
• Operations	30
• Indoor patients	300

Future Plan

The demand of future expansion and mobility was one of their top priorities; hence the system should be on intranet. IKDRC managerial staff wanted to have the capability of logging in to the system from anywhere.

2. Efficiency Improvement

Time and Cost Efficiency Improvements in Delivering the Above Set of Services Are:

- a. Patients are more benefited in this system like poor patients who want to take a concession in OPD and IPD billing can take a concession for the same visit or for the future visit by the authority in a single mode entry and patients from various Government schemes are also benefited by one time entry in account department for their future billing transactions, which will automatically take care of respective scheme billings and accounting procedures.
- b. The redundancy in data entry has been reduced to a large extent by implementation of HMS. The time is saved in the inventory control, report generation, accounting facilities such as payroll, billing etc. Thus,

the hospital staff is able to save a lot of time and efforts in performing their routine tasks. The time savings for various functionaries is between 10% to 50%.

- c. The Clerical & Nursing Staff can reallocate for other productive areas such as asset management, maintenance etc. and patient care respectively.
- d. Less Paper Utilization.

Time and Cost Savings for the Key Stakeholders to Avail the Above Set of Services

A person who takes care of all concession activity is now entering one time posting for the patient who wants to take concession for current and future medical test and medicines, (In older system every time one has to enter the concession in all transactions), Administrative staff can see the current financial and medical activities as their finger tips. They can see the active mode of transaction for medical procedure and laboratory reports and concession status of the hospital.

- The data maintained in electronic media saves the lost caused to the decaying of the paper.
- HMS is integrated with Inventory for the indent of goods and thereby reducing the procurement time and cost.
- HMS Project is for improving the productivity of employees and increasing the transparency in Hospital administration.
- HMS provides all modules such as: no need to purchase separate module for each department so that data consistency and integrity remain intact.
- Service provider for each department remains same.

Specific innovative ideas implemented in eGov area; best practices implemented Initiatives integrated with other departments

We want to implement single accounting system for any patient or for any Government Scheme, completely automated Laboratory reports and radiology imaging and USG. Patient who is economically backward can take an advantage of one time registration in concession procedure by respective authority for future billing (Like for a week, months). Customizable tariff for different class of society and for Government Scheme as per their rules and tariff.

III) Enabler Indicators

1. Project Roadmap

Vision Defined

Provision of quality healthcare for all sections of the society by making management of the public sector hospital efficient and paperless with effective through specially designed Information Technology solution capable of providing online data analysis, health indicators, policy making and management tools at every level.

Objectives Defined

1. Streamline the Operations
2. Reduction/Elimination of duplicate works
3. Increased productivity
4. Faster decision-making
5. Prevent Inventory Loss
6. Patient tracking to increase productivity of inpatient allocation
7. Instant Patient Billing (automatic medicine return calculation)
8. Real-time management and accounting report
9. Improvement in services offered to patients
10. ICD standards compliance while categorizing diseases in patient records by doctors
11. Creating templates for data recording of investigation, treatment and prescription for ease-of-use by doctors
12. Seamless integration between functions for smooth patient movement within various services
13. Improve Patient Care
14. Effective Administration and Control.

Measurable Objectives

- i. Patient spends less time in waiting queues at registration. OPD, laboratory and pharmacy service counters

- ii. Using HMS administration department gets immediate online reports from system which was dependent on department staff and available after a considerable time lag
- iii. Hospital Administration can view daily reports online
- iv. Doctors can view patient history and reports like laboratory investigations reports online, which saves patient's treatment time
- v. Improved utilization & effective resource allocation
- vi. The medicines reaching near 3 month expiry dates can be viewed on aging period-wise, such as 10, 30, 60, 90 days
- vii. Item transfer from Central Store to Department Store and Department Store to Item Issue to patient can track so we have control of each item and nursing staff also answerable for same
- viii. In employee management, there is using of Bio Matrix so that no wrong marking on paper is done
- ix. Un-sold item can be viewed aging-wise so that we can have less working capital fix up
- x. Surgery and Radiology images can be stored with patient so that we can have research work on that
- xi. With renal transplantation module all transplanted patients' documentation, personal details, and medical records are maintained for research purpose and further medical treatments, drugs used by patients and the track of medicines are kept separately for drug management, patient pathology, radiology reports can see only
- xii. All the procedure for Renal Tx through System so that data would be transparent.

Milestones of the Project

We have started computerization in 1998 with novel server and clipper development tools with patient's registration and OPD/IPD billing, Accounts with salary, Pharmacy store and Central store subsequently. In 2001, it was developed further with transplanted patient program with windows 2000 professional server with VB6, SQL server as a back-end and maintain patients' personal data and pathology report online and as patients flow increases and

time demands for further development toward paperless management we have transferred our old system to new HMS and planning to do all work paperless by end of 2010.

In order to be able to take prompt decisions at appropriate times required a holistic view of the functioning of all the department of the hospital which mandated integrated information system deployment across the hospital processes. It is also designed as a Total Quality Management Tool and it helps thus to seek accreditation from National Accreditation Board for Hospital (NABH)

2. Process Reengineering & Legal Reforms

Major Front-end Process Changes

1. Each patient is assigned a unique identity number. This number enables user-friendly maintenance and retrieval of electronic medical records during life-time follow-up visits.
2. Easy access to reference records.
3. Online medical procedures for effective and timely patient care.
4. Faster information flow between various specialties.
5. Online patient monitoring based on threshold values supporting alarms and triggers to doctors.
6. Hardcopy discharge summary by option, patient-wise, for future references.

Major Back-end Process Changes

1. Monitoring cost of per-patient quality services, rate of bed occupancy, doctor's efficiency and performance, lab technician and equipment performance, average time spent to get health service patient-wise and so on.
2. Issue of pharmacy patient-wise, stock status and re-ordering of medicines, inventory carrying cost and expiry date monitoring.
3. Pro-active monitoring of quality health service indicators for decision support.
4. Availability of timely and accurate information.
5. Access to updated Management Information.

6. Controlled administration using features such as communiqué, centralized purchases, holding/withdrawing sub-standard medicines from issuance, camp management and epidemic controls and so on.

3. Project Sustainability

Financial Model (Funding Pattern, Business Model, PPP, etc)

- IKDRC-ITS self-funding

Technology Maintenance

- IBM Blade Server and 1 Gbps Internal network

Disaster Recovery Center

- X3650 IBM server (Backup Server)

Project Management Team (Full Time Department Officials/Consultants)

Project Management

- i. I.T. In-charge (Dr.Vineet Mishra)
- ii. System Manager (Yazdi Wadia)
- iii. Pioneer Group leader, Project leader and team (Samip Shah)

Project Policy level

- I T Incharge

IT Committee that includes

- Director (Prof H L Trivedi), I.T. In-charge, System Manager

4. Change Management

Business Challenges

Our first challenge in IKDRC hospital is to optimize the whole process, although it had some experiences in using computer-based management system, yet the process was not optimized in the perspective of enterprise; too many redundant works, or ineffective process flow. IKDRC has many divisions; the other challenge was to make the system to be seamlessly integrated to each other.

Implementation Challenges

The hospital had hundreds of employees using the system. Most of them did not have any idea of how to use the computer, and the rest had some experience of

using the previous hospital system. The biggest challenge in this project implementation was to overcome the resistance of end users who were initially unwilling to use new software for their daily work, which otherwise was done manually. Having foreseen this in advance, many steps were undertaken by I.T. In-charge and System Manager with help of Software Provider.

One such step was to conduct training on the usage of HMS for the users and other employees. Handholding support has also been provided to them for over 6 months so that the users become comfortable in using the system.

Capacity Building Plan

- i. Customization and confidence building exercises among users
- ii. Uniform & Integrated System & end-to-end solution
- iii. Adequate Security & Authentication provisions
- iv. Change Management
- v. Ongoing Training & Support
- vi. Constant review and upgradation
- vii. The Customer Satisfaction Index has been carried out every 6 months for each department separately. The satisfaction level has been more than 93%
- viii. A status report is prepared fortnightly & validated by IT Committee.

Leadership Support & Visibility

Our director's vision for next 5 years is complete atomization in medical treatment and patient service to the society

5. Project Monitoring

a. Monitoring & Evaluation Process

Evaluation being measured by:

1. Usage of modules are reviewed in the meeting
2. Outcomes are thoroughly reviewed and changes, if any, are made
3. Level of satisfaction in the stakeholders is surveyed.

b. Monitoring & Evaluation Being Reviewed and Corrective Actions Taken as Under

1. Review committee under the Director IKDRC-ITS for updates twice in a month.
2. I.T. in-charge visit & review implementation – Progress of every department once in week.
3. Live Demo and relevant reports are reviewed in the fortnightly meetings;
4. Integration of Hardware & Software ensured
5. Implementation is smoothened
6. Technical committee reviews the changes.

User Feedback, project assessment mechanism

This software is for internal use for IKDRC-ITS and it is running very smoothly in each department since long and every user with different stakeholders is very much satisfied by system.

Third party overall project audit mechanism

The HMS Project follows the technology standards as defined by ANSI, IEEE and ISO. In the Process area, HMS follows standards published by ISO-9001. IKDRC-ITS management is planning to invite NABH & ISO certification Companies like KPMG, DNV for assessing computerized process at various levels. Internal auditor and External auditor are satisfied with the accounting procedure.

(Dr. Vineet Mishra, HOD Professor, Institute of Kidney Diseases and Research Centre and Institute of Transplantation Sciences, Civil Hospital Campus, Asarwa, Ahmedabad. Telephone no. 079 2268 56 00/01/02/04/05, Fax: 079 2268 5454, Email: vvmishra@yahoo.com).

hsCAPNIC – Higher Secondary Centralized Allotment Processing

M Asir Edwin

I) Overview

The processes related to admission of students in the Government and Aided Higher Secondary Schools in the State had been dealt with at the school level ever since the inception of the Higher Secondary Education Department. Though the government had formulated and issued specific norms and conditions for the conduct of admissions, there was no dearth of complaints from the parents and students on the flouting of these rules in many schools. It is in these circumstances that the government decided to introduce the online system of admission to rein in these delinquencies on the part of the school authorities. The process of admission has to be effective, transparent and in strict adherence to the rules formulated for the purpose. It is with this view that the government of Kerala decided to introduce 'hsCAPNIC' – the Single Window System for the centralized allotment of admissions in Higher Secondary Schools. The initiative was first introduced in the capital district during the academic year 2007-08 on an experimental basis. In 2008-09 the system was introduced throughout the state. The Single Window Admission system was generally accepted as an illustrious achievement of the Education Department.

Kerala is the first state to achieve 100% literacy in our country. Education is given top priority by every family irrespective of their social and economic background. Higher Secondary Admission is an important key factor in deciding student's higher studies. Admission for the Government schools (100% seats) and Government aided schools (50% seats) are done by Higher Secondary Education Department. Currently, there are 2,10,516 (Two lakh ten thousand and five hundred and sixteen) seats in 1260 schools under these two categories.

There are 4,25,345 applications received. In these schools, a student gets good education at very low fee.

Socially weaker sections and economically poor students mostly depend on the Government seats to get admission. Under the manual system –

- Candidates are forced to purchase one application from each school in which he/ she wishes to apply
- Opening of admission by the schools starts in the same period
- Confusion and anxiety to the candidates and to their parents results in knocking the doors of all schools to which application was given
- Seats of deserving candidates are grabbed by candidates with influence
- The reservation seats are not filled in transparent way.

Solution to all these problems is achieved by implementing hsCAPNIC, the Single Window system for higher secondary admission.

II) Result Indicators

1. Key Performance

a. Stakeholder-wise Services and Benefits of ICT/eGov Initiatives

Candidates

- Only one application need to be submitted for admission in any school in the district (against one application per school in the conventional system)
- Any number of options can be given in the single application for any “School – Course combination” in the District in the order of priority
- The student can approach any nearby higher secondary school for application form and for help
- Free web access provision in the schools
- Provision to verify the application details over web by the candidate (to eliminate any possible data entry error)
- Provisional allotment result
- Result printing with allotment advice
- Verification of rank details by the candidate

- Verification of category-wise “Last Rank” which enable transparency in the system
- Higher options cancellation, if satisfied with current allotment
- Complete transparency on allotment.

Parents

- No need to knock the doors of different schools
- No need to perform the ‘MAGIC’ of appearing for interviews in multiple schools at the same point of time
- No need to apply influence to get an admission
- Cost savings in terms of application form for multiple schools and traveling to different schools
- Freedom from abstaining duty for multiple days to get an admission.

Schools

- Freedom from the marathon job of handling the admission process
- Simply to admit the candidates based on the allotment list published by the portal
- Freedom from being pressurized by influential persons to give admission to particular candidates over deserving candidates
- Freedom from facing the situations like rank list prepared and published, but less than 50% of candidates from the rank list joined as they got admission in another school
- Freedom from low admission and number of candidates obtained admission increased
- All higher secondary schools provided with broadband connection as part of this project.

Department

- Preparation of accurate seat matrix based on the reservation guidelines
- Maintenance of transparency in the admission process.

Government

- Better Government to citizen service enabled.

b. Implementation Coverage (geographical areas covered under pilot, roll-out, next steps, % of total services covered under the lifecycle of projects processes, % of total branches/departments covered by the project)

All the higher secondary schools in the state are covered by this project. For application form sales, collection and for data feeding, all the higher secondary schools in the state are involved. The citizen can interact with the system through internet.

2. Efficiency Improvement

a. Time and Cost Efficiency Improvements in the Delivering the Above Set of Services

In the conventional system, a student and/or the parent need to make multiple visits to the schools of their choices for procuring the application, submitting the application back in the schools, knowing the interview date, interview etc.

In the Single Window system, the system was re-engineered and the candidate need to go to any one of the nearby school only once for getting the application and submitting back. All other service delivery are provided through internet. Finally the candidate has to go to the concerned school for the admission.

b. Time and Cost Savings for the Key Stakeholders to Avail the Above Set of Services

Time saving for a Student and Parent

Earlier, on an average a student applied to 5 Schools. Time was spent for procuring the application from 5 schools, filling the application, for submitting the application back in the schools etc.

Now the student needs to procure only one application for all the schools in the entire district from any of the nearby school and submit it back in any of the nearby school.

Previous Conventional System	
Application procurement time = 25 Hours	= Average 5 hours Travel (To and fro)
Application filling time = 5 Hours	= 1 Hour per application
Application submission time = 25 Hours	= Average 5 hours Travel (To and fro)
Time spent for interview = 50 Hours	= 5 Days (average 10 Hours)
Time spent to get an admission = 20 Hours	= 2 Days (average 10 Hours)
Single Window System	
Application procurement time = 2 Hours	= 2 hours Travel (from any nearby school)
Application filling time = 3 Hours	= 3 Hours
Application submission time = 2 Hours	= 2 hours Travel (in any nearby school)
Time spent for interview = 0 Hours	= Not required
Time spent to get an admission = 3 Hours	= Half Day (3 Hours)
Time spent on net and travelling time = 5 hours	

It may be observed that in the conventional system, a candidate and the parent spent approximately 125 hours for getting an admission where as in the Single Window system this time has come down to 15 hours. Average time saving per candidate may be taken as 100 hours. Considering 3 lakh as the serious applicants from the 4.25 lakh applicants, the **approximate time savings = 3,00,00,000 hours (3 crore man hours! Or 12.5 Lakh man days!)**.

Time saving for the school

In the conventional method, as a student on an average applies in 5 Schools, a school receives 5 times more the number of applications received currently. All these applications need to be entered into the local system for preparing the rank list. Data entry time reduces by 5:1 ratio.

Cost savings for a Student and Parent

Approximate cost savings on account of travel
per one student = Rs.500/-

Cost savings for 3,00,000 serious applicants = Rs.15,00,00,000/-

Average number of days one parent spending
for admission = 4 days

Considering a wage loss of Rs. 300 per day, total
revenue loss for 3,00,000 applicants' parents for 4 days = Rs.36,00,00,000/-

Approximately, the savings for the citizens is Rs.50 crore.

c. Specific innovative ideas implemented in eGov area; best practices implemented

Initiatives integrated with other departments

Innovation: Single window system introduced

Best practice: 1. Multilevel data verification to minimize data entry error

2. Application data published for verification by the student.

III) Enabler Indicators

1. Project Roadmap

a. Vision Defined

The Higher Secondary admission process should be –

- Transparent
- Eligible deserving candidates should get admission
- Parents and students should be tension free in the entire admission process.

b. Objectives Defined

- Socially and economically backward students should not be denied their opportunity
- The percentage of admission should increase
- The system should not show any personal favor for anyone.

c. Measurable Objectives

- Over all state level percentage of admission increased to 95.54% from the previous 3 year average of 83%
- Socially backward students' admission increased in all the 1260 schools.

d. Project Milestones

- New application form design and prospectus printing
- Distribution of form through all Higher Secondary Schools
- Online monitoring of school-wise inventory of application forms on daily basis
- Issue of acknowledgment slip to students on receipt of application form

- Application data entry and verification
- Publishing application data for verification by students
- Trial Allotment and result publishing
- Request of data correction, if any
- 1st Allotment and result publishing
- Allotment list for school
- Admission
- Updation of Non joining details and higher option cancellation from the schools
- 2nd/ 3rd/4th Allotment and next 3 steps as in the case of 1st allotment
- Special allotment for SC/ST for vacant seats of SC/ST
- Seat merging and final allotment.

2. Process Reengineering & Legal Reforms

a. Major Front-end Process Changes

- One application to one school changed to one application to all schools in one district
- Data entry by schools into the central database.

b. Major Back-end Process Changes

- Allotment by a central team for all 14 districts
- Result publishing by the central team.

3. Project Sustainability

a. Financial Model (funding pattern, business model, PPP, etc)

- Data Centre infrastructure is used for server collocation
- Directorate of Higher Secondary meets the miscellaneous funding requirements
- Fund collected from application forms sale is used
- As the system received lot of appreciation from all the stakeholders and school admission is a continuous process the system will run

b. Technology Maintenance

- Open source solution on LAMP (Linux – Apache – Mysql – PHP) implemented
- NIC meets the technology requirements
- Users are given training by NIC.

c. Disaster Recovery Center

- Backup servers are available in the data centre with replication features. No separate DR centre is used.
- Daily DB backup and log backup are enabled.

d. Project Management Team (full time department officials/consultants)

- Department team is constituted for allotment
- NIC team is available for support.

4. Change Management**a. Change Management Strategy**

- GO issued
- EDUSAT network was used to give awareness to students
- Capacity building programs and workshops conducted for the teachers
- Advertisement in print media and visual media given, explaining the system and the method to fill the application
- Applications and options filling has been introduced as part of students' 10th IT practical.

b. Capacity Building Plan

- Master trainers from each district trained
- School IT teachers selected as master trainers
- School Principal and teachers trained by the master trainers.

c. Leadership Support & Visibility

- Required political support was extended by the Hon'ble Minister and Cabinet
- Court cases by the Management schools against the introduction of the system were won in the court by the Department.

5. Project Monitoring

a. Monitoring & Evaluation Process

- Regular meetings by Director Higher Secondary
- Review meeting by Secretary, General Education
- Monitoring meeting by Hon'ble Education Minister.

b. User Feedback, Project Assessment Mechanism

- The Single Window has resulted in social repercussion which brings in positive changes in the education scenario of the state
- Transparency is the highlight of the Centralized Admission Process
- The applicant's right to know the status of his application is maintained at all stages
- Social justice upheld in the conduct of admissions
- The percentage of admissions for the socially most backward students doubled after the introduction of the system
- The students are more or less evenly distributed in the schools through different allotments
- This process checks the consolidation of brilliant students or slow learners in particular schools and changes the standard of the classrooms positively
- This system provides an indicator to the quality of the institution
- Public can assess the standard of the institution from the grade points of the last ranks of the allotted students.

c. Third Party Overall Project Audit Mechanism

- Third part security auditing has been initiated
- Impact Study conducted by SIEMAT (State Institute of Education Management and Training).

(M Asir Edwin, Technical Director, National Informatics Centre, NIC, Data Processing Centre, University Office Campus Palayam, Trivandrum – 34, Kerala. Telephone no. Office – 0471-2302560, email: asiredwin.m@nic.in/asiredwin.m@gmail.com/asir@kerala.nic.in).

APGO – Automatic Uploading of Government Orders – Online GO Management

G Jacob Victor

I) Project Overview

1. As per the order of AP Government in 2001, all Government Orders must be put on internet for public view. However, only few GOs could find place on Internet as there was no self-enforcing mechanism to ensure that each and every GO is put on Internet. Even regular reviews at higher level did not yield many results except increasing workload for senior officers. Further, citizen has to visit multiple websites to view GOs from different departments. As per procedure, every section in Secretariat must upload GO on its website if it has one or send soft copy to IT&C department for uploading on AP Online website. But there was no mechanism to ensure that each and every GO issued by any department is uploaded on to the website or sent to IT&C department for uploading. Procedure was highly person dependent. If staff was sincere, GO will find place on Internet otherwise not.
2. The result was: hardly few GOs were available on Internet. For these limited number of GOs also, citizen has to visit multiple websites.
3. The other most serious issue was that in old system it was not easy to know whether a particular GO indicates the latest position.

The automated process is very simple and user friendly:

1. Section will obtain approval of GO text as usual on file – no change in process

2. Instead of entering GO number, Date, Subject and Section name in GO Issue Register, Section In-charge will go to Web based application on his PC.
 - a. Invoke GOIR application
 - b. Select GO type like RT, MS, P
 - c. Select if it is an amendment to existing GO
 - d. If it is an amendment to existing GO, then enter details of GO which is being amended by this new GO
 - e. Enter Subject of GO
 - f. Copy GO Text in the application
 - g. Generate GO number and system will upload GO on internet automatically
 - h. No delays, no discretion in the hands of staff
 - i. System ensures very high level of Transparency.
3. Complete and Correct information
 - a. As GO number will be generated by the system only after GO text is uploaded into system, it is a self-enforcing system requiring no reviews or monitoring, thus saving valuable time of senior officers.

II) Result Indicators

1. Key Performance

Citizen's Perspective

- a. **Timely availability** – GO is available instantly on 24X7 basis to citizens as soon as GO is issued.
- b. **Reach** – Un-hindered Universal reach through medium of Internet. Citizens need not to go to Secretariat Department (located at State Head quarters) to get the GO copy. Service is available to public any where any time irrespective of office working hours.
- c. **User friendly interface** – Citizen can easily access & search for required GO.
- d. **Elimination of mediator** – Citizen need not approach any mediator to get copy of GO.

- e. **Transparency** – Puts information in the hands of citizens in respect of latest Government Orders.
- f. Press and Media can easily access Government orders on real time basis.

Government Employees/Officer's Perspective

- a. **Easy availability:** Each department can easily search and view GOs issued by other departments based on search parameters like date, subject, etc. Earlier they have to physically approach other departments to provide copy of a particular GO.

2. Efficiency Improvement

- a. If a citizen applies for copy of GO under RTI Act, it may take more than 30 days for him to get copy. Here system provides information instantly to citizen on 24X7 basis.
- b. Transparency in governance.
- c. In the old system it was very difficult to know whether a particular GO was amended subsequently. New system has a provision to indicate whether GO was amended subsequently or not and if yes, through which GO.
- d. **Savings in Time and Efforts** – In old system, Section officer has to go physically to a particular Section to get GO number to issue GO. In the new system, Section officer can issue GO from his own desktop. Also now, no need to send soft copy to IT&C department for uploading and no need for IT&C Department to upload GO. Thus it has reduced work for department concerned as well as IT&C department.
- e. **Availability of all GOs** – System itself ensures that ALL the GOs are on internet as soon as these are issued.
- f. Citizen has to visit only one website to view GOs of all departments.
- g. No need for maintenance of the Manual GO register.

III) Enabler Indicators

1) Project Roadmap

- a. **Vision defined:** To create a single repository of all GO for unhindered and universal access by citizens, Press/Media and Government officials for effective administration.

b. Objectives defined:

- i. Transparency in government
- ii. Availability of all GOs at one place
- iii. Self-enforcing system to ensure uploading of all GOs without any discretion or delay
- iv. Availability of all GOs to public on any time any where basis.

c. Measurable objectives:

- i. Count of GOs issued on a Topic, Date-wise, Department-wise, Section-wise and Type-wise
- ii. Number of citizens accessing information
- iii. Reduced work in uploading GOs and No Need to write and maintain Manual GO register.

d. Project milestones: Pilot project was started in IT&C department in December 2007 and it was extended to all (Total 30 departments) other departments in phased manner by February 2008 except one department. Last department was added in June 2008.

2) Process Reengineering & Legal Reforms

a. There are no **legal reforms** as the process is as per the existing procedure only

b. Major BPR (impact issue): The GO is referred by its Number, Department, type and Date. Without number no GO can be issued. Accordingly this Number as chosen as control element to create self enforcing system. Manual GO Register was dispensed with.

c. Simple design

- i. It helped citizens, Press/Media and Government officials to make effective use of application without any training
- ii. Training for 15 minutes was given to Section officers for generating GO number and uploading GO.

d. Introducing of simple search parameters: Citizen can access GO from website based on various parameters like Department, Section, Type, Date, Period between two dates and on Search String basis.

- e. **Automatic generation of GO number by system** – System generates GO Number automatically as soon as text is uploaded. No need for maintenance of the Manual GO register
 - i. In the old process, Section Officer has to approach OP Section to get the GO number from the centralized Register.
- f. **Major back-end process changes:**
 - i. In the new system, any section officer can generate GO Number from his seat.
 - 1. In the Old Process, Section Officers have to approach the OP Section to get GO number as the physical register was maintained centrally by OP Section.

3) Project Sustainability

- g. **Financial model (funding pattern, business model, PPP, etc):**

The software was developed in house and hosted on existing IT infrastructure of IT&C department. Hence incremental expenditure was zero.
- h. **From June 2008** all departments are using it effectively. Now it has become a part of administrative process
- i. **Technology maintenance**
- j. **The application** is maintained for change management by in house team.
- k. **Disaster Recovery Center** –
 - i. There is no Disaster Recovery site. Daily backup are taken and kept in another building.
 - ii. The application can be configured in few minutes on any system from the backup.
- l. **Project management team** – IT&C department technical team.

4) Change Management

1. Change Management Strategy

- i. The project is owned by IT&C department as multiple departments are its users. All change requests received from Users are examined, evaluated and approved by senior management in IT&C department before implementation.

m. Capacity building plan

- i. The application is developed by in house technical team.
- ii. The system is so simple that 15 minutes training was enough to each user to use the system in generating GO number and uploading GO.

n. Leadership support & visibility

IT&C department owned the project, defined its objective, provided training to Section Officers. Change management and motivation training was handled by Secretary IT&C himself.

5) Project Monitoring

o. Monitoring & Evaluation process

- i. Project Monitoring was done at Secretary IT&C level during development stage. Every process was examined for its correctness and simplicity.

p. User feedback, project assessment mechanism

- i. The best example of feedback is that, the day Election Commission, India announced the General elections in March 2009, next day all news papers and opposition parties responded on issue of large number of GOs by Government on the eve of announcement of elections by ECI.
- ii. News papers agencies, now simply access this website for Government decisions. (Previously each and every news paper agency has to contact senior officers for information).

q. Third party overall project audit mechanism

- i. The application is yet to be audited by third party
- ii. As a security measure – the uploading of the GO is restricted to Intranet only. Section officers cannot upload GOs from outside Secretariat. However citizens can view GO through Internet.

(G Jacob Victor, Joint Director (e-Governance) Department: IT&C Department Joint Director (e-Governance), IT&C Department D-Block, 3rd Floor, Room no. 439, A.P. Secretariat, Hyderabad – 500022, Andhra Pradesh. Telephone no. 040-23450046, Fax no. 040-23450103, email: jt_dir_egov_itc@ap.gov.in).

TWADNEST

A Rajasekar

I) Project Overview

- The “TWAD Board Integrated e-Governance System (TWADNEST)’ project is an Internet/Intranet based enterprise class of application developed and implemented jointly by ‘TWAD Board’ and ‘NIC, Chennai’ as part of G2G/G2E e-governance solutions for TWAD Board. The primary goal of this project is to leverage Information and Communication Technologies to implement total e-Governance in TWAD Board in order to attain improved productivity and transparency in the organisation.
- TWAD Board is implementing water Supply and Drainage/Sewerage Schemes at a cost of Rs.1500 Crores approximately every year for all urban and rural Local Bodies in Tamil Nadu. This necessitates a good online MIS to manage the above tough tasks effectively using ICT and to improve the productivity and to achieve total transparency.
- Before the implementation of this project, data collection and compilation from all the 114 offices of TWAD Board spread across the entire State. Data were collected in each of 114 offices using stand alone applications and the data were sent to Head office and Regional offices via email, CDs etc. The data collected at Head Office and Regions were compiled using another stand alone software and manual mode. This process was a very time-consuming and a lot of precious man-hours were spent to achieve this.
- Now after these online initiatives, due to centralized system, the data collection is done by automating the processes at the field offices and a lot of Periodicals, Statutory Schedules, Daily Reports, MIS Reports and Board

Reports are generated by all offices online as and when required without the need for any manual compilation.

II) Result Indicators

1. Key Performance

a. Stakeholder-wise Services and Benefits of ICT/e-Gov Initiatives

- Established Centralized Data Centre at Head Office, TWAD Board, Chennai
- Upgradation of Hardware and Software for all offices
- Setting up of LAN and WAN connectivity across all the 114 offices of TWAD Board spread across the State with NIC, BSNL and TNSWAN as backbone networks
- Established Internet access to all 114 offices of TWAD Board as a redundant measure to access the central servers
- Implementation of Internet/ Intranet Application "TWADNEST" covering major functional areas of TWAD Board (<http://twadonline.tn.nic.in>)
- CAD/GIS Software for specialized groups of TWAD Board
- Establishment of ICT Infrastructure at all the 114 offices of TWAD Board spread across the State. (Head Office, 4 Regions, 16 Circles, 93 Divisions)
- Publishing of Tender Documents through TWAD Board Website and Government Tender Portal
- All the above links are available through the TWADNEST Portal <http://twadonline.tn.nic.in>
- TWAD Board is the first organisation in the State of Tamil Nadu to make use of the TNSWAN network and implementing the ERP level application software
- The major functional areas such as Financial Accounting System, HR Management, Rural Water Supply Information System and Water Quality Management of TWAD Board is made online to the following online services.

Financial Accounting Information System

- Generation of Receipt/Payment Vouchers online for all offices
- Generation of Journal Vouchers
- Auto-Updation of Cash Book, General Ledgers, Sub-Ledgers
- Monthly Trial Balance Generation
- Fund Remittance, Fund Receipt, Inter Bank Transfer, etc
- Bank Reconciliation System
- Proforma Transfer
- TDA/TCA System
- Fixed Assets Monitoring System
- Imprest and Temporary Advance Maintenance
- Adjustments Memo System
- Schedules, MIS Reports etc.

Human Resources Management Information System

- Online Maintenance of Offices Directory
- Online Maintenance of Staff Sanction Strength
- Online Employee Master Maintenance
- Online Employee Service Records Maintenance
- Online Generation of Transfers/Postings/Joining/Relief Orders
- Online Pensioners Information System
- Family Details, Nomination Details etc.

Rural Water Supply Information System

- Habitation Information
- Budget Proposals
- Division-wise Progress Updation
- GOI Progress Updation
- MIS Reports.

Water Quality Management Information System

- Online Inventory of Chemicals and Testing equipments at Water Quality Laboratories
- Online Maintenance of Sample Test Results
- Customer Invoice, Test Reports
- MIS Reports to meet ISO Standards of the Laboratories.

Implementation coverage (geographical areas covered under pilot, roll-out, next steps, % of total services covered under the lifecycle of projects processes, % of total branches/ departments covered by the project)

- a. This project is implemented and used by all the 114 offices upto the Division level of TWAD Board spread across the State of Tamil Nadu.
- b.
 - Head Office at Chennai
 - Regional Officess (CE Office) – 4 Nos.
 - Circles(SE Office) – 16
 - Divisional Offices (EE Office) – 93
- c. All these offices are located across all the 31 District Headquarters and are connected via broadband connectivity and Leased Line network.

2. Efficiency Improvement

b. Time and Cost Efficiency Improvements in the Delivering the Above Set of Services

- Prior to the implementation of ICT in TWAD Board, the number of employees was around 12000. Now with the implementation of ICT, the productivity has increased more than 50% even though the present staff strength has decreased to around 7000.
- The unnecessary expenditure towards Travel, Postal charges, Telephone charges are cut-down significantly due to usage of E-mail, VoIP and Online Services.

- Capacity Building initiatives were taken to train the existing domain users to use the ICT infrastructure without appointing new employees. This resulted in speedy implementation of the above ICT initiatives.
- Continuous and sustained effort was made to associate all the users during each stage of this project in order to implement the project successfully.

c. Time and Cost Savings for the Key Stakeholders to Avail the Above Set of Services

- Being online system, the employees are now able to generate required MIS reports and regular reports instantaneously, which used to take more than a month for consolidation of reports. This enabled to save lot of time and cost reduction by at-least one tenth of the earlier expenditure.
- Implementation of this system has enabled the employees to avoid redundant works like data collection, compilation, typing, mailing etc, there by increasing productivity although the manpower has come down by 50%.
- Earlier the monthly accounts, employee vacancy positions, report on transfers and postings, service details, project information and other MIS reports were finalized after a month by collecting data through e-mail, floppies etc and compiling at the Head Office. Now after the implementation of the system, all the above reports are generated on the first day of every month which resulted in lot of cost saving.
- Enables to serve the public by completing more number of projects in advance there by avoiding cost over run.
- Enables to disseminate information on the progress of rural and urban water supply schemes, sewerage schemes, to public through web portals.
- Communication cost is saved substantially by using email/online access.
- Unlimited Voice Communication within our organisation using VoIP phone facility.
- Management is able to review the performance of Chief Engineers over the Video Phone facility thereby saving lot of cost and travel time.

d. Specific Innovative Ideas Implemented in e-Gov Area; Best Practices Implemented Initiatives Integrated with Other Departments

- Online Systems were made compulsory after the implementation of ICT dispensing manual systems
- Maintenance of Manual Receipt Book was dispensed
- Manual preparation of Periodicals, Statutory Schedules, Daily Reports, MIS Reports and Board Reports were dispensed with
- Most of the official communications are through email, online notice board
- All employees are given email accounts in the Board e-mail Server
- Continuous and sustained effort was made to associate all the domain experts/department heads/users during each stage of this project in order to implement the project successfully
- Redundant processes such as manual Ledger Posting, Schedules preparation etc are eliminated
- After the introduction of ICT, the senior executives were able to take decisions faster by retrieving required information from the online system without depending on the sub-ordinate staff
- Role based access and dynamic menu presentation system implemented
- Online Help Desk facility provided for all user
- Online Notice Board, News Services implemented.

III) Enabler Indicators

1. Project Roadmap

a. Vision Defined

The Vision of this project is to leverage Information and Communication Technologies to implement total e-Governance in TWAD Board in order to attain improved productivity and transparency in the organisation.

b. Objectives Defined

- Development of web enabled application titled “TWADNEST” software covering various major functional areas such as Financial Accounting,

HR Management, Project Monitoring and Water Quality Management of TWAD Board.

- Establishing network connectivity among all the 114 TWAD Board offices at various hierarchical levels spread across the State and establishing the Network infrastructure at the Head Office of TWAD Board for providing web and email services besides establishing Data Center and Up-gradation of Hardware with the provision of peripherals for all the offices.
- Development of a centralised and comprehensive database of more than 2 GB on all aspects of Schemes/Finance/HR/WQ Labs with integration among its sub-systems.
- Enable the employees to carry out their day to day work effectively through TWADNEST software and to make information available over Intranet/ Internet to all the Stakeholders.

c. Measurable Objectives

Sl. No.	Defined Objective	Achieved Outcome?
i	Establishing Centralized Data Centre at Chennai	Yes
ii	Providing Internet facility to all the 114 offices spread across the State	Yes
iii	Upgradation of Hardware/New Hardware and Peripherals and for all offices	Yes
iv	System software for all offices	Yes
v	Setting up of LAN and WAN connectivity across all the 114 offices of TWAD Board spread across the State with TNSWAN as backbone network.	Yes
vi	Implemented VoIP facility	Yes
vii	Application Software Services	Phase-1 Implementation Completed
viii	Training	Imparted

d. Project Milestones

- SRS Finalization – March 2006
- Development of Phase-1 – October 2006
- Pilot Run of Phase-1 – Nov 2006
- Rollout to all offices – April 2007

2. Process Reengineering & Legal Reforms

a. Major Front-end Process Changes

Lot of process reengineering was carried out like the Manual Preparation of Receipts, Sub-Ledger, General Ledger, Trial Balance Reports; Schedules are replaced with System Generated documents/reports. Necessary approvals were obtained to do away with the Manual Ledgers and Files in all 114 offices.

b. Major Back-end Process Changes

In the HR domain, system generated Joining and Relieval reports, Generation of Transfer Orders, Reposting Orders etc were introduced. Also, the collection of periodical reports was done away with.

3. Project Sustainability

a. Financial Model (funding pattern, business model, PPP, etc)

The funding for this project is sponsored by Government of Tamil Nadu and Government of India. IT Budget allocation is made by the Board for sustained maintainability.

b. Technology Maintenance

The intranet application software is developed using Java/J2EE technologies with Oracle 10g as backend database and deployed on Redhat Linux Enterprise Server. This software is AJAX enabled. The details of Application development and deployment are given below;

- Development Technology
 - Java/J2EE Technologies, AJAX, HTML, CSS, XML etc.
- Development Environment
 - Windows XP, JDeveloper 10.1.3, JDK 1.5, Jasper/iReport
- Deployment Environment
 - Rack Server Platform with 64-bit Dual Itanium2 processor of 1.5 GHz
 - Red Hat Linux Enterprise System – ver.4 (64 Bit OS)
 - Oracle 10g Enterprise Edition for Linux
 - Apache-Tomcat 5.5

- End-User Environment
 - Windows XP with IE/Firefox Browsers.

c. Disaster Recovery Center

- Established DRC at NIC, State HQ at Chennai

d. Project Management Team

Name(s)	Designation(s)
Mr. Swaran Singh, I.A.S.,	Chairman cum Managing Director, TWAD Board
Mr. A. Rajasekar	Manager (EDP), TWAD Board
Mr. K. Srinivasa Raghavan	Senior Technical Director, NIC, Chennai

4. Change Management

a. Change Management Strategy

- Change Management concept is disseminated through an exclusive website '<http://www.cmgtwad.gov.in>'. This enhances the capacity of the community to be in the forefront to safeguard water resources and to establish self-management for sustainable systems.
- In order to successfully implement the "TWADNEST" project, TWAD Board formed State Level Co-ordination Committee to review the project at each stage. The coordination committee consists of top-level officials from TWAD Board and NIC/NICSI.
- TWAD Board also formed various core groups to study and approve the SRS documents. Key Resource persons were identified at Regional and Circle levels to give instant local support to Users of the system.
- Project Teams Apart from the Development Team from NIC, various subject specialists and officers from EDP wing of TWAD Board were actively engaged in this project to provide necessary inputs and guidance to the application development team.
- A series of training programmes were organized for all the officials of TWAD Board on this application software. User Manuals were prepared and distributed. Core group of Trainers were formed and with their help, training programs were organized in the Regional Centre. As persons are liable for transfer, the training was done on a continuous basis.

b. Capacity Building Plan

- TWAD Board is having experienced IT team headed by the EDP Manager for the implementation of e-Gov projects and to manage all IT related activities.
- Experienced NIC team is available as principal consultant for all Technical support.
- A series of training programmes were organized to induct confidence to the users in operating the application software.
- Continuous and sustained training programmes were conducted at the Head Office Training Centres and 3 Regional Sub-Training Centres at Madurai, Coimbatore and Trichy for new users and to sustain the usage of the system.

c. Leadership Support & Visibility

- The Chairman and Managing Director of TWAD Board provided top-level Leadership Support.
- The software development team was formed by NIC with the direct supervision of Senior Technical Director under the overall guidance of the State Informatics Officer, NIC, and Tamil Nadu.
- TWAD Board formed the implementation support team with the direct supervision of EDP Manager, under the overall guidance of the Managing Director, TWAD Board.

5. Project Monitoring**a. Monitoring & Evaluation Process**

- TWAD Board has formed various core groups to study and approve the SRS documents. Key Resource persons were identified at Regional and Circle levels to give instant local support to Users of the system.
- Project Teams and various subject specialists and officers from EDP wing of TWAD Board were actively engaged in this project to undertake necessary monitoring and evaluation of the project at every stage.

b. User Feedback, Project Assessment Mechanism

- Online Issue Tracking and Management Systems is in place right from the start of the project wherein all users are allowed to raise any issue and the solutions are provided online to overcome the same.
- Established VoIP, E-mail, Telephone support to provide instant assistance to all the users.
- User Feedback and Assessment Reports received during Training programmes and suggestions from Senior officials were incorporated in the system.

c. Third Party Overall Project Audit Mechanism

- It is proposed to engage a third party consultant to undertake audit of this project.

(A Rajasekar, M.E (CSE), MBA, Manager (EDP) TWAD Board, No.31, Kamarajar Salai, Chepauk, Chennai – 600 005, Tamil Nadu. Telephone no. 044-28591757, Fax no.: 044-28525501, Email: arajasekar@yahoo.com, rajasekar@mail.twadboard.gov.in).

Human Resource Management System

D S Ravindran

I) Project Overview

The Government of Karnataka (GOK) employs over 5 lakh people. Employees are spread across 29 districts and 176 Talukas. By the sheer staff strength and the geographic spread themselves, managing the Government Employees is a gigantic task. In addition the layers of the Government, the constitutional obligations and the accountability to public make managing this Human Resource System a very complex Organization in itself.

The Service Record is a key device used to maintain the Service details of employees. Currently the Service Records are maintained in paper based Service Registers. However, whenever some meaningful information is to be obtained about employees, the information has to be culled out from these Service Registers. This is a time consuming process sometimes making the effort Infructuous.

Thus, in order to improve Day-to-Day Management and Forward Planning, to enhance productivity and efficiency a need for a comprehensive computerized Human Resource Management System has arisen.

Government of Karnataka has thus initiated a project for Computerized Human Resource Management System. The Project was Funded by World Bank under its Technical Assistance funds for Economic Reform Project.

II) Result Indicators

1. Stakeholder-wise Services and Benefits

S. NO.	Beneficiaries	Benefits
1	Drawing and Disbursing Officers	<ul style="list-style-type: none">• Error free generation of pay bill for all employees working under him.• Getting all relevant MIS reports of employees working under him.
2.	Employees	<ul style="list-style-type: none">• Accessing information pertaining to their Service Register, leave balance, payslips etc*
3.	District head offices of various departments	<ul style="list-style-type: none">• Employees Details list in the district.• Generation of Various MIS Reports required at the district level.
4.	Heads of various departments	<ul style="list-style-type: none">• Generation of MIS Reports like Age GroupWise, retiring employees, transfer list during the year, employees promoted during the year etc.• Eligible transferee list, sanctioned post strength.• Allocation of posts to various establishments.• All other relevant MIS reports.
5.	Department of Personnel and Administrative Reforms (DPAR)	<ul style="list-style-type: none">• Easy and fast access to information for Decision-Making.• Cadre Management.
6.	Finance Department	<ul style="list-style-type: none">• The budgeting of employee salary related expenses to become easy and fast.• Sanctioned Strength report.
7.	Accountant General	<ul style="list-style-type: none">• Faster retrieval of information for Group A and B employees.• Easy updating of general provident Fund accounts of state government employees.
8.	All Departments Of Government	<ul style="list-style-type: none">• Improving efficiency.• Better management of human resource.• Faster decision-making.• Generation of reports.

Geographical Coverage

Entire Karnataka State covering all 29 districts as detailed below:

S No	DISTRICT NAME
1	BANGALORE (URBAN)
2	BANGALORE (RURAL)
3	RAMANAGARA
4	CHICKBALLAPURA
5	KOLAR
6	TUMKUR
7	MYSORE
8	CHAMARAJNAGAR
9	MANDYA
10	MADIKERI (KODAGU)
11	HASSAN
12	SHIMOGA
13	KOPPAL
14	CHITRADURGA
15	DAVANAGERE
16	CHICKMANGALORE
17	MANGALORE
18	UDUPI
19	BELGAUM
20	DHARWAD
21	GADAG
22	HAVERI
23	BIJAPUR
24	BAGALKOT
25	KARWAR
26	GULBARGA
27	BELLARY
28	RAICHUR
29	BIDAR

Application Roll Out

Grid Application – Pay Roll Generation Package

- Training – November 06-September 07 (Phase Wise)
- Data Collection and Migration
- Pilot Run Mysore District – November 06
- Mandya, Davanagere, Madikeri, Bangalore Rural – April 07
- All education and Police Department – July 07
- 10 more districts – August 07
- Remaining 12 Districts – October 07

Main Application – Pay Roll & All Service Register Module

- Training – November 07 to January 08 (Phase Wise)
- Pilot Run Mandya District – November 07
- Application Rollout Mysore & Davangere District – January 08
- Application Rollout in All Districts of the State – February 08

Services

- *Service Register*
 - Employee Basic Details
 - DEO Creation
 - Establishment Creation
 - Qualification Details
 - Dependent Details
 - Nomination Details
 - Departmental Exams
 - Probation Details
 - Update Leave Balance
 - Leave Details

- Leave Encashment
- HTC/LTC
- Training Details
- Exit Details
- *Payroll*
 - Bank Details
 - Insurance Details
 - Employee Specific Allowance Details
 - Employee Specific Deduction Details
 - Recovery Details
 - Stoppage Of allowances And Deduction
 - Increment Details
 - Stagnation Increment Details
 - Attendance Register
 - Generation Of Draft PayBill
 - Draft PayBill Report
 - Approve Draft PayBill
 - Final PayBill Report
 - Generate ECS
 - Generation Of DA Arrears Bills
- *Transfer*
 - Transfer Out
 - Transfer In
 - Deputation Out
 - Deputation In
 - Foreign Service

- *Promotion*
 - Promotion Details
 - Demotion Details
 - Officiating Details
- *Suspension*
 - Invoke Suspension
 - Extend Suspension
 - Revoke Suspension
- *Reports*
 - Employee Wise Service Register
 - Payslip
 - Consolidated PayBill
 - Leave Salary Report
 - KGID Annexure
 - GPF Annexure
 - LIC Annexure
 - Professional Tax Annexure
 - Employees Group Insurance Annexure
 - Festival Advance Annexure
 - Rent Annexure
 - Cooperative Society Annexure
 - MSIL Annexure
 - Court Attachment Annexure
 - Arogya Bhagya Annexure
 - Benevolent Fund Annexure
 - House Building Advance Annexure

- Solar Advance Annexure
- Advance Pay Annexure
- Motor Vehicle Advance Annexure
- Computer Advance Annexure
- HDFC Annexure
- Recovery of Over Payment Annexure
- Income Tax Annexure
- Fine Amount Annexure
- Water Charges Annexure
- Electricity Charges Annexure
- Employee Association Membership Fee Annexure
- *Online Help*
 - User Manual – English
 - User Manual Local Language
 - FAQs – English
 - FAQs Local Language
- *Notifications & Government Orders*
- *Budget Reports*
- *Complaint Registration*
- *MIS Reports*
 - DDO Information Report
 - Employee Details Report
 - Age Wise Report
 - Group Wise Report
 - Gender Wise Report
 - Length of Service Wise Report

- Working in Same Place for Given Years Report
- Increment Details Report
- Retired Employees Report
- Retiring Employees Report
- Designation Wise Report
- PayBill Generation Report
- Physically Challenged Employees Report
- Transfer Report
- Promotion Report
- Suspension Report
- Departmental Exam Details Report

Coverage

- Maintains HRMS database for 500,000+ employees spread across 29 districts and 176 taluks of State of Karnataka
- Application covering around 19500 Drawing and Disbursement Officers covering all Departments
- 42000 Different Users in the system like DEOs, DDOs, HODs and others
- All category of officers/employees (Group A, B, C, D & Contractual) and different pay scales like State, Central, UGC, AICTE, Judicial are drawing salary from a centralized single platform.

2. Efficiency Improvement

a. Time and Cost Efficiency Improvements in Delivering the Above Set of Services

- Huge time saving for DDOS in generating error free paybill and getting employee details.
- Uniformity in implementation of rules.
- Timely payment of salary.

b. Time and Cost Savings for the Key Stakeholders to Avail the Above Set of Services

- Huge saving of time in collection and consolidation of data to generate various reports
- Huge cost savings in terms of Postages, Man Hours.

For instance:

- Finance Department to Generate Budgetary Report for salary component collection, consolidation and generation used to that take about 3-4 months is now available just at the click of a button.
- Data for appointing Electoral officers during Elections for collection, consolidations and generating appointment letter that takes around 30 days is now available at no time.

c. Specific Innovative Ideas Implemented in eGov Area; Best Practices Implemented***Initiatives integrated with other departments***

- Instant and Uniform implementation of any changes in Allowance or Deductions for all employees in the state.
- Instant and Uniform Implementation of any HR Related rules.
- Separate User Id for KGID Department to Monitor of KGID deductions through salary by the KGID Department.
- Separate User Id for Accountant General to Monitor of GPF deductions through salary by the Accountant General.

III) Enabler Indicators**1. Project Roadmap****a. Vision Defined**

- Employee records (mainly the Service Records) are not located in or traceable to a homogeneous organizational structure which will facilitate a uniform decision-making process in a predictable time. The database should facilitate such a uniform decision-making process, in a predictable time while not disturbing the present organizational structure and also

without making demands to change the existing Business Processes in any significant manner.

- The system should provide a consistent and unified picture of the employee data facilitating an error free and correct generation of paybills and salary slips.
- The system should facilitate electronic transfer of paybill data to the relevant treasury.
- The software should provide relevant cadre management information for planning by the Secretariat and Heads of Departments resulting in a consistent and up to date format for budget estimate every year.
- Transfers and promotions (deployment of employees) consume significant time and effort; while the process of deployment cannot be computerized fully, the software should facilitate the deployment process by providing the vacancy lists, seniority lists, roasters etc in a significantly reduced time.

b. Objectives Defined

- To digitize service registers of all employees
- To improve the productivity and efficiency of Government
- Incorporation of computation rules across the state in unified manner
- Error free generation of timely paybill and electronic transfer of paybill to treasury
- Accurate and timely maintenance of service records to facilitate HODs for taking effective management decisions.

c. Measurable Objectives

- Reduce paybill generation time
- Availability of critical SR information to senior officers for decision-making with respect to Transfers, Promotions, Training Needs etc
- Forward planning of financial implication with respect to increase/decrease of various allowances.

d. Project Milestones

- System Study, Design and Development of Application Software
- Training of Officials
- Data Collection and Migration
- UAT and Pilot Implementation of Application
- Rollout in Phases for Entire State
- Facility Management.

2. Process Reengineering & Legal Reforms**a. Major Front-end Process Changes****b. Major Back-end Process Changes**

Not Applicable as this application is developed and implemented for the first time.

3. Project Sustainability**a. Financial Model (Funding Pattern, Business Model, PPP, etc)**

- World Bank Funded project
- World Bank has earmarked Rupees 4.35 Crores for the project to be spent on or before 31st December 2007 as per payment milestone defined in the Project. The amount includes development, implementation and facility management for 2 years. Thereafter state Government will bare the cost of facility management and any other enhancements.
- Milestone Based Payment to Vendor

Payment Milestones (Total Project Cost 4.35 Crores)	%	Month
Submission of Bank Guarantee	10	Oct-07
Submission of System Requirement Study & Acceptance	10	Jan-07
Submission of Design Document, Data Entry, Security Service Report	10	Jul-07
UAT of the HRMS Application Software with Comments	10	Oct-07
Testing Implementation and Rollout	10	Mar-08
Delivery of Equipment (prorata)	10	Sep-07
Submission of Draft and Final Report	5	Mar-08
<i>Contd...</i>		

Contd...		
Submission of Training Report	10	Mar-08
Equal Installments over Maintenance/Warranty Period of 24 months	10	Apr-08 to Mar-10
Submission of the Final Completion Report	5	Mar-10
Completion of I Year of Warranty	5	Mar-09
Completion of II Year of Warranty	5	Mar-10

b. Technology Maintenance

- Currently project is implemented on web-based architecture on windows platform.

c. Disaster Recovery Center

- Presently Application is hosted in State Data Centre. The Disaster Recovery Centre for the entire SDC is at Hyderabad.

d. Project Management Team (Full Time Department Officials/Consultants)

- Project Director
- Assistant Project Director
- 9 members support team comprising of 4 Developers, 1 DBA and 4 Help Desk Team.

4. Change Management

a. Change Management Strategy

- Recording of change request/Bug as reported by End User.
- Analyzing the request with concerned Departments (as and when required) and perform necessary changes in application.
- Releasing for production testing environment upon successful clearance from testing team.
- UAT the changes.
- Release for live environment with necessary backups.

b. Capacity Building Plan

- Regular State Level and District Level Workshops
- Supply of User Manual

c. Leadership Support & Visibility

- Principal Secretary e-Governance and Chairman, Centre For e-Governance
- Chief Executive Officer, Centre For e-Governance
- Project Officer, HRMS Project

5. Project Monitoring**a. Monitoring & Evaluation Process**

- *Help Desk Monitoring:* Attending to End Users requests through Phone, Faxes, Online Complaint Monitoring System, recording of all requests and tracking to closure of the complaint, escalating to various levels of team members and closing the complaint.
- *DBA Activities:* Daily database health check. Performance check and tuning. Space monitoring. Solving the database issues. Daily database backups. Index rebuilding and statistics gathering. New patch updating activities.

b. User Feedback, Project Assessment Mechanism

- User feedback is incorporated in the system after wetting with the concerned departments. Then all functional changes as and when they arise is analyzed by project director and implemented by the Facility Management Team.

c. Third Party Overall Project Audit Mechanism

- During system development phase the project has been reviewed by PWC.

(Dr. D S Ravindran, Chief Executive Officer, Centre for e-Governance, Gate No: 2, Multi Storeyed Building, Dr Ambedhkar Road, Bangalore, Karnataka, Telephone no: 080 22373840, Fax No: 080 22371089, email: cegkarnataka@gmail.com).

PRISMS – Prisons Management System

Revati Mujumdar

1. Overview

PRISMS is a jail booking and management system that provides information on incarcerated adults and juveniles. With 100% implementation across all jails and judicial lockups today PRISMS has also covered 100% functionalities concerning the prisoner. Being a web-based centralized system PRISMS ensures availability of online data 24x7. Each process has been molded in the work flow which also helps track delay in completion of the same. It is not just computerization but complete automation and an intelligent system which calculates the sentences, remission, release dates automatically and without human errors. Well placed data interaction between modules also ensures that redundant data entry is avoided.

Designed in a modular 3 tier architecture the system can be easily implemented in phases and each module can be added exclusively. PRISMS is designed with easy to use menus and a comprehensive security system. Data is entered in a natural flow without unnecessary repetition. The system is designed with a view that it would find its maximum utility in non-technical personnel. The design is compatible to meet the requirements of any facility. Well defined code tables facilitate the efficiency and accuracy of data entry.

PRISMS reports provide reliable and timely information on all aspects of Prisoner management including inmate personal property, visitor activity, mental and medical health information, inmate movements in and out of the facility, commissary inventory and inmate purchases, medication updates, remission, parole and furlough, case and crime info, and population statistics. Some of these reports serve as official document forms with signature lines provided.

With 16 functional modules and 100% implementation PRISMS delivers what is called an efficient e-Governance product.

The State of Goa has 2 Districts viz North Goa and South Goa with a population of around 15 lakhs. There are 4 Judicial Lockups, 1 Judicial Lockup cum Sub jail and 1 Central Jail in the state which accommodates around 450 prisoners.

The PRISMS software is hosted on the NIC SAN server at Secretariat, Panaji Goa. All the Jails and Judicial Lockups are connected via 2 MBPS lease Line to the Central Server. The PRISMS application hosts data of all prisoners across all jails in the state of Goa.

Drawbacks of Manual System

- All the information is maintained in registers, so it is very difficult to compile and analyze the information. Retrieval of existing data is a very tedious job.
- Most of the information though stored is not ordered and easily traceable as such does not help much in Planning
- The visitor management does not track photographs of the visitors. In addition though the fingerprints of a prisoner are recorded, the process of making any matches against them was very inconvenient and time consuming.
- Remission calculation is time consuming and is also prone to human errors.
- Calculation of release date based on various sentences, remission, bail and fine payable frequently causes errors.
- Difficulty in tracking previous convictions of inmate is another vital issue.

Advantages of Prison Management System

- PRISMS is a Web-based application with point and click access to all functions.
- Application is built with a user-friendly design.
- The extremely high level of system-wide integration increases efficiency by eliminating redundant data entry.

- System-wide use of user defined code tables provides uniform data entry and validation.
- Access to the applications is through user-defined Login ID and Password. The unauthorized attempts are logged. A complete log is maintained for each user.
- The software is organized with a modular design, so that authorities may choose to utilize only those modules that are applicable to their needs.
- The software can be configurable for an unlimited number of users.
- All transactions related to Prisoners can be based on biometric identification.
- All the captured data in the application helps faster analysis and reporting.

2. Service Stakeholders

The Major Stakeholders of this service are the Government Officials administrating the Jails and Judicial Lockups. This system focuses on ensuring efficient and fast process flow by making the data readily available to the officials. With the centralized online system in place the authorities at the Head office use the system to get status of prisoners in each prison at any given time. It has helped the officials in enforcing rigorous controls on each functionality and case for each Jail and judicial lockup

The system is also beneficial to the Prisoners as it ensures that the sentence and release date is automatically calculated considering all parameters like work wages, remission, sentence concurrency and consecutiveness etc. without any human errors.

3. Geographical Area Covered

The PRISMS software is implemented across all the jails and judicial lockups of the state. i.e the system covers 100% area of implementation.

4. Services Provided

The umbrella of services provided by PRISMS covers all the functionalities pertaining to the prisoner. There are 16 modules in the system which are implemented across all the Jails. The modules implemented are as follows;

a. Prisoner Info Management Module

- This module includes all necessary personal information of the inmate such as Registration Number, nationality, age & height, finger impression, marks of identity, employment, address, religion, etc.
- A list of visitors expected to visit the jail to meet the inmate are maintained. In addition details of contact and relation with the inmate will also be stored.

b. PRISMS Fingerprint Management Module

- This module helps in tracking prisoner details based on biometric identification.
- The system facilitates scanning and enrolling of all the fingerprints of a prisoner. Based on enrolled fingerprints the system is capable of identifying or verifying prisoner's fingerprints.

c. Admission & Release Module

- **Admission:** This module includes all necessary information needed to process a valid booking report such as Inmate Registration Number, Date of Admission to prison, offense, court information, and arrest information, Previous conviction details if any.
- **Release:** Simplifies the task of booking out by automatically updating all associated records for inmate. The release date for a prisoner depends on several parameters which are tracked individually and the release date is calculated.

d. Court Information Management Module

- **Court Information** is maintained for an inmate and includes: Registration number, name, attorney, booking officer, sentence dates, time off, court date and court name, who sentences the inmate, transfer dates, release date and time and status. The inmate charge provides inmate arrangement, court hearing, sentencing and disposition.
- **Sentence calculation:** This module takes into account all cases running against the inmate. Concurrency and consecutive calculation of sentences within a case and across cases.

e. Prisoners Property Management Module

- **Inmate Issue:** This module tracks issuance of clothing, bedding and other items to the prisoner. This provides a central inventory of inmate issued items along with transaction records to record their issuance and return.
- **Inmate Property:** This module provides a detailed listing of all personal items and clothing an inmate has when entering the facility such as watches, rings, knives and belts, clothing items, vehicle information, laundry bag and bin numbers. A property receipt and commissary account is also auto generated at book in.

f. Prisoners Cash Management Module

- This module maintains inmate's accounts. This account includes the wages earned by the prisoner during the conviction period through any form of labour as notified by the government.
- It also includes debiting of the prisoners account as and when the prisoner purchases any item from the Canteen.
- In addition adjustments to the accounts are made towards any STD/ISD calls made or any Money Orders received.

g. Prison Pharmacy Management Module

- **Pharmacy:** This module will track drugs on hand, expiration dates, costs, reorder points and restrictions. Inventory will be updated by Transactions, which records the issuance of the item to an inmate along with the date and time of issue, quantity and cost for this transaction.

h. Prisoners Medical Management Module

- **Medication Update:** This module tracks prescriptions assigned to inmates. Data includes inmate registration number and name, an automatically generated drug record number, inmate's sex, the drug prescribed, amount and frequency, and the beginning and ending dates for the prescription. A report can be requested through the Inmate Information module that lists all medication to be given to inmates on a specified date.

- **Medical Transactions:** This module captures information on medical treatment given to inmates: date, time, billing, diagnosis, prognosis, treatment type, and practitioner.

i. **Prisoners Work Allotment & Monitoring Module**

- This module deals with classification of labours in accordance to the nature of the work and the task exerted. In addition, categorization of labour for allotment to various classes of prisoners can also be done.
- This module also includes treatment of wages earned by the prisoner. These wages are automatically posted to the PPC of the prisoners.

j. **Prisoners Transfer Management Module**

- **Cell Tracking:** This module keeps a record of all cells, cellblocks, floors, etc. within the jail and the current occupancy of each.
- **Prisoner Transfers:** A transaction log tracks the movement of inmates in and out of cells and Prisons. The transfers can be through application or court order

k. **Parole and Furlough Management Module**

- This module tracks the complete details about a furlough or parole granted to a prisoner by the concerned authorities. It includes tracking the application, processing the application as per the constraints in the law and deciding whether or not a parole or furlough can be granted.
- This module also captures the details about the surety in terms of person and money.

l. **Visitor Info Management Module**

- **Visitor Information:** The Visitor Information module maintains two types of records. The first is a list of visitors for each inmate that contains names, phone numbers, address, photo, thumb impression and relation. The second is visitor's transaction log which tracks all visits to inmates. Information includes the assigned registration number, an automatically generated visit number, the inmate's name, the visitor's name, the visit date and begin and end times, and a comment line for the nature of the visit.

m. Remission Management Module:

- This module includes classification of the remission and decides on the eligibility of a prisoner for remission. It also takes into account non-eligibility for remission.
- It also calculates the updates release date based on the remission allotted to a prisoner.

n. Gate Management Module:

- This module tracks the date, hour and minute of opening of each important gate of the prison. It also keeps an account of all the articles and persons entering or leaving the gate at any given time.

o. Victim Information Management Module:

- This module tracks an inmate's victim details.
- In case of furlough or parole release of the prisoner this module notifies the administrative section with required information of the victim.

p. Commissary (Canteen) Management Module:

- **Commissary Items:** This module maintains a record for each commissary stock item. The tax and total cost is automatically calculated. The system tracks purchases and subtracts each purchase from the in-stock total. A warning is posted in the transaction log when an item reaches an assigned re-order point. A warning is also posted when an item is out of stock. A restriction code can be attached to each commissary item which will post a warning in the transaction log when an inmate tries to purchase the item.
- **Commissary Transaction Log:** This module tracks purchases and automatically adjusts both the commissary stock records and inmate account records. The log generates a transaction number, and, when the registration number is entered, fill in the date, name, starting and ending balances for the inmate's account.

5. Efficiency Improvement – Time and Cost Efficiency

PRISMS has its focus on improving the administrative functioning of the office of Inspector General of Prisons by making the complete information online, and improve the efficiency of the concerned staff. There is no direct cost savings

involved however, indirect cost savings through saving on time by faster delivery of jobs and avoiding of redundant data entry and record maintenance is achieved. Some of the areas where time efficiency is achieved are;

1. *Prisoner Info*: A unique id associated with each prisoner ensure that in case the prisoner returns to another jail after release, his details are readily available with complete history and need not be re-entered hence saving on time for registering prisoner details every time he/she enters the prison.
2. *Biometric Identification*: Use of biometrics ensures that any person admitted in any of the prisons across the state will be identified with complete history across all jails. Thus saving on time to search the information across several files over the past several years.
3. *Release Module*: Calculation of Probable Release Date (PDR) for a Prisoner was a very tedious and time consuming activity for the officials, as it depended on several parameters like, sentence calculation, remission earned, work done etc.,

With the introduction of PRISMS the PDR of a prisoner is automatically generated thereby drastically reducing the time spent by officials in calculating the PDR which is free from human errors. Moreover on release all the associated functionalities are automatically closed for the concerned Prisoner.

4. *Court Information*: The court diary for a prison is automatically generated for a given day. Again saving on time to retrieve and compile the court diary for each day, based on which prisoners are taken to the court for hearings.
5. *Prisoner Cash Management*: Expenditure limit is also maintained for each prisoner so that the officials do not have to refer to the manual records for every expense incurred by the prisoner.

A fast track module has been designed to debit/credit all prisoner accounts together in cases like festival advance or any other contributions made by all prisoners at a time.

6. *Work allotment and monitoring*: Based on the work attendance of the prisoner the system calculates the complete wages earned, and the bifurcation of these wages to the individual accounts of the prisoner, Victim and Jail automatically. This job would require at least 4 days per month

which is now reduced to one click. A fast track module for work attendance ensures that fast data entry is done for only those prisoners who are absent. All other prisoners are considered to be present by default.

6. Vision Defined

In Aug 2008 the Inspector General of Prisons, Goa proposed for the PRISMS software which would facilitate availability of detailed information about each prisoner at any point and place. The system would help in increasing the efficiency of the concerned staff and all related processes of the Prisons.

7. Objective

PRISMS software was proposed with the sole motive to improve the administrative functionalities of the office of Inspector General of Prisons and bring about a transparency in the system with precise implementation of the set of rules and laws. Another main objective was to make the data readily available to the concerned authorities to facilitate easy, efficient and accurate decision making.

Measurable Objectives: some of the few measurable objectives of the Project were:

1. Availability of information of all prisoners across all jails: With a centralized system and a connectivity across all jails this has been achieved.
2. Provision to retrieve complete imprisonment history of a prisoner: Complete history of any prisoner is now available across all jails.
3. Credentials of a prisoner to be verified on entry to each jail: With implementation of bio-metric identification this objective is also met
4. Release Date calculations to be error free and accurate: With the complete system being automated the PDR is generated on one click.
5. To make the complete information about each prisoner available to all dependent departments like police, passport etc: this objective will be met in the second phase where a link will be given to the concerned departments on the website of inspector General of Prisons.
6. Improvement in communication of information to all concerned in case of Prisoner escape: This module is also proposed in the Phase-II wherein a SMS based system will be developed to meet this objective.

8. Process Reengineering and Legal Reforms

1. An order for compulsory clicking of photos of all visitors coming to visit the prisoner has been issued.
2. Biometric Identification of all prisoners is made compulsory
3. Work wages earned is now directly posted to the PPC
4. Limit for expenditure of prisoners is implemented.
5. Photos of relatives/friends of the prisoner are made available in the GATE module.

9. Project Sustainability

- a. **Financial Model:** This project has been designed, developed and implemented by M/s Goa Electronics Limited (A subsidiary of EDC ltd. A Govt of Goa Undertaking). The work order emphasizes on 1 year on site support by the company after implementation.
- b. **Technology Maintenance**
 - Server – Windows 2003 Server.
 - i. **Clients** – Windows XP Professional.
 - ii. **Development Platform** – ASP.NET with C#.
 - iii. **Reporting** – Crystal Reports.
 - iv. **DBMS** – SQL Server 2005 Enterprise Edition.
 - v. **Architecture** – Web-based application with 3 Tier Architecture and centralized database
- c. **Disaster Recovery Center:** Since the application is hosted on the NIC SAN server Disaster Recovery Management is done by NIC state data center.
- d. **Project Management Team:** The Additional Inspector General of Prisons is appointed as a nodal officer for this project. In addition, superintendent/jailor of each jail is appointed as project assistant for their respective jails. Four implementation engineers are appointed to handle day to day implementation issues.

10. Change management

The main strategy was to take the middle level authorities into confidence and help them understand the positive impact of implementing the system. Several sessions of meetings were held in the requirement definition phase with these officials who contributed a lot in the development. This gave them a feeling of belonging to the system. During implementation the system was run in parallel to the manual system and the implementation engineers on-site helped the users understand the advantages to using the system.

11. Capacity Building

A rigorous off-site and on-site training schedule was organized for all levels of staff to understand the system functionalities. Staff was categorized based on their level of competence with the computer system and then the training schedule was designed. Presence of implementation engineers on the site ensured that the staff was confident in making the data entry. A dummy server is also deployed for the practice sessions of the staff.

12. Leadership Support and Visibility

The following personnel have ensured the success of this project;

1. *Shri Ravi Naik*: Honb'le Home Minister for the State of Goa. For granting all the required permission and sanctions for the project
2. *Shri Mihir Vardhan*: Inspector General of Prisons, Goa. I have been involved with this project from the conceptualisation to the implementation stage. My goal was to get a system in place which would help the administration function more efficiently with the help of Information Technology.
3. *Shri Vasant Bodnekar*: Additional Inspector General of Prisons , Goa. Being the nodal officer he has been involved in bridging the gap between the technical and the non-technical personnel by organizing workshops, meetings and training sessions.
4. *Shri J.J.R Anand*: State Informatics Officer, National Informatics Center-Goa, for all his support and guidance in implementation of this project.

13. Project Monitoring

The appointment of Implementation engineers has ensured that the implementation of the application is monitored on a daily basis. A standard format for status of implementation of each module is maintained by each engineer. Weekly reviews are taken to review and sort out any issues with the implementation.

14. User Feedback

The Nodal officer holds regular meetings with the project assistants and Goa Electronics Limited officials to understand any issues faced by them in the usability of this software and any further upgradations to be done.

15. Third Party Audit

Though the software is hosted on NIC SAN server the third party audit is not yet done. However, the same is being proposed now to improvise standard of the application.

(Revati Mujumdar, Manager Projects, Goa Electronics Limited, Shrama Shakti Bahavan, Patto Plaza, Panaji Goa. Telephone: 0832-2435019, Fax: 0832-2437220).

Sulekha – Plan Monitoring System

M K Prasad and K Premkumar

I) Project Overview

The Information Kerala Mission was started for the e-governance in 1223 local governments in Kerala in the context of decentralization of powers to the local governments. The State Government devolved powers, funds and functionaries to the local governments in a massive way since 1997. Projects for nearly 40% of the Plan funds of the State (about Rs.1500 crore a year) are now prepared and implemented by the local governments. The projects are prepared locally based on local needs and hence more accepted. Monitoring the projects and their adherence to the broad guidelines given by the government was itself a huge task. One of the main objectives of the project had been in streamlining the process using computers.

II) Result Indicators

1. Key Performance

a. Stakeholder-wise Services and Benefits of ICT/eGov Initiatives

The primary stakeholders in the project are the local governments. The other stakeholder is the Government (including all development departments) along with the mandatory mechanisms such as the District Planning Committee and Technical Advisory Group. The citizens are indirect stakeholders for the project.

The services for the **local governments** include:

- a. Project formulation* – All the projects for the current year's Plan are prepared in the Sulekha software. The project formulation needs to provide basic details such as:

- i. Name of the project
- ii. Category of the project (whether General, Special Component Plan, Tribal Sub Plan)
- iii. Micro-sector code for the project – over 800 micro-sectors are specified, classified in 14 sectors, with a three level coding. This helps in consolidating of data at district/state level and also for various validations
- iv. Special programmes such as women and child development, poverty alleviation, etc. which are also used for validation as per guidelines
- v. Fund details – for various sources including centrally sponsored, own fund, etc.
- vi. Physical targets – including assets for which a code list is provided
- vii. Beneficiary details and their selection parameters
- viii. Implementation details including fund flow.
- b. It has provision to include any incomplete projects of the previous year as spill-over projects
- c. The details of the working group formulating the project, and other approval details of local governments can be captured
- d. A number of reports can be generated
- e. The validation report checks whether the formulation of projects is as per the guidelines
- f. Once validation is checked, the projects can be submitted to TAG for appraisal
- g. *Monitoring of projects and expenditure reporting* – Once the approved data is received back at local governments, the expenditure details can be captured project wise, fund source wise and also the data transferred to the central server (in e-governance data centre of state government) for directly publishing on the Internet (lsg.kerala.gov.in/sulekha)
- h. *Revision of projects* – The local governments can revise the projects based on their decisions. Projects can be dropped and new ones included in the next

- i. *Submission.* The revised Plan is again submitted to the DPC for approval (different projects may be submitted directly or through TAG, based on the modifications incorporated). There are 3 to 4 submissions happening every year
- j. The software also has provision for submitting a partial plan in the first stage, immediately at the start of a financial year to avoid delays in commencement of urgent projects. This is a one-time, time-bound (usually initial 2 months, Apr-May, only) process.

The services at the **TAG level** include:

- k. Generation of various reports required for appraisal, including the validation report, sector-wise, category-wise, special programme wise reports for easy evaluation of the projects
- l. Entry of checklists as part of appraisal of the projects
- m. Entry of the final recommendation details of the appraisal of the TAG
- n. Listing of projects based on the final recommendation of the TAG
- o. The databases of all the local governments coming under the TAG are combined.

The TAG functions at the block level for Grama Panchayats, at the district level for Block Panchayats and Municipalities, and at the state level for District Panchayats and Corporations.

The services at the **DPC level** include:

- p. Generation of agenda for the district planning committee
- q. Capture of project-wise decisions of the DPC
- r. Redistributing the data of respective local governments back to the local government
- s. Preparing and issuing a DPC Proceedings for each submission of each local government, signed by the Member Secretary (the District Collector)
- t. Consolidation of data at the District level.

The entry and report generation of DPC details are handled at the District Planning Offices.

The services at the **State level** include:

- u. At the state level is an almost fully automated report generation application running at the State e-governance data centre
- v. The DPC approval details are uploaded to the server
- w. The expenditure (month wise) reports prepared by local governments in *Sulekha* are uploaded to the server directly from local governments through KSWAN or a dial-up
- x. The reports are then available on Internet
- y. Consolidated reports at the district and state level are also available
- z. Annually the following reports are generated
 - i. Annual project-wise expenditure statement
 - ii. Sector-wise, category-wise and other consolidated reports
 - iii. Annex 3 report indicates shortfalls and compensation calculated based on the expenditure and required to be incorporated into the next years' plan
 - iv. The local government submits their fund allocation statement based on the above report for the next years' plan
 - v. Allocation amounts for various special programmes, sectors, and categories are calculated and downloaded back to the local governments (over KSWAN/dial-up) for the next years' formulation.

The services for all development departments of the state include:

- aa. Data on projects related to their department are available at the district and state level for easy follow-up and monitoring.

b. Implementation Coverage (geographical areas covered under pilot, roll-out, next steps, % of total services covered under the lifecycle of projects processes, % of total branches/departments covered by the project)

The entire state is covered. The deployment and operationalisation was a full scale rollout. The *Sulekha* LB module is installed and operates in 1223 local governments consisting of:

- 1. 5 Corporations

2. 53 Municipalities
3. 14 District Panchayats
4. 152 Block Panchayats
5. 999 Grama Panchayats

All the 1223 local governments prepared and submitted their decentralized plan projects of 2008-09 through this mechanism. Revisions were also carried out through this and the project-wise expenditure was also reported through this application software.

100% of the local governments and 100% of the formulation, appraisal, approval and revision processes are covered.

Next steps: The preparation and approval of detailed estimates/technical sanction (for projects requiring technical sanction) was not implemented fully during 2008-09. This process along with the preparation of detailed civil engineering estimates through the *Sugama* application is being linked to *Sulekha* application from July 2009.

Various line department offices such as agriculture, education/schools, health care/health centres, fisheries, social welfare, etc. are involved in formulation and implementation of the projects of local governments. Direct linkage to these institutions/offices are also planned in the next stages.

The expenditure reporting is to be further streamlined with linkages to the Treasury and integration of *Sulekha* expenditure capture, with the accounting software *Saankhya*, when it is deployed in local government.

2. Efficiency Improvement

a. Time and Cost Efficiency Improvements in Delivering the Above Set of Services

Usually a Grama Panchayat has about 100 projects a year, including the spill-over, and Corporations have about 1000 projects.

The formulation, appraisal and approval process was a fairly tedious one with preparation of many forms and summary reports. The appraisal and approval process, and keeping track of the projects was the most tedious aspect.

With electronic data of the projects available, preparation of summary reports and detailed reports is possible at the click of a button. The time for project format preparation and Plan reports preparation formats have been reduced from a few weeks to 2 or 3 days.

Since electronic data is available at the TAG levels, multiple copies of the projects/plan need not be submitted as necessary summary reports can be viewed online at the TAG or printed as required. The savings in terms of paper would come to lakhs of sheets in a year.

With the complete electronic data of projects available at the DPC, the preparation of DPC agenda and Proceedings can happen in about an hour for a local government, whereas it took 2 to 3 days earlier.

In terms of having a complete list of projects, the improvement has been infinite. Where no such listing of the nearly 10,000 projects in a district was possible earlier, it is now available at the click of a button.

The preparation of project-wise expenditure reports has enabled finalizing and checking sector-wise, category wise and special programme wise expenditure details. The adherence to guidelines can also be checked electronically. Since handling these details of over 1.5 lakhs projects a year was virtually impossible and non-existent without the electronic data, this has provided to be immensely useful for the state government in ensuring that the development targets are attained as envisaged. It is also ensured that any shortfall in expenditure in specific areas is compensated in the Plan of the next year, through validations incorporated in the software.

b. Time and Cost Savings for the Key Stakeholders to Avail the Above Set of Services

Much time and effort spent by the stakeholders in preparing the reports or summarizing them has been avoided.

c. Specific Innovative Ideas Implemented in eGov Area; Best Practices Implemented

Initiatives Integrated with Other Departments

The entire process related to the plan monitoring was prepared anew for the e-governance. An almost non-existent process was created for effective monitoring.

The DPC Proceedings itself was introduced as part of the e-governance in plan monitoring (before the electronic plan formulation at local governments, it was implemented through offline data entry at district level).

Electronic generation of compensation reports for previous years and validation of current years' Plan based on this was introduced.

Other development departments, whose officers at the local government level, are the implementing officers of the projects related to their areas, under this Plan.

III) Enabler Indicators

The Enabler Indicators are primarily the processes that are implemented to achieve the above mentioned results. For the purpose of these Awards the Enablers are being evaluated on selected attributes listed below. Nominations should address the required information as per attributes below, and if desired important additional information for the purpose of this Award may be given.

1. Project Roadmap

a. Vision Defined

“Information Communication Technologies for transparency and efficiency” – reflects the vision of the Information Kerala Mission project for e-governance in local government.

b. Objectives Defined

Among the objectives of the Information Kerala Mission, the following objectives specifically relate to the implementation of Sulekha

- a. Establishing efficient and responsive systems for good governance in local self governments (LSGs)
- b. To develop a mechanism for regular monitoring of the plan targets achieved by local bodies, over the network and developing a local body centric management information system.
- c. To develop an integrated micro-level resource based developmental information system, which would facilitate meaningful decentralised planning at the local body level.

c. Measurable Objectives

- d. Deployment of plan monitoring system software in all local governments
- e. Training to local government staff and elected representatives on the software
- f. Formulation of projects using the software
- g. Appraisal, approval and issue of DPC proceedings
- h. Periodic reporting of expenditure of all projects using the software
- i. Generation of validation/compensation data for the next years' plan
- j. Reporting and monitoring of physical targets.

d. Project Milestones

- k. 1999-2000 – the project was conceptualized and tried out in a few pilot locations in Thiruvananthapuram district
- l. 2004-05 – the issue of DPC proceedings was initiated, through data entry at district level
- m. 2007 – government approved the procurement of equipment and software for local governments through DGS&D rate contract
- n. 2007-08 – infrastructure setting up in all local governments
- o. 2007-08 – all projects captured electronically at TAG level
- p. Dec-2007 – Issue of DPC proceedings
- q. Mar-Apr 2008 – project-wise expenditure details captured at local governments through *Sulekha* over dial-up
- r. May 2008 onwards – projects data entry at local government level – first phase consisting of urgent projects (partial Plan)
- s. July 2008 – generation of shortfall-compensation reports based on the expenditure reported for 2007-08
- t. July 2008 – training to staff of all 1223 local governments in the software for entry of plan projects
- u. July 2008 – deployment of software for projects data entry – total Plan of 2008-09 – at local government level

- v. Jul-Oct 2008 – project formulation, appraisal, approval and issue of DPC proceedings
- w. Oct 2008 to Mar 2009 – project revisions, appraisal, issue of revised DPC proceedings
- x. Mar-Jun 2009 – preparation of project-wise expenditure in *Sulekha* and transfer of data to data centre server over KSWAN/dial-up.

2. Process Reengineering & Legal Reforms

a. Major Front-end Process Changes

- The preparation of projects in pre-printed formats was changed to preparation in electronic form.
- Submission was done in electronic form for the projects.

b. Major Back-end Process Changes

- The issue of DPC proceedings based on a reference database was initiated.
- The linkage of the proceedings to Treasury is being initiated.
- The validation of Plan based on expenditure reports of previous year(s) was initiated.

3. Project Sustainability

a. Financial Model (funding pattern, business model, PPP, etc)

- The programme was funded entirely by Government funds.
- The infrastructure (as part of e-governance initiative) and data entry expenses are met through Plan projects of the local governments.
- The expenses on training of personnel are met through the Support for Decentralised Planning funds through SPB/KILA.
- The funds for technical support by IKM was funded by State Plan funds.

b. Technology Maintenance

- The entire deployment is on Windows platform with SQL Server for handling databases. The front end consists of applications developed in VB and ASP/ASP.NET.

- The technology services and maintenance related to software, including deployment, training, handholding, and support are provided by Information Kerala Mission with its in house personnel.
- The hardware maintenance is currently carried out by the 7 vendors who had supplied the hardware, which are currently under warranty.
- AMC would be provided to vendors on completion of warranty period.

c. Disaster Recovery Centre

The state e-governance data centre is utilized as disaster recovery centre. The complete database is uploaded to this server, in addition to being available at the local government level, TAG and district level.

d. Project Management Team (full time department officials/consultants)

The project is managed by Information Kerala Mission. The mission group consists of personnel on deputation from government organizations and its own personnel. Consultants/experts in the field of local government accounting, and plan are associated. The team works closely with the Local Self Government Department, State Planning Board and the Kerala Institute of Local Administration in bringing about process changes, training, etc.

4. Change Management

a. Change Management Strategy

- The change management is initiated through intense interactions with the Local Self Government Department, and the State Planning Board.
- Difficulties faced by the local government personnel in preparing plan projects are taken as feedback. The feedback is vetted by the State Resource Group for Decentralised Planning and joint group of the LSGD and SPB, and presented and approved in the State Level Coordination Committee for Decentralised Planning, which is headed by the Ministers of Local Self Government and Finance and consists of Secretaries to Government, Members of State Planning Board and other senior officials. The decisions could be to implement the changes immediately, or in the next year's plan.
- The final decisions are incorporated into the application in a time bound manner and deployed at all local governments.

b. Capacity Building Plan

- The capacity building for the local government personnel in the business process related aspects is handled by KILA. The institution has a mechanism for conducting regular refreshers in the plan formulation/monitoring aspects and the changes in processes for the local government personnel and implementing officers of development departments.
- The training on the *Sulekha* software and basic usage of computers is provided by IKM. The training on computers is almost fully hands-on in training labs with 1:1 trainee:computer ratio. Such training labs are set up in KILA and 3 other regional locations, on temporary basis.
- One-day refreshers are also conducted by IKM at the districts when major changes in the applications software are introduced.

c. Leadership Support & Visibility

The Local Self Government Department and the State Planning Board takes full ownership of the project and provides full leadership and support in implementing this e-governance initiative. The IT Department/IT Mission also facilitates co-location of servers at the Data Centre, and the connectivity through KSWAN/State Information Infrastructure.

5. Project Monitoring

a. Monitoring & Evaluation Process

The project is closely monitored by the LSGD and SPB during its crucial phase from April to July of every year, to ensure that the project moves without any hitch.

Regular review is done in the monthly Executive Committee meeting of the IKM, where Plan Monitoring is the main agenda during the period April to July. The EC has members from LSGD, SPB, Finance, IT, etc.

The programme is also reviewed in the State Level Committee for Decentralised Planning (headed by Minister) which meets at least once a month during these periods or more frequently if required, and monitors the whole decentralized planning process, which is fully electronic from 2008-09.

b. User Feedback, Project Assessment Mechanism

The IKM technical support personnel who visits the local governments regularly (at least once in 3 days for Grama Panchayats) is the main source of feedback. The helpdesk personnel of KILA (domain support) also provides feedback on the software and overall project management.

The timely provision of necessary reports based on the decentralized plan projects, to government is one clear project assessment mechanism.

c. Third Party Overall Project Audit Mechanism

The project is audited by the Performance Audit Wing, Local Fund Audit and other wings of the government.

(Prof. M K Prasad, Executive Chairman & Director, Information Kerala Mission, Pratheeksha, Pangappara P O, Thiruvananthapuram 695581 Kerala, Telephone no. 0471-2595832, 0471-2590111, 0471-2597543. FAX no. 0471-2595833, email: ikm@infokerala.org, prasadmkiprasad@gmail.com

K Premkumar, Director (Technical), Information Kerala Mission, premk@infokeral.org).

Energy Billing System – Tripura

C K Dhar

I) Project Overview

The Energy Billing System project is implemented in the State of Tripura, a primarily backward state in the remote corner of North East India.

Being a geographically isolated state, railway based transportation facility is unavailable. Transportation by AIR is costly. Only alternative is transportation by Road all the way from West Bengal via Assam almost circling half of Bangladesh. This escalates the project cost in terms of transportation expenses and simultaneously delays the project schedule. The minimum delivery time required is 45 days and sometimes extends to 60 to 120 days in situations of landslides and road blockades.

Availability of ICT tools and equipments, in local market is almost nil in terms of quality and quantity. Dependence is on mainland states and national level suppliers and vendors. Provision for adequate spares and replacement equipment is mandatory in any ICT based project plan. But it is not always possible to maintain spares inventory due to lack of adequate fund and escalation of project cost, due to reasons mentioned.

ICT based job scope is almost nil in private sector and a bare minimum in Govt. Sector/Undertakings. As a result the natural tendency of trained manpower in this state is to join the national level companies in mainland states. Since the development stage, provisioning quality manpower becomes a prime issue and largely affects the implementation schedule. We are to depend on “availability of manpower” in place of “availability of quality manpower”, continuous training and grooming. Future sustainability of a project is uncertain as the trained manpower may join better jobs in mainland states.

General awareness and interest on ICT based projects is very poor in govt./ semi-govt. organizations. Co-operation and support is not available at all layers of an organization. We are to start slow and gradually build up with best compromise between citizen and organization's interest. Training and awareness campaigning is done on regular basis before and after implementation to sustain the project. Mostly Head of Departments lack ICT vision and some who does have, find it difficult to make it workable in the organization.

II) Result Indicators

1. Key Performance

a. Stakeholder-wise Services and Benefits of ICT/eGov Initiatives

The stakeholder of the project is Tripura State Electricity Corporation Ltd. & its valued consumers. Prime objective of TSECL is to distribute power to consumers and generate revenue. The intermediate services and benefits of ICT/eGov initiatives are mentioned step by step.

Provision for indexing and maintaining inventory of the power distribution network up to the consumer at the end point. Record maintenance, uniquely identification and mapping each of the organizational unit to its next lower level, provision for bifurcation and sub-grouping. Record maintenance, identification and mapping the power distribution network at the functional unit. Each of the functional units is mapped to the feeder sources. Each of the feeder sources is mapped to the distribution transformers. Each of the distribution transformers is mapped to the electrical poles. Each of the electrical poles is mapped to the consumer. Also the identity of each of the equipments in the distribution network is physically marked on prominent color for clear visibility.

Provision for re-mapping and relocating a part or whole of a distribution network inventory. The system carries with it all related detailed information regarding consumers and/or other inventory up to the lowest level. The relocation provision neatly envelops all bills and receipts details of a consumer.

Provision for registering a consumer, which comprises 30 parameters covering locality, technical positioning w.r.t. distribution network, financial matters w.r.t. registration charges etc. Provision for permanently disconnecting, temporarily disconnecting and re-connecting a consumer. The temporary disconnection is reflected in his billing details to gain concession on fixed charges.

Provision for sub-grouping of consumers based on the locality and area of coverage by a meter reader. Meter reading sheet is generated based on the sub-groups with indexed list of consumers, address, previous reading, and identity of locality as per the distribution network. Actual meter reading is collected from consumer premises and data recorded on daily basis by multiple meter readers.

Provision for generation of bills taking into account past disconnection period, previous defaulting amount, previous advance paid, previous provisional billed amount, unit consumption and corresponding rate per unit. Provisional billing facility for cases of premises locked or meter damaged. Provision for bill delivery record from consumer premises and subsequent recording into the system. Website publication of bills generated & consumer ledger.

Provision for online receipt counter facility, which takes into account the due date and re-evaluates the rebate and instant calculation of penalty based on the provisions kept under TERC regulations. Provision for advance payment and auto reflection in the following bills. Provision for off-line collection at remote areas with the help of laptop and portable printers, data downloading from server and uploading into server after collection.

Provision for daily collection report, monthly and/or periodic collection report, bill-wise collection report, graphical representation of yearly collection target status, automatic updating of consumer ledger and consumer account statement generation. Website publication of receipt & consumer ledger. Provision for monthly and/or periodical identification of defaulting consumers, list generation, issuance of notice, disconnection and re-connection on subsequent payment.

Provisions for due date re-adjustment for unforeseen situation like strike, short information holidays etc. The facility is availed by designated official only. Provision for installment generation of bills and track installment payment status.

Provision for MIS reports generation on demand, collection, and meter reading status, consumer accounts. Reports generated may be on any level, of the distribution network. Provision for ATC loss and audit reports as per guidelines of APDRP.

b. Implementation Coverage (geographical areas covered under pilot, roll-out, next steps, % of total services covered under the lifecycle of projects processes, % of total branches/departments covered by the project)

Energy billing system was implemented in the year 2004-2005 in 6 Electrical sub-divisions of Power Department, under 1 Electrical Division, covering in and

around Agartala with an approximate span of 10 Km Radius. It was the pilot implementation covering 10% of the electrical sub-divisions under Department of Power, Govt. of Tripura

The Pilot implementation was a grand success and in the following year 2006-2007, EBS was successfully rolled-out in additional 6 Electrical-Sub-Divisions under 1 Electrical Division around Agartala, covering a geographical span of 30 Km radius and covering 10% of the electrical sub-divisions under Tripura State Electricity Corporation Ltd.

In the year 2008-2009, EBS was rolled out throughout the state of Tripura, in all Electrical sub-divisions under Tripura State Electricity Corporation Ltd. The system is presently working in all 50 Electrical Subdivisions (100%) in a geographical span of 190 Km radius covering hilly terrain and remote locations difficult to reach.

2. Efficiency Improvement

a. Time and Cost Efficiency Improvements in Delivering the Above Set of Services

Before implementation of EBS, TSECL could manage time to bill consumers, once in three months. The tedious process of locating defaulting amounts, and re-evaluating bill amount from huge ledgers was neither fast nor efficient. Today bills are generated every day throughout the month. Every month approximately 3,20,000 bills are generated and receipts collected.

Identification of defaulting consumers and issuing notice for payment was only possible at the end of the year and only to a small segment. Arrear dues used to cumulate. Today defaulter list and notice is generated every month, disconnection process is completed within 15 days in case of defaulters. This process has escalated the revenue collection and almost all the electrical sub-divisions attain 100% target achievement at the end of the year.

In earlier days counter used to operate till 1.00 PM and the rest of the day was devoted to day end summarization and cashbook updating. The process is automated, today the counter remains open throughout the day and summarization is automated, cashbook printing takes 15 min. time only.

In earlier days the clerical section was totally devoted to ledger updating and still could not be up-to-date, pending backlog entries cumulated to 3 – 6 months.

Due to backlog in ledger updating, a major set of consumers could not be billed in time. Today the ledger updating is automatic and revenue manager has a total picture of the revenue position and targets.

In periodic review meetings all revenue managers and Sr. managers are ready with current status and no guess work for the future target to be achieved. ATC loss etc. calculation is on the desk at an instant and management has full control over the total process.

b. Time and Cost Savings for the Key Stakeholders to Avail the Above Set of Services

In earlier days it was the usual fate of the consumers to stand in long standing queues. The counter clearance speed annoyed the consumers and at times they had to return without paying due to counter close at 1.00 PM. Today in every 1 min. 1 receipt is generated with 100% accuracy and instantaneous arrears, penalty calculation. At an average 300 receipts are generated by a counter operator in 360 min. of working hours.

Consumers can avail bill, receipt and ledger over the Internet, KIOSK, from any of the running terminals in a billing centre. In earlier days, getting his past present details was a matter of min. 7 days.

Sr. Citizens can pay bills before working hours & all consumers can pay bills on Sundays also. Consumers largely appreciate this facility.

Issues of lost bills, wrong calculation, mistaken identity and payment is no longer “the days of Trouble” for the consumers. Quoting his/her consumer ID of last significant 5 digits of the ID displays all details in split second.

Identification of consumer location w.r.t. maintenance related issues at the call centre was a headache, today quoting the pole ID/consumer ID suffices.

c. Specific Innovative Ideas Implemented in eGov Area; Best Practices Implemented

Initiatives integrated with other departments

The passbook updating process is simplified; consumers need not stand in long queues to update the passbook after bill payment. Today record keeping is perfect and passbook updating is not necessary. Consumer can avail ledger copy.

Instead of bringing the consumers for payment to collection counters from far-flung areas, laptop based collection mechanism is implemented in rural/remote areas. TSECL reached closer to the consumers.

Hand held simputer based meter reading and collection mechanism is ready to bring consumers closer to the system. Reliability of meter reading data is ensured at consumer premises. TSECL is transparent now.

Self-help KIOSK is implemented at major city areas and Internet based data centric services have been introduced for transparency & self help information service. TSECL is citizen centric now. www.tsecl.nic.in

III) Enabler Indicators

1. Project Roadmap

a. Vision Defined

- Automated billing system with transparency and human interface.

b. Objectives Defined

- Implementation of ICT tools in the billing processes.
- Implementation of ICT tools in the collection processes.
- Implementation of ICT tools for monitoring the above processes.

c. Measurable Objectives

- Achieving revenue target at the end of every year.
- Maintaining up-to-date consumer records.

d. Project Milestones

- i. Field level survey and Consumer database preparation & indexing
- ii. Software development and testing
- iii. Hardware procurement
- iv. User level training to all Staff
- v. Site preparation in terms of civil & electrical works
- vi. Hardware and software installation at 50 sites in a target time of 3 months.

2. Process Reengineering & Legal Reforms

a. Major Front-end Process Changes

- Billing cycle has changed to monthly system from quarterly system.
- Collection counters are operational before office hours and on Sundays.
- Passbook updating with every receipt is stopped.
- Authorized signature is stamped automatically in bills.
- The ledgers and consumer account statements are available over the Internet.

b. Major Back-end Process Changes

- Manual process of ledger updating is stopped.
- Manual process of daily cashbook updating is stopped.

3. Project Sustainability

a. Financial Model (Funding Pattern, Business Model, PPP, etc)

- The project is funded by Govt. of India under APDRP, as major share, TSECL arranged for the balance minor share from corporate budget. Space is allocated in bills and receipts for advertisement; revenue collected is utilized to meet the stationery, consumable cost, etc.
- The application software, project implementation, maintenance management & consultancy is offered free of cost by NIC-Tripura.
- PPP model is adopted for meter reading collection and bill delivery at consumer premises. Service from Private agency, Self help group is utilized.
- The minor share from the service charge component in a bill is utilized to fund the PPP model above.

b. Technology Maintenance

Hardware installed is under 3 year warranty by supplier. Breakdown calls are lodged into call center over telephone or e-mail. 1 additional system is maintained for every 5 systems, in a location for immediate replacement by site support personnel.

- After completion of 3 years, hardware performance shall be reviewed and new systems shall be induced to replace the degraded systems.

c. Disaster Recovery Center

A full time data centre is installed at NIC-Tripura with an installed capacity of 3Tb data storage. The centre is operational 24X7.

d. Project Management Team (Full Time Department Officials/Consultants)

State Level Team

Shri C.K. Dhar, TD, NIC-Tripura, Project Manager

Shri A. Bhattacharjee, SSA, NIC-Tripura, Project Leader

Shri N. Deypurkayastha, Prog., NIC-Tripura, Lead Programmer

State Level TSECL Team

Shri D. Ganguli, CMD

Shri K.K. Ghosh

Shri S. Bhattacharjee, Manager

NIC-District Level Team

Sh. P. Acharya, PSA, District Co-Coordinator, North Tripura

Sh. S. Lodh, SSA, District Co-Coordinator, West Tripura

Sh. P. Roy, SA, District Co-Coordinator, Dhalai

Sh. B. Biswas, SA, District Co-Coordinator, South Tripura

4. Change Management

a. Change Management Strategy

A centralized website is maintained at NIC-Tripura State HQ, all change requirements and queries are posted here by team members. Software patches are uploaded on the site with appropriate header, date and install instructions. The patch is downloaded simultaneously from all districts by site support personnel and implemented as per guidelines. Users are briefed on the change operation on job.

b. Capacity Building Plan

Internet based online payment facility is planned in near future. Discussion is going on with some of the leading banks for payment gateway interface. Miniature payment KIOSK under PPP model is planned for augmenting collection points at rural areas.

c. Leadership Support & Visibility

Hon'ble Minister, Department of Power, Govt. of Tripura & Chairman cum Managing Director, TSECL are constantly driving the project throughout the year. It is their vision which has turned into reality.

5. Project Monitoring**a. Monitoring & Evaluation Process**

System generated monthly progress report is forwarded by every billing unit to TSECL HQ Team.

- Progress status is discussed in review meeting by TSECL monthly basis.
- Site level support personnel provides monthly report on the maintenance calls received and closed to NIC-Tripura State HQ Team.

b. User Feedback, Project Assessment Mechanism

Monthly review meeting is held at TSECL, HQ for feedback on system performance and assessing future requirements. Requirements, if justified, are forwarded to NIC-Tripura for inclusion/modification.

c. Third Party Overall Project Audit Mechanism

- Yearly systems audit by TSECL
- Yearly accounts audit by TSECL & AG

(C K Dhar, State Informatics Officer, National Informatics Centre, Tripura State Centre, 2nd Floor, Treasury Bldg. Office Lane, Agartala Tripura, Telephone no. 0381-2324053, email: sio-trpr@nic.in, chayan@nic.in).

ICT in Gujarat Judiciary

Sonia Gokani

I) Project Overview

India has one of the oldest legal systems in the world. Delay in the judicial process has always been the bane of Indian Judicial system. As the ostensible reason for delay in most cases is to provide more time for justice to be brought forth through collection of evidences, in practice, that often delays work at killing the available evidences.

Over a period of time, the accumulated cases in the courts have grown so much that the Judges have to spend a large part of their time just in finding dates for adjournments. The lawyers themselves have developed a vested interest in the adjournments since it keeps them artificially employed over a longer time. In the process, honest litigants feel harassed and dishonest litigants encash the benefits of the delay.

Most evidences are destroyed by the time they are taken up for scrutiny as witnesses forget the events and make mistakes. Criminals make hay of this scenario by dodging the law for as long as they can.

II) Result Indicators

1. Key Performance

a. Stakeholder-wise Services and Benefits of ICT/e-Gov Initiatives

- Government – Central & State
- Judicial system
 - Judges
 - Lawyers

- Para-legals
- Registrars
- Clerks
- Stenographers
- Sole Proprietorship/Partnership firms
- Co-operative societies
- Non Government Organizations (NGOs)
- Police Department
- Ministry of Information Technology (MIT), Govt. of India
- National Informatics Centre (NIC)
- Department of Science & Technology, Govt. of Gujarat
- National Crime Record Bureau.

b. Implementation Coverage (geographical areas covered under pilot, roll-out, next steps, % of total services covered under the lifecycle of projects processes, % of total branches/departments covered by the project)

Total of 68 District court complexes and 178 Taluka court complexes spread over entire Gujarat to be ready with ICT infrastructure. Out of this 53 District Court complexes and 113 Taluka court complexes are ready with ICT infrastructure. One of the District Courts is already rolled out with required software on pilot basis. ICT in District Judiciary in Gujarat is expected to complete the entire project by end of this year. Higher Judiciary (High Court) has already achieved the target long back in 2000.

2. Efficiency Improvement

a. Time and Cost Efficiency Improvements in Delivering the Above Set of Services

- a. Timely Justice.
- b. Immediate follow up of Court's action
- c. Speedy issuance of Certified Copies
- d. Bunching of Cases for speedy disposal

- e. Knowing case status through gadgets
- f. Judiciary grid among all courts through secured network.

b. Time and Cost Savings for the Key Stakeholders to Avail the Above Set of Services

Model E-Court, a pilot project envisaged by Directorate of Forensic Science, TIFAC, DST and C-DAC for tamperproof authenticated digital recording of court room proceedings alongwith the multipoint video conferencing facilities among courtroom, Jail, Office of Police Commissioner and Forensic Laboratory, is successfully started to function in City Civil Court, Ahmedabad. The objective is synergizing science & technology with judicial processes with an enormous scope of complete atomization of court processes.

Beneficiaries

Litigants/Accused	Speedy trail – Justice Delivery System – to be made accessible, affordable and transparent.
Witnesses	Ensures correct and tamperproof recording of depositions and thereby ensures quality to their versions.
Advocates	Audio video recording will permit replay and rehearing and will also save long debates and also further litigation on trivial issues.
Judiciary	Over & above the qualitative improvisation of overall court processes, this would permit and ensure correct presentation of evidence with demeanor, when the Presiding Officer changes during the pendency of trial. Appellate Courts can call for audio & video recording to speedily decide the issues.
Police Officers	This will save enormous time of traveling, and resultantly permit focusing on their present assignment including on investigation. Long waiting in the courtrooms shall end, by saving public time and money.
Jail Authority	Saves huge manpower and insulates jail premises from unwanted percolation.

c. Specific Innovative Ideas Implemented in eGov Area; Best Practices Implemented

Initiatives Integrated with other Departments

With a view to get more meaningful & detailed information statistics about the various types of cases filed before & pending in our Courts, all cases are required to

be classified in different categories as per the laws & provisions involved therein. If each of these categories is given distinct numerical number, identifying the categories managing its information, statistics becomes very easy fast. Therefore, scheme becomes necessary wherein all categories are numerically denoted and given unique Code Number. These Code Numbers can then be used to classify the cases in different categories. As part of such design, if we give separate Code Number to each of the Acts their provisions thereof, such Codes can be used to classify the cases falling under these provisions. These Codes Numbers can be called 'Classification of Codes'. Classification of codes is also used to classify the cases at the Supreme Court also at the Gujarat High Court for speedy disposal and to deliver timely justice.

III) Enabler Indicators

1. Project Roadmap

a. Vision Defined

- To help judicial administration of the courts in streamlining their day-to-day activities
- To assist judicial administration in reducing the backlog of cases
- To provide transparency of information to the litigants
- To provide easy and centralized access to legal and judicial databases to the judges
- To record the accused and witness's statement from remote locations
- To establish Electronic Filing (E-Filing) facility
- To make the courts as paperless as possible
- To increase transparency and accountability of judicial system
- To enable easy tracking of cases
- To build a national grid of key judicial information available 24 x 7 in a reliable and secure manner
- Holistic growth.
- Conceptualized dream of a Paper-less Court
- Reaching to the grass-root level.

b. Objectives Defined

- GAP Analysis of Physical & ICT Infrastructure
- GAP Analysis of Manpower required for implementation
- Study to suggest Reengineering of Processes
- Computer Training/Refresher course for all Judicial staff
- Computer Training/Refresher course for all Administrative staff (Registrars, Clerks, Stenos, etc.)
- Mandatory use of e-mail (with Digital Signature) for all internal communication
- Appointment of District/City/Taluka Project Supervision Committee
- Site Preparation – Physical Infrastructure (Civil & Electrical work)/ Computer Room
- Setting up of required ICT Infrastructure (N/W, Internet, Hardware, UPS, System S/W)
- Appointment of System Administrator & System Assistants on contractual basis (2 Years)/Depute existing clerical IT savvy staff – Server Room
- Enhancement of existing S/W
- Detailed Documentation of the S/W and preparation of User Manuals
- Go Live on Internet for all district courts
- Digitization of Old Records
- Setting up of Server Farm (Primary Site) for Central Database
- Setting up of Business Continuity Plan (BCP) Site for Central Database
- Implementation of Document Management tool for Digital Record Room (Orders, Appeals, etc.)
- Creation of E-Library (Statute Laws & Case Laws) accessible to all courts
- Making Kiosk operational in Courts
- Setup of WiFi Connectivity in Gujarat High Court
- Setup of Digital Recording/VC enabled soundproof Court Room

- Enabling E-mail/SMS Alerts for Case Status
- Migration of NIC S/W to new LAMP based solution in remaining District Courts
- Implementation of Bar Coding for all Case Papers, Books, Records, etc.
- Mandatory Online Submission (NIC S/W) of various Monthly, Quarterly, Half-Yearly & Yearly Reports from District & City Courts to High Court
- IVR System setup for accessing information for all district courts
- Interface/Integration with State Govt. Treasuries for Budget, Grants, Expenditure
- Implementation of HRMS/Employee Self Service (ESS) applications
- Implementation of Biometric solution to facilitate Judiciary.

Measurable Objectives

- GAP Analysis Report for Physical & ICT Infrastructure
- GAP Analysis Report for Manpower
- GAP Analysis Report for S/W Application
- BPR Report
- Physical Infrastructure
- ICT Infrastructure
- Dedicated Skilled Manpower
- Enhanced NIC S/W
- Documentation for NIC S/W.

Project Milestones

The entire project can be effectively implemented in two phases. 1st phase covers the High court and District courts, 2nd phase will take up taluka courts and tribunals. The detailed activities are as follows:

- GAP Analysis of Physical & ICT Infrastructure
- GAP Analysis of Manpower required for implementation
- GAP Analysis of existing Application developed by NIC

- Study to suggest Reengineering of Processes
- Computer Training/Refresher course for all Judicial staff
- Computer Training/Refresher course for all Administrative staff (Registrars, Clerks, Stenos, etc.)
- Mandatory use of e-mail (with Digital Signature) for all internal communication
- Appointment of District/City/Taluka Project Supervision Committee
- Site Preparation – Physical Infrastructure (Civil & Electrical work)/ Computer Room
- Setting up of required ICT Infrastructure (N/W, Internet, Hardware, UPS, System S/W)
- Appointment of System Administrator & System Assistants on contractual basis (2 Years)/Depute existing clerical IT savvy staff – Server Room
- Enhancement of existing S/W
- Detailed Documentation of the S/W and preparation of User Manuals
- Digitization of Old Records
- Setting up of Server Farm (Primary Site) for Central Database
- Setting up of Business Continuity Plan (BCP) Site for Central Database
- Implementation of Document Management tool for Digital Record Room (Orders, Appeals, etc.)
- Creation of E-Library (Statute Laws & Case Laws) accessible to all courts
- Making Kiosk operational in Courts
- Setup of WiFi Connectivity in Gujarat High Court
- Setup of Digital Recording/VC enabled soundproof Court Room
- Enabling E-mail/SMS Alerts for Case Status
- Migration of NIC S/W to new LAMP based solution in remaining District Courts
- Implementation of Bar Coding for all Case Papers, Books, Records, etc.
- IVR System setup for accessing information for all district courts

- Interface/Integration with State Govt. Treasuries for Budget, Grants, Expenditure
- Interface/Integration with High Court for Judicial Monitoring system
- Implementation of HRMS/Employee Self Service (ESS) applications
- Implementation of Biometric solution to facilitate Judiciary.

2. Process Reengineering & Legal Reforms

Major Front-end Process Changes

E-forms have a major role to capture data. To serve as an interface, e-filing will be introduced. All notices can be transmitted electronically. Multi point video conferencing can help in conducting the trials from court and prison.

Major Back-end Process Changes

Court applications will have to give utmost importance to their offerings to the litigants and advocate communities. These citizens must find the services relevant and beneficial to them. The user interfaces must be in regional language and the services should be designed to offer good responses to their applications and aim at minimizing the need for citizen's trips to district / taluka head-quarters. The applications must record the progress of user transactions and retrieve them on user's query. They must offer privacy and security to the user data. All these call for significant reengineering and mechanization of backend processes. Keeping in view of the financial implication, application is fully developed on Open Source LAMP Stack.

3. Project Sustainability

Financial Model (Funding Pattern, Business Model, PPP, etc)

- The funding for the entire project is assisted by E-committee, Chaired by the Retired Supreme Court Judge. The application software is developed on Open Source LAMP stack (Linux Apache MySql PHP)

Technology Maintenance

- All court complexes will be connected via GSWAN/NICNET. Video conferencing facility will be available at all locations. Open Source (LAMP) solutions to all courts.

Disaster Recovery Center

- All data from the courts will be pooled to state Data centre, and in State data centre will replicate the data to DRC.

Project Management Team (Full Time Department Officials/Consultants)

- Project monitoring committee, headed by the Hon'ble Chief Justice and other 4 Judges of the High court will monitor the entire project with the help of Registrar (IT) and National Informatics Centre.

4. Change Management**Change Management Strategy**

The vision to digitize judiciary system in the state of Gujarat can only be achieved by active participation of all its stakeholders viz: Judges, Advocates, Administration staff, etc. The implementation strategy would involve following:

- **Ownership:** Project has to reflect initiative and leadership of the Hon'ble Chief Justice and Judges of the High Court who have administrative control over the state Judiciary. Over and above the project is implemented under the guidance of e-committee.
- **Site Preparation and Procurement of ICT Infrastructure:** All Court complexes will have one Computer server room (if number of courts is more than one), Judicial service centre, and distribution of clients in the ratio 1 court – 5 nodes. Each court will be provided with 5 computers and three printers. Two computers in court, 1 in JSC, 2 for general purpose. The networking within the court premises and its connectivity with Central Server and Internet needs is ensured.

a. Capacity Building Plan

It is important to provide computer basics and application specific IT training to all judicial and administrative staff members including Judges, Registrars, Clerks, Stenographers, etc. It is also important to have regular refresher training courses every 6 months. There is a need to have dedicated full-time ICT skilled manpower to look after the Server room and for troubleshooting of network, hardware, software, application related issues and ensure smooth ongoing operations. Technical manpower is deployed at all district courts to remove the gap.

The internet connectivity will be provided to multiple nodes at various court complexes through router and switch. Band width for internet connectivity will be provided by the ISP.

Leadership Support & Visibility

Visibility of the project is seen in the table below –

Public Impact	Inquiry Counter
<p>The response of the litigants to the inquiry counter is overwhelming. The counter has over the last 10 years collected a revenue of appx. Rs.180 lacs.</p> <p>Latest information & orders are available immediately.</p> <p>Simple copies issued are also considered authentic for the purpose of filing a case. Certified copies can be produced later on as and when made available by the Decree department.</p> <p>Classification codes, important articles, incumbency list, contact details, sitting and former Judges are available on these sites with current roster.</p>	<p>Varied information is available at the Inquiry Counter –</p> <p>Case Status – This is about providing High Court of Gujarat’s pending and disposed case status information to litigants/advocates. This information is available at a charge of Rs.5 per query. Detailed information related to the case beginning from the date of filing to the orders passed, proceeding dates & final disposal is available.</p> <p>Simple copy of the Order/judgment – This is about providing a copy of the Order/Judgment to the general public immediately after it is signed by the judges concerned.</p> <p>List of Registered matters – This involves providing a list of the cases filed by the advocates over a particular period.</p> <p>Advocate diary – Passbook facility for the advocates indicating their deposits and withdrawals due to printing of cause lists, orders, filing lists, etc...</p> <p>Advocate Cause List – This is about providing advocate-wise cause list to all the registered advocates.</p> <p>Gujarat High Court Website</p> <p>Gujarat High Court Website was launched by the Honb’le Chief Justice Mr. D. S. Sinha on 08-08-2002.</p> <p>The site for viewing cause lists is, http://gujarathighcourt.nic.in</p>
Contd...	

Contd...	
<p>All Orders/Judgments signed by the Hon'ble Judges are immediately available on this site.</p> <p>Delay in delivering the certified copy was brought down to minimum. Even the status of one's applicant is made available on the web.</p> <p>Adjournments/status can be known</p>	<p>All public notices and sitting modification list is made available on this site.</p> <p>Gujarat High Court Case Status Web-site</p> <p>Through this site one can know complete case history through case number-wise search, litigan-wise, advocate-wise, judge-wise etc.</p> <p>http://gujarathc-casestatus.nic.in/gujarathc/Disclaim.jsp</p> <p>Generation of Certified Copy</p> <p>In order to deliver faster disposal of certified copy applications all the Orders & Judgments signed by the Hon'ble Judges were made available to certified copy department for faster disposal of certified copy applications. The computerization helps them in calculating the charges estimated, well in advance at the time of receiving the certified copy application. Certified copies are generated with complete title for delivery.</p> <p>Status of Certified copy is made available on this site</p> <p>http://gujarathc-casestatus.nic.in/gujarathc/Disclaim.jsp Click on the certified copy link to know the status.</p> <p>Gujarat Judiciary web portal</p> <p>Through this portal one can know the cause lists, case status, business of the court, orders/judgments of lower court judiciary</p> <p>http://gujcourts.guj.nic.in:8080/cisweb/index.php</p> <p>SMS</p> <p>Short Message services for Gujarat High Court and District courts case status is available. Details are explained in the web-portal. SMS No. is 56767 <ghcs></p>
	Contd...

Contd...	
Adjournments/status can be known	IVR Interactive voice response for Gujarat High court Case status is also available on following nos. 079 27664463/65/68/73.

5) Project Monitoring

Monitoring & Evaluation Process

- To manage the wide project, a comprehensive project progress monitoring system is used to capture the key data such as number of court complexes, Judges, High Court committees Project Personnel, existing hardware network etc. The PPMS also captures project progress details, generate customized reports for evaluation etc.

User Feedback, Project Assessment Mechanism

- A high level committee chaired by the Hon’ble Chief justice is monitoring the project fortnightly. The PPMS also support feedback mechanism to assess the project.

(Sonia Gokani, Registrar (It) High Court Of Gujarat, Sola, Ahmedabd, Gujarat Telephone No. 079-27665542, Fax No. 079-27665542, Email: Registrarithc-guj@Nic.in).

Chhattisgarh Geographical Information System

Ashutosh Mishra

I) Project Overview

Immediately after the formation of the state, many IT initiatives were selected as the prime movers of interminable series of tasks for the well-being of the local people. Ergo, after realm of marathon meetings of all the sectors of governance, GIS was chosen as the preamble of the vast integrated, multidirectional, multifaceted plan of overall development of the state. Many GIS based solutions were discussed, through the aisles of socio-economic and conservationist approach. Probabilities were tested on financial aspects; man-power wise, resource availability was also taken into account, then certain specific data were finalised as the base data, to act as the broad platform for spicing the facts through variables. LISS III and PAN data are used separately, as well as in combinations to create precious bank of information. Thematic layers are prepared on 1:50000, whereas cadastral maps digitalised and fitted to a large 4000 scale. Regional Remote Sensing Services Centre (RRSSC) Nagpur – the regional branch of ISRO – has been selected as the service provider.

II) Result Indicators

1. Key Performance

a. Stakeholder-wise Services and Benefits of ICT/eGov Initiatives

After getting the huge repository of information, departments are using the data for their planning. Especially, Panchayat & rural development is planning for watershed development with the help of this comprehensive data, industry department is identifying most feasible site for any industry by layer superimposition. A layer, related to some variable, is considered after superimposition. If variables are more, we have to superimpose them all over

each other, with feasible transparency of layers concerned. This way best suited area can be sorted out easily. Police is very frequently using Road-network/Habitations and topography for maintaining law and order situation. Examples are too many.

b. Implementation Coverage (geographical areas covered under pilot, roll-out, next steps, % of total services covered under the lifecycle of projects processes, % of total branches/departments covered by the project)

As mentioned earlier, whole of the geographical area is covered, under the project. Information is manipulated accordingly, to suite the need. Scales of maps/data differ as per the need. Cadastral maps are getting validated by revenue authorities, as soon as the task is completed, revenue department will have most unique information across the nation, all the Patwari maps could be furnished with vector and scaler data on the same sheet. Utilization of data is banal to state, think of a service, and it is there. Only thing to be done, is to select layer, and get information. Future plan of Government of Chhattisgarh is to bring all departments under the umbrella of GIS.

2. Efficiency Improvement

a. Time and Cost Efficiency Improvements in Delivering the Above Set of Services

As is clear from the above details, time and cost implications are now, not a matter of concern anymore. Rich database facilitates for early completion of the task. Physical movements of file and other data are reduced drastically, moreover points of task will be so accurately defined, that the time for physical verifications will be zipped to approximately nil.

b. Time and Cost Savings for the Key Stakeholders to Avail the Above Set of Services

Chhattisgarh GIS project was conceptualized for the various government departments, which are working in remote areas. For every planning one had to travel, stay, gather lot of information, and then to prepare plan. Again, this was followed by verifying officer. This way it consumed lot of time, cost and errors at times. After GIS project, information is available instantaneously, overlapping and superimposition of layers is the only task which is to be done. Planner can have view of the future implications well before proper implementation.

c. Specific Innovative Ideas Implemented in eGov Area; Best Practices Implemented Initiatives Integrated with Other Departments

GIS is such a tool, which can open vast arena of permutation combination for various innovations. Revenue is one of the most overloaded departments in all. Task of a Patwari is manifold, and is very critical also. To ease this community,

Government of Chhattisgarh has initiated for a comprehensive solution for distribution of cadastral maps along with the text of the records simultaneously. This not only saves the time, furnishes full accuracy, but also wipes out any chance of corruption. This service has no precedence in India till date. Intelligence is another area, where GIS intervention is very relevant. Chhattisgarh is bested by insurgents, who always conspire against police which is at the target. Lack of connectivity, or road links broken by Naxals, have claimed many precious lives of members of Para military force, in many operations. Fast and lightening communications are dire need, when the forces are attacked. GIS has proven itself to be most efficient tool, helping forces to locate respective positions for better planning. Likewise, the Disaster management department is also benefited by contouring of affected areas for advanced planning, essential for proper management.

III) Enabler Indicators

1. Project Roadmap

a. Vision Defined

Today is the day, when everybody is worried about the fragile ecosystem. A comprehensive GIS database has been developed by RRSSC for Chhattisgarh. Integration of this data and the usage in various combinations can be a firm abutment for any action plan. These layers when superimposed on other layers create another set of information. Cadastral maps, on the other hand, will not only reduce the time utilization in furnishing information, but also chances of corruption (alleged) will be reduced to zero level.

b. Objectives Defined

Time and cost saving with full geo-referenced accuracy is one of the main motives of the project. Addition of factual information in the existing layer will lead to reduction of dependency on many agencies. Planner/administrator won't need to wait for reports reaching from remote areas in some days – wasting precious time. Besides this, pooling of knowledge in any relevant field is a click away. This is now possible, as the records are probated in a way that is concordant to requirements of Chhattisgarh state. If the thematic and socio-economic data generated in the project are synergized properly, necessity of field measurements can be reduced drastically. Soil/water conservation, resource development, generation of accurate watershed wise, site-specific and area-specific action plan

is now a reality in Chhattisgarh. Tasks of revenue department like mutation can be done online, in few moments, and with full accuracy.

c. Measurable Objectives

Getting generated the layers of great importance like geomorphology, Lithology, Transport, Soil, Drainage, Slope, Forest, Watershed etc. are milestones. Some of the applications developed on the basis of these data like identification of shortest route for erecting a high tension line for CSEB, identification of most feasible area for establishing industry at Mahasamund District, a comprehensive electoral detail of whole state are few examples. Some other additions, like absence of flinches of employees for planning purpose is yet another criteria, which proves relevance of the data.

d. Project Milestones

- More than 54000 sheets pertaining to 20000+ villages were digitized
- All of these digitized sheets were then geo-referenced in two years
- Generation of 37 thematic layers from ISRO data
- Development of softwares like 'Naksha', 'Gyan', for viewing and planning of those thematic layers
- Training to frontline staff
- Legal amendments/government circulars released.

2. Process Reengineering & Legal Reforms

a. Major Front-end Process Changes

At present, in the manual system, a planner has to visit the site many times, collect data, which is again a cumbersome task in itself, and analyze it. Task can now be done simply by superimposing desired information layers at various levels of transparency, creating yet another set of information to plan at Panchayat, Block or at district level. Front end manipulation leads to domain of no-error.

b. Major Back-end Process Changes

Most important component of the hillerian task pertains to Revenue department. Cadastral maps are digitized at 1:4000 scale, but 'Naksha' software is also developed for the ease of mutation of various landholdings. Since, the maps are digitized and georeferenced, chances of errors has come down to zero. Vector and Raster

data have been developed, merged with the toposheets/cadastral sheets, and integrated with text of individual landholdings. A person gets the fully integrated detail of his/her landholding.

New created data is developed on A0 files, which are then changed into shape files, when Mutation is intended. After this, Oracle based software completes the task. If there is any problem in shaking hands of the data, SSDG is coming up shortly to cop up with the problem.

3. Project Sustainability

a. Financial Model (Funding Pattern, Business Model, PPP, etc)

Project is funded by the Department of Panchayat & Rural Development, Government of Chhattisgarh for the creation of database, later it is distributed to all Panchayats. Planning at the lower or higher level can be manipulated need wise. Monitoring of the most areas can be daily routine. R&D can also be performed at any level. For cadastral maps also, updation is a click away, only the verification part will need time. AMC of the software and other maintenance will be the task for respective users.

In future, data will be hosted at the state data centre at Raipur. Access will be provided to the user as and when needed – but in different limitations (read only/read and write/add only/editable version). For cadastral maps the accessibility will follow the normal existing route – but obviously online.

b. Technology Maintenance

Chhattisgarh Geographical Information System database comprised more than 37 thematic layers for various Government Department users. Front end maintenance done by CHiPS officials and if any data base related problem occurs the team of RRSSC and CHiPS officials resolve the queries.

c. Disaster Recovery Center

For probable disaster, one complete set of the entire database is kept with CHiPS in the form of CDs. RRSSC Nagpur is another point where backup data is available. IPR is kept with Government of Chhattisgarh. Databank is used for planning purpose, and is updated at regular intervals. RRSSC Nagpur is also using the databank for R&D and for academic purposes.

d. Project Management Team (Full Time Department Officials/Consultants)

Project is headed by CEO, CHiPS. Routine reviews, updates, making available the information sought and progress of the project is taken care by Additional CEO, CHiPS (IT/BT). Creation of GIS cell is in pipeline. At present Senior Manager of CSC who is with the project from day one, is assisting him for all tasks, pertaining to thematic as well as cadastral maps of landholdings.

4. Change Management**a. Change Management Strategy**

Mapping of the natural resources has been taken up by CHiPS, with the help of Indian Space Research Organisation (ISRO) through its Regional Remote Sensing Services Centre (RRSSC) Nagpur. The Satellite data of geo-coded LISS III and PAN is merged product of the combination from NDC, NRSA, Hyderabad. Using this data detailed resource mapping on 1:50000 scales has been developed, based on visual interpretation and digital processing.

This includes following:

- a) Natural Resource Mapping
- b) Geographical Digital Database
- c) Natural Resource Assessment and Management.

Comprehensive Decision Support System is also developed for Disaster Management, Urban Information, Land Information, Forest Management System etc.

Capacity Building Plan

Training is the prime task of capacity building. Series of trainings have been conducted for Patwari, Revenue inspectors and other employees. One/Two weeks hands-on training for CHiPS employees is also under consideration. It is customary to train the Panchayat employees, at the time of handing over the information.

Leadership Support & Visibility

The project is headed and regularly monitored by Secretaries of various Departments of Chhattisgarh as well as Honorable Ministers and Chief Minister of Chhattisgarh and also the data is frequently used by various

State Government Departments. CHiPS is giving regular technical support to all concerned departments.

5. Project Monitoring

a. Monitoring & Evaluation Process

- User Feedback, project assessment mechanism
- CHiPS, with the help of RRSSC, Nagpur had conducted various training programmes and gathered user feedback from User Departments.
- Third party overall project audit mechanism

RRSSC is a part of Indian Space Research Organization, that related to all audit like system as well as financial or administration audit done by RRSSC, Nagpur.

(Ashutosh Mishra, Additional Chief Executive Officer, Chhattisgarh Infotech and Biotech Promotion Society (CHiPS), Office of CHiPS, 2nd Floor, RDA Building, Infront of Raipur Tehsil Office, Shastri Chowk Raipur Chhattisgarh. Telephone no. 0771-4066277, FAX no. 0771-4066205, email: aceochips@gmail.com).

Information Security Management System Implementation for GUVNL

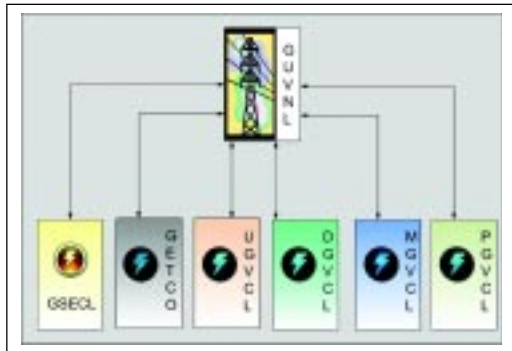
Jagdeep S Kochar

I) Overview

As a part of Power Reform Process, the Electricity Act, 2003, was passed by the Central Government and Gujarat Electricity Industry (Re-organization & Regulation) Act, 2003, was passed by the Government of Gujarat to restructure the Electricity Industry with an aim to improve efficiency in management and delivery of services to consumers.

Accordingly erstwhile Gujarat Electricity Board (GEB) was reorganized effective from 1st April, 2005 into Seven Companies with functional responsibilities of Trading, Generation, Transmission and Distribution etc. The Companies incorporated are as under:

GUVNL has implemented an ERP project, “e-Urja” for all its group companies. A Data center has been established to accommodate the cluster of more than 100+ servers and 70 TB of storage. Its implementation started in 2005. A captive network of more than 800 locations dotted across the state has been implemented in 2007.

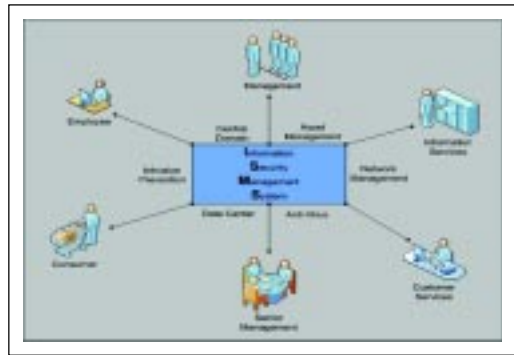


GUVNL has 10000+ desktops across 800 locations in Gujarat State. Online consumer billing has already been implemented. At that time ISMS project was the prime requirement of GUVNL to secure its information and IT assets as well.

Keeping up with the successful implementation of ISMS consulting project, GUVNL looked for a trustworthy partner in its efforts to assist it to centralize the control of GUVNL's IT assets.

(n)Code solutions deployed a team of experienced and certified consultants to execute this project. This team carried out Gap Analysis of existing IT infrastructure of GUVNL to find out security gaps. The recommendations for Risk mitigation of existing security gaps were submitted and presented to GUVNL management in form of Management Report & a presentation was made before management, wherein recommendations of top priority-high risk observations were suggested for implementation of Active Directory Services, Enterprise management system including Desktop, Server & Network Management Solutions, Firewall & Intrusion Detection System (IDS) Solution, Anti-Virus Solutions, etc.

The issues faced at all the locations were that of no centralized user authentication mechanism, the network Performance blockage, Virus and Malicious code attacks, Unauthorized access, Internet bandwidth bottleneck, unavailability of gaining Inventory and tracking of IT assets as well as Network flooding.



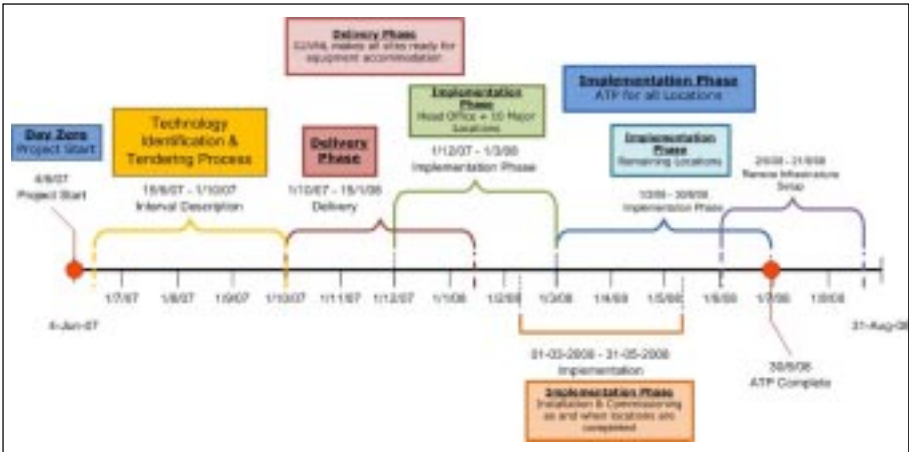
As a solution to above-mentioned issues this Project provided the following objectives:

- Server and network resource availability monitoring
- Software installation and availability monitoring
- Anti-virus and anti-malware management
- User's activities monitoring
- Capacity monitoring
- Security management
- Storage management
- Network capacity and utilization monitoring

II) Result Indicators

1. Key Performance

- a. Central services improvement
- b. Data center / Server / Network performance improvement
- c. Management view
- d. Reduced network outages and better performance
- e. Reduced cost of Centralized bandwidth requirement
- f. Users get better and faster services
- g. Cost savings on network



All the PCs (approx. 10000) that are installed are with fixed IP address and there is no DHCP and DNS environment in place. Secondly, there was domain structure present at that time. Hence it is necessary that the solution should be independent of Active directory or NT domain. The number of locations is high and consists of very remote sites as well. Keeping in mind all these issues, an integrated solution given which is consisting of a centralized web-based helpdesk which tightly integrates with the desktop management solution has implemented.

A team of 27 engineers spread out across the state in 5 teams. All the desktops are migrated into Microsoft Active Directory Structure. 600 GUVNL locations have been covered. Enterprise Management

System's (EMS) agents are deployed on the desktops. Active Directory & ISA Servers implemented to meet the requirements of 10000+ Desktops. Network Management System has been implemented and 800 nodes have been added up into the system	Company	No. of Locations	Total Desktops
	GUVNL	2	247
	GSECL	8	1198
	GETCO	182	1406
	MGVCL	114	1091
	UGVCL	149	1952
	PGVCL	244	2684
	DGVCL	109	810
	Overall	808	9388

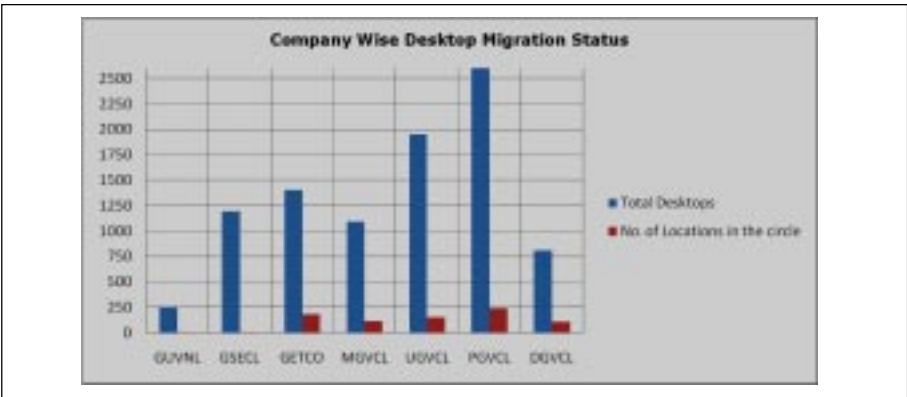
The amalgamation of below-mentioned diverse technologies were used which have been designed to work together to provide the desired results

- Microsoft – Active Directory Service, ISA firewalls, MS-SQL Database
- CA–UniCenter Desktop and Server Management software Suite, Service Desk Solution
- Trend Micro – Centralized Anti Virus Solution
- Solar Winds – Centralized Network monitoring
- IBM – Intrusion Detection System & Server Hardware.

2. Efficiency Improvement

a. Time and Cost Efficiency Improvements in the Delivering the Above Set of Services

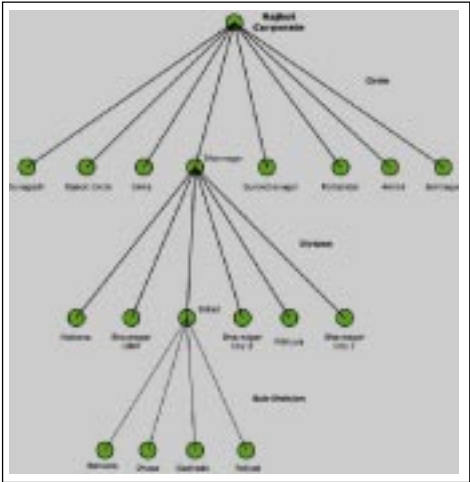
- User efficiency increased as the percentage increase in speed or working increased by more than 100%



- Clean Network plus hierarchical IDS systems helps optimum network performance
- Clean and controlled desktop environment helps best desktop performance
- Fastest patch and other software updates
- Automated service desk system has increased reduced time to resolution of problem
- Hierarchical structure of controls in place helps lower network response time and thus speed.

b. Time and Cost Savings for the Key Stakeholders to Avail the Above Set of Services

- Increase in productivity of users due to faster access of ERP
- Problem identification time reduced to seconds/minutes instead of hours (Solarwinds, remote control, Service Desk), consequently it takes less time to resolve issues instead of hours and days earlier.
- Cost of bandwidth reduced due to optimized and controlled usage. The URL filtering happens at the location Hub locations instead of the main network outlet at the Head office. Thus links between the location hub and primary hubs is utilized in an optimized fashion.
- Hierarchical network and URL filtering design enables faster network response and a rich user experience.



c. Specific Innovative Ideas Implemented in eGov Area; Best Practices Implemented

- Initiatives integrated with other departments
- GUVNL has an IT network of more than 10,000 network assets spread over 800 locations dotted across the state. Managing such a huge network was a challenge and hence GUVNL was unable to get the optimum results out of the deployed network.

- Patch management Software
- Remote Control software
- Microsoft Active Directory Service to achieve End-point security in integration with firewalls, IDS, Anti-virus, Patch Mgmt and other relevant software, ISA, Firewalling, enterprise rules, URL filtering, Access Control, etc.
- Software to ensure upkeep of IT assets and to monitor performance of individual IT resource as per SLAs with respective vendors patch management, software delivery, remote control for helpdesk, etc.
- Monitoring software
- Software for complete network resource management and monitoring like switches, routers, wireless access points etc, server performance
- Design and deploy policies for network management
- Implement technologies.

Advantages for Managed IT Security Service

(n)Code manages a lot of specialized IT services for GUVNL through this project. With this set-up the following advantages work out for GUVNL:

- GUVNL does not need to engage in-house resources for IT activities
- GUVNL gets the industry best service and practice for its IT infrastructure
- GUVNL is able to concentrate on its domain expertise and business rather than investing time and effort in a domain which is supporting its business.
- (n)Code being the technology experts ensures best fit technology solutions to maximize returns to GUVNL
- GUVNL saves high amount of money from outsourcing this activity. In-house solution would have meant not only higher expense but also the out-put may not have been as required.
- SLA with (n)Code ensures required performance and output to GUVNL.
- GUVNL does not require getting certifications and adhering to standards to meet standards requirement in the IT domain. All this is done by (n)Code Solutions. This automatically reflects on GUVNL processes.
- GUVNL automatically gets the updated versions of solutions it uses.

III) Enabler Indicators

1. Project Roadmap

a. Vision Defined

- i. Provide the entire organization with a stable and secure IT environment

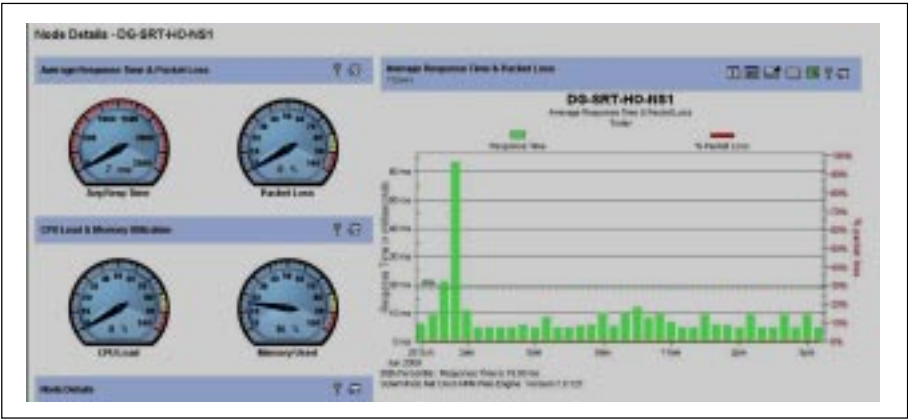
b. Objectives Defined

- i. Centralized control and management of one of the largest network in the state
 - 1. Active directory implementation
 - 2. Hierarchical and modular network design for maximum uptime
 - 3. Centralized Asset Management
 - 4. Centralized and Automated Software Patches / Update delivery
 - 5. Hierarchical Network Intrusion Detection and URL filtering to keep the network clean of any malicious activity
 - 6. Single point Service Desk systems for reporting all IT related problems and issues.
 - 7. Centralized Antivirus with reporting
 - 8. Have a remote management station



c. Measurable Objectives

- i. Network performance
- ii. Uptime of Servers and Desktop



d. Project Milestones

- i. More than 10000 desktops in the fold of the system
- ii. Reporting tools on assets, patches, software installed, hardware classification, server/network uptime, Remote control for helpdesk, Service desk for automated service escalation, etc.

2. Process Re-engineering & Legal Reforms

a. Major Front-end Process Changes

- i. Records of Key Management decision like minutes of management meetings, investment decision, mandating of policies, monthly/quarterly reports;
- ii. Set Information Security Policy like Take account of information security compliance obligations defined in laws, regulations and contracts;
- iii. Align with the organization's strategic approach to risk management in general; and
- iv. Establish information security risk evaluation criteria (the "risk appetite").

b. Major Back-end Process Changes

- i. written descriptions of information security processes and activities e.g. procedures for user ID provisioning and password changes, security testing of application systems, information security incident management response etc
- ii. policies, procedures and/or standards describing how information security risks are assessed.

3. Project Sustainability

a. Financial Model (funding pattern, business model, PPP, etc)

- i. The project was funded internally by GUVNL. The implementation was done by (n)Code Solutions.

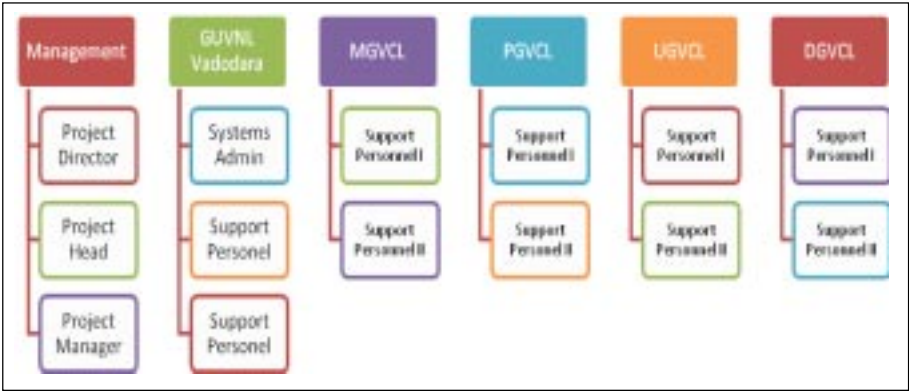
b. Technology Maintenance

- i. The project is being maintained by a team of engineers across the state with MSS. The total staff consumed is about 15 people including expert backend support from the Head Office.

c. Disaster Recovery Center

- i. The disaster recovery center is being planned by GUVNL for all their IT activities. The project design is such that the DR can be setup by replication the Active Directory

d. Project Management Team (full time department officials/consultants)



4. Change Management

a. Change Management Strategy

- i. Written descriptions of the management processes and activities necessary to plan, operate and control the ISMS

b. Capacity Building Plan

- i. Security awareness, training and education records documenting the involvement of all personnel having ISMS responsibilities in appropriate activities (e.g. security awareness programs and security training courses such as new employee security induction/orientation classes).

c. Leadership Support & Visibility

5. Project Monitoring

a. Monitoring & Evaluation Process

- i. Monitoring of all resources is carried out using state-of-the-art technical tools like asset management, network monitoring, Patch management, content monitoring, assets utilization, performance etc.

b. User Feedback, Project Assessment Mechanism

- i. Service Desk as a product constantly logs calls and the service call record including resolution time and reports based on varied criteria is in place.

c. Third Party Overall Project Audit Mechanism

- i. The organization is in the process of upgrading itself to avail of the ISO 27001 Certification. In the process a third party audit mechanism is already envisaged. As of right now auditing is done by the internal GUVNL team.

(Jagdeep S Kochar, Executive Director, (n)Code Solutions – A Division of GNFC Ltd. Ahmedabad, Gujarat. The author can be reached at jskochar@gnvfc.net).

E-Suvidha

Nilkanth Poman

I) Project Overview

Pimpri–Chinchwad, one of the most important cities in Maharashtra and in the country, has been growing exponentially in recent years and industrializing rapidly. The city located strategically at 160 kms from India's financial center Mumbai and about 10 kms from one of the major IT hubs Pune. Its population, which has grown from 26,000 to over a million in the last five decades, is likely to touch the mark of three million in the next two decades. Developed as a supporting township for Pune, Pimpri-Chinchwad has emerged as an alternative in its own right with strong auto and auto-ancillary industries at its core. The growth drivers of the city are slowly getting diversified and steadily shifting towards new clusters such as Chakan, Hinjewadi, Talegaon, and Talawade IT Park from Pune city.

As a growing city and considering changing requirements of the city, the major change was required in a way Pimpri Chinchwad Municipal Corporation (PCMC) used to operate. It was felt that the way PCMC serve its citizens is required to be changed. The vision was aimed at ensuring the economic development of the city by improving the quality of life of the citizens of Pimpri-Chinchwad. This improvement and the focus on maintaining the economic momentum also involves the achievement of providing universal access of municipal services to the urban poor, improvement in the standard of education, providing an efficient civic administration among others.

To efficiently realize this vision, PCMC has embarked on the development of an integrated e-Governance Programme that will result in improved transparency, efficiency and will lead to building citizen centric governance. PCMC has not only proposed to deliver online services but going much beyond reducing citizen footfalls in corporation's offices.

For efficient implementation, PCMC has integrated its entire e-Governance infrastructure. The implementation of E-governance also gave new set of responsibilities to PCMC's employees. This project has involved around eleven corporation departments, which are computerized. Citizen Facilitation Center is the most successful project, which provides services to citizens with more than 99% efficiency. Another Innovative project is pcmc@home which provides services of corporation directly at home through PCMC personnel.

Pimpri Chinchwad Municipal Corporation is serving and providing citizen centric services through one center stop facility and online payments provisions. This has helped in increasing the transparency in administration and saving the valuable time of citizens. Pimpri Chinchwad Municipal Corporation's project "E-Suvidha" will be major landmark in the e-Governance Municipal initiatives in the modern Urban India and will lay a future path for the Urban Local Bodies in India to an increased transparency in governance, improvement service delivery mechanism, revenue improvements for the Urban local body.

Currently PCMC is delivering following services online to its citizens:

1. Property & Water Revenue Management
2. e-Tendering
3. Building Permission Management
4. Dashboard for Works Management
5. Citizens Facilitation Center (CFC)
6. Birth- Death Certificates.
7. Property Tax Collection
8. Water Tax Collection
9. Collection of various applications
10. Delivery of Appropriate Certificates & Documents
11. SMS based complaint monitoring system
12. Solid Waste Management with Vehicle Tracking
13. Geographical Information System (GISDA)

II) Result Indicators

a. Key Performance: Stakeholder-wise Services and Benefits of ICT/eGov Initiatives

- i. **Property & Water Revenue Management:** Property Assessment details and Water charges are available online. Online Payment facility is available for the citizens. This will reduce number of visits taken by the citizens to the corporation. 1105 properties have made their payment online in the past one year. An amount of Rs.50.73 lakhs has been collected through payment gateway for property tax. Through this service

- a. Citizens can view their bills online
- b. Taxes can be paid online from home
 - High level of transparency is achieved
 - Strong MIS and administration control
 - Citizens can pay or use any office of corporation as well as CFS
 - Easy Property Registration for tax assessment
 - Ability to create/copy rate profile for different tax years
 - Property Tax calculations, tax type wise and financial year wise
 - Configurable Property tax calculation rules
 - Self-Assessment
 - Provisional Tax and Notice generation
 - Property Tax Assessment.

- ii. **E-Tendering:** Pimpri Chinchwad Municipal Corporation has initiated the online tendering system for all the projects and procurements to be taken up for the development works under its limits. Submission on tenders, documents, EMD's, security deposits and tenders are available through online and e-banking facilities. Through online e-tendering, an amount of Rs.2231.95 lakhs has been collected through payment gateway from 831 bids. The benefits of this facility.

- a. All the Departments can publish tender online
- b. Bidders can view/download tenders online

- c. Bidders pay SD/EMD fees online
 - d. Bidders bid online using digital signatures
 - e. Bidding is controlled through parameters like bidding capacity
 - f. Tenders are opened by Tender committee, only by using digital signatures online
 - g. Lowest financial bids (L1/L2) are published online to all bidders
 - h. The Bidder registration is one time process
 - i. Tender-Committee can be defined per tender
 - j. Department wise Bidder Registration as well as common Bidders
 - k. Bidding Capacity and Tender limits are configurable with Rate Contracts
 - l. Integration with Accounting
 - m. Generation of comparative statement as well as identification of L1
 - n. Facility to define multiple manufacturers for single item and bidders can bid for multiple manufacturers for single item
 - o. The comparative statement is, and L1 is generated, for all manufacturers as well as manufacturer wise
 - p. The EMD and Tender Fees are auto-calculated based on Tendering Rules.
 - q. Bidders can pay the EMD and Tender Fees online through online payment gateway
- iii. **Building Permission Management:** Building and Development Permissions are through online process. A web-based software AutoDCR has been implemented in Pimpri Chinchwad Municipal Corporation for approvals and issuing commencement and completion certificates. The users can apply online with Maps and other necessary N.O.C.'s like garden, tree, drainage, water etc., with the introduction of this software for Building permission citizens are not required to visit the Corporation for submission or payment of fees.
- r. Creation of New Projects & Associates for the developed drawings and project attributes.

- s. The AutoDCR system reads the drawing and extracts the geometrical information of layouts and building plans.
- t. Single Window to get All N.O.C. The application is integrated internally with all departments
- u. Integrated with digital signature key – The applicant signs the application digitally and then it is encrypted
- v. Based on the project attributes the graphical object information is mapped to the relevant development control rules.
- w. Final detailed rules verification report is produced, indicating Passed/Failed status for each rule.
- x. Reduces the Architect's/Authority's effort for drawing and calculations.
- y. Permission status is available online to the applicant
- z. Eliminates the Human Errors & Manipulation and produces accurate reports.
- aa. Tremendously reduced the time cycle of approval
- bb. Escalation of Alerts on unnecessary delays
- cc. Standardize the drawing process.
- dd. Detailed User-friendly dynamic reports.
- iv. **Dashboard for Works Management:** Dash board of works management is an integrated web-based software, monitoring and tracking the progress of work. This module is also integrated with financial data like budget approved for works, cost incurred and other information, which helps in keeping a track of the projects undertaken by Pimpri Chinchwad Municipal Corporation. Necessary decisions are taken from time to time depending upon the progress of projects and works.
- ee. Every work has unique identification number generated by the system this will be used for all purposes
- ff. Budget is loaded in the system as source of the works information
- gg. The work flow of various stages of the work is configured in the system

- hh. At every stage the person who is incharge of that work needs to update its status
 - ii. It is linked to e-tendering application
 - jj. The work flows through various stages of approval
 - kk. Once it is approved and work order is issued, it can be commenced
 - ll. Work in progress can be tracked for its completion, bills raised, payments made and funds allocation.
- v. **Citizens Facilitation Center (CFC):** Citizens Facilitation Center by Pimpri Chinchwad Municipal Corporation provides 79 different citizens centric services for over 12 departments of Corporation. The various CFC's work on single window basis to provide one stop service to the citizens for Pimpri Chinchwad Municipal Corporation.

CFC's also provide services of the District Collectorate like caste certificates, Domicile Certificate, Ration card, and also provides value added services of RTO like learning licenses and Collection of MSEB bills, Collection of BSNL bills, Collection of Insurance premiums and Railways ticket booking

Table: List of Citizen Centric Services at CFC's for Various Departments and the Services Undertaken		
Sub. No	Sr. No.	Department Name
1		Sky Sign & Industrial License Department
	1	(1) Industrial License (Fabrication, Welding, Molding, Chemical etc.)
	2	(2) Industrial License (Except Sr. No.1)
	3	(3) Industrial/Trade License Renewal.
	4	(4) Trade License
	5	(5) Store License
2	6	(6) Store License Renewal
		Medical Department
	7	(1) Food License
	8	(2) Food License Renewal
	9	(3) Hospital Registration License
	10	(4) Hospital Registration License Renewal
	11	(5) Hair Saloon & Beauty Parlors License
	12	(6) Hair Saloon & Beauty Parlors License Renewal
Contd...		

Contd...	
3	Octroi Department
13	(1) Extension For Goods Carrier Note
14	(2) Octroi Deposit Refund
15	(3) Trader Bonded Ware License
16	(4) Transport Bonded Ware License
17	(5) Transit Pass
18	(6) Private Traders License
4	Drainage Department
19	(1) Permission For Drainage Connection
20	(2) Drainage Connection Completion Certificate
21	(3) Water N.O.C. For Building Permission
22	(4) Drainage N.O.C. For Building Permission
23	(5) Water N.O.C. For Building Completion Certificate
24	(6) Drainage N.O.C. For Building Permission - Completion Certificate
5	Town Planning Department
25	(1) Part Plan
26	(2) Zoning Certificate
27	(3) Sanction Development Project
28	(4) Set Back Checking
6	Property Tax
29	(1) Property Tax Registration
30	(2) Registration for New Property (Objection Received & type of objections)
31	(3) Registration of Increase Area (Objection Received & type of objections)
32	(4) N.O.C. For Property Tax arrears
33	(5) Property Transfer (Objection Received & type of objections)
34	(6) Property Transfer to nominee
7	Self Assessment Project
35	(1) Self Assessment's Application
36	(2) Documents of Self Assessment
8	Slum Improvement & Rehabilitation Department
37	(1) N.O.C. For Electric Connection
38	(2) N.O.C. For Water Connection
Contd...	

Contd...	
9	Building Permission Department
39	(1) Architect License
40	(2) Building Permission/Commencement Certificate
41	(3) Plinth Checking
42	(4) Completion Certificate
43	(5) Building Permission Plan Renewal
10	Garden Department
44	(1) Tree Cutting (Total removing/ Branches Cutting)
45	(2) N.O.C. of Tree Plantation for Building Permission
46	(3) N.O.C. of Tree Plantation for Building Completion Certificate
47	(4) Tree Plantation Deposit Refund
11	Fire Brigade Department
48	(1) N.O.C. For Theater, Public Hall etc.
49	(2) N.O.C. For Marriage Hall
50	(3) N.O.C. For Video Center
51	(4) N.O.C. For Petrol Pump
52	(5) N.O.C. For L.P.G. Agency Godown
53	(6) N.O.C. For Hardware Shop
54	(7) N.O.C. For Paint, Oil, Grease, Chemical, Fertilizer Shop
55	(8) N.O.C. For Sweet Shop
56	(9) N.O.C. For Kerosene Storage & Sale
57	(10) N.O.C. For Hotel
58	(11) Theater, Auditorium, Public Hall etc. Renewal
59	(12) Marriage Hall Renewal
60	(13) Video Center Renewal
61	(14) Petrol Pump Renewal
62	(15) L.P.G. Agency/Godown Renewal
63	(16) Hardware SMP Renewal
64	(17) Paint, Oil, Grease, Chemical, Fertilizer Shop Renewal
65	(18) Sweets Shop Renewal
66	(19) Kerosene Storage & Sale Renewal
67	(20) Hotel Renewal
68	(21) N.O.C. for Circus
69	(22) N.O.C. for Touring Theater
Contd...	

Contd...		
	70	(23) N.O.C. for Exhibition
	71	(24) N.O.C. for Pandal (Hall)
	72	(25) N.O.C. for Standby Duty
	73	(26) N.O.C. for Water Distribution
	74	(27) N.O.C. for Training/Practical
	75	(28) Fire N.O.C for Company
	76	(29) Renewal of Fire N.O.C. of Company
	77	(30) Temporary N.O.C. for Building Plan
	78	(31) N.O.C. for Building
12		Slum Renewal Department (Civil)
	79	(1) License of Slum Maintenance to the Authorized Slum

- vi. **SMS Based Complaint Monitoring System:** To receive complaints from citizen, one has to do personal submission or from a website. To reduce the difficulties of citizens – to send a complaint to Pimpri Chinchwad Municipal Corporation, a SMS based complaint system has been initiated. A citizen can send a complaint by SMS and Scrutiny of received complaints will be done from PCMC Administration. A SMS as well as an email is immediately sent to the related officer for addressing the complaints.
- vii. **Solid Waste Management with Vehicle Tracking:** Pimpri Chinchwad Municipal Corporation has started GPS vehicle tracking system. This GPS system has been integrated with an interface which will assign waste pick-up job and duty management. This also monitors and registers the auto job pick-up adherence via geo reference and stop at pick up bin location. Vehicles Trip/job report is generated for number of trips per vehicle per driver and as well as contractor. Pick up adherence report, exception report on missed bins is also generated for the authority to monitor the collection of solid waste form bins. Tracking report, stoppage, over speed reports and detentions reports and idle reports are generated for continuous monitoring of collection and transportation of vehicles. This also includes
1. Bin wise service efficiency report
 2. business specific alerts via SMS/email
 3. Vehicle being dispatched to trip

4. Vehicle reaching assigned waste bin's locations
5. Unloading at land fill site
6. Vehicle stoppage time in various locations and breakdown.

viii. **Geographical Information Systems:** Pimpri Chinchwad Municipal Corporation has as GIS mapping of 182 sq. kms area. This has been done through geo-referencing of the Quick Bird satellite map of 0.6 meters resolution map. This mapping has been developed for Geographical Information System for Dynamic Administration (GISDA) by Science and Technology Park. This has been developed on terms by integrating with various databases and application services.

GISDA is run from a centrally located system which can be accessed through web. GISDA applications are enabled with Payment Gateway and digital signature wherever required. GISDA provides core web technology and a GIS platform that is used by all other applications to provide Web-GIS based Citizen Centric Services.

GISDA is integrated with different modules and applications such as property tax, water charges, project monitoring systems, building permission giving all the services online to the citizens. Utilities mapping has been completed for the entire 182 sq.kms such as water supply lines, drainage lines, roads and flyovers, projects, sewage treatment plants, water treatments plans, hospitals, schools, water bodies, garbage bins, land use patterns, street lights, grounds and stadiums, swimming pools, markets (commercial and vegetable), hotels etc.,

Implementation coverage: Geographically, all the services are implemented for the entire Pimpri Chinchwad Municipal corporation limits covering an area 182 sq.kms. This covers the four Prabhags (Division offices) and 15 zonal offices serving a population of approximate 14 lakhs falling under 105 electorate wards.

Property Tax and Water charges, e-tendering, Building permission fees and charges are provided with online payment facility. This online payment facility will be extended to other facilities and services like payment of fees for Birth and death certificates, different licenses (commercial, hotels, industrial licenses etc.)

Pimpri Chinchwad Municipal Corporation provides different citizen centric services through five CFCs. These Citizen Facilitation Centers (CFCs) will be further increased to 15 CFCs at various zonal offices and also install information kiosks in 105 electorate wards with complaint monitoring system

b. Efficiency Improvement

The initiative under E-Suvidha has drastically reduced the hassles and burdens faced by the citizens. Citizens take minimum time and cost for availing the services. Citizens avail the facility on a mouse click from home or office or any other location rather than traveling to Corporation office or division office. Payment of charges and taxes directly online through payment gateway facilities reduces the traveling cost and valuable time. Citizens save nearly 3-4 hours of time through availing E-Suvidha facilities and in some cases citizens save days by availing the online facilities of the Pimpri Chinchwad Municipal Corporation.

Kiosks set up different wards, zonal offices and other public places have helped the citizens who are not proficient with net banking and who are not able to avail web based facilities. Visit to Kiosks at the nearest point helps the citizens to avail the facilities, services and payment of different charges, taxes and bills.

GISDA, the web-based application helps the citizens to locate their properties for assessment details and for payment of taxes online. GISDA, with all the utility mapping has helped the Pimpri Chinchwad Municipal Corporation to monitor the delivery of essential services such as Water supply, drainage lines, roads, street lights, garbage bins, etc. This has increased the overall service delivery improvement to provide services and identify the areas which do not avail these services and utilities.

III) Enabler Indicators

1. Project Roadmap

Complete governance and services to be delivered to citizens on a click based with a minimum cost at their door step.

2. Process Re-engineering & Legal Reforms

Online system with a single interface for all the services and governance with an integrated database management for better transparency and sustainability. All the applications are web-based and inter-connection of all the departments have been done. A citizen charter has been formed with each service to be delivered with minimum cost and time. Database management has been integrated for all the departments and services to be given to citizens. This database management has helped in minimizing the repetition of works and cost reductions. The re-engineering processes of all the systems to a newly developed system have decreased the number of processes and involvement of personnel for completing the tasks and delivering the services.

3. Project Sustainability

1. Pimpri Chinchwad Municipal Corporation has expedited the initial phase of the E-Suvidha project like GISDA ERP has been from its own sources of revenue.
2. The next phase of the E-Suvidha project will be developed to bring on a single platform with the grants to be received by Government of India and Government of Maharashtra under National Mission Mode Project for E-Governance. Under this, Pimpri Chinchwad Municipal Corporation will be receiving grants of 50% from Government for India and 20% from Government of Maharashtra. The balance amount will be borne by the Pimpri Chinchwad Municipal Corporation from its own sources of revenue. The grants will also cover the operational cost and maintenance charges for the initial phase of the E-Suvidha project.
3. Pimpri Chinchwad Municipal Corporation's CFC's are run on the Public – Private Partnership model. PCMC will implement the Wimax project of providing Wi-Fi connectivity throughout the PCMC limits on a PPP model.
4. Pimpri Chinchwad Municipal Corporation has a strong inhouse staff for the technology maintenance. Regular trainings are conducted for the inhouse staff and personnel to keep up with the ever developing technology and software market. PCMC takes the support of a single technology consultant, Science and Technology Park (Pune University) for the

technology maintenance. Apart from this, Software and Technology Park (STP) of India has been appointed for web server maintenance.

5. Disaster Recovery Center has been set up by Pimpri Chinchwad Municipal Corporation. The location of the center is in a Hospital Premises maintained by the Pimpri Chinchwad Municipal Corporation. The center gets the data backup of all the applications and the servers update the data online basis.
6. PCMC has 65 staff for its computer and IT department. The department is headed by one Computer officer, supported by three system analysts and four computer programmers. Rest of the staff work as computer operators. Through this staff, various systems and programmes are implemented and maintained. Different software's have been developed by consultants appointed by PCMC, namely Science and Technology Park, (STP, Pune University), National Informatics Center (NIC, Pune), India International Multiversity for software and various application development. PCMC also appointed Software Technology Park of India (STPI, Pune) for Server Hosting.

4. Change Management

7. PCMC's vision of having high transparency in governance and service delivery has been initiated with well equipped training programmes for the entire staff of the Corporation. This has been followed by the whole computer department from head of the department to the computer operator. This strategy of having greater transparency has increased the service delivery efficiently.
8. A training calendar is in place which is prepared by the head of the department for the capacity building of the staff. This training calendar is prepared based on the assessment of the staff skills and training requirements for that calendar year. Training and other skill upgrading are conducted on time to time basis. Some of the training programmes are conducted by inhouse staff and some are conducted by external agencies namely YASHADA and Government College of Engineering (Pune)
9. PCMC leadership has always been in the forefront for motivation and constantly encourages for the development of staff. This can be evident from various department heads making assessments of their own and

thriving for improvement and taking ownership of each and every activity related to the projects related to technology and e-Governance related initiatives in Pimpri Chinchwad Municipal Corporation.

5. Project Monitoring

10. The municipal governance project has been constantly been reviewed and assessed. This is generally carried out by the project head, and the subordinates (system analysts and programmers/operators). Day-to-day monitoring is done by the Computer Officer and been updated to the Commissioner and Additional Commissioner. Weekly meetings are conducted by the Commissioner to review the Consultant performance and status of project plan, which are being implemented under E-Suvidha.
11. Regular meetings are held to do the project assessment and feedback on changes and best practices to be followed. The feedback is requested from all the departments through the respective heads of the department. Commissioner directly handles the assessment of the projects, which are being implemented. Feedback is also taken from the users and citizens regarding any difficulties arising while using the E-Suvidha services. There is exclusive cell for addressing the queries, arising while using the E-Suvidha of PCMC.

(Nilkanth Poman, Computer Officer, Computer Department, Pimpri Chinchwad Municipal Corporation, Pimpri, Pune).

Open Opportunity for the Civil Society for Participatory Governance

Akhilesh Argal

I) Project Overview

Madhya Pradesh, often called the Heart of India, is a state in central India and was formed on November 1, 1956. Madhya Pradesh originally was the largest state in the country until November 1, 2000, when the state of Chhattisgarh was carved out. It borders the states of Uttar Pradesh, Chhattisgarh, Maharashtra, Gujarat and Rajasthan. The state has an area of 308 Sq. Km and population of 6.03 Crores. About 73.5% of the population lives in the rural areas. Of the total population in Madhya Pradesh, Schedule Tribes constitute 20.27% while Schedule Castes constitute 15.17%. The state has 50 Districts, 318 Tehsils, 313 Blocks, 394 Towns and 52,117 inhabited villages.

Madhya Pradesh is primarily an agricultural state. Rice, Wheat, Soybean, Rapeseed and Mustard are among the principal crops of the state. About 20% of the pulses like Urad, Mung, Gram and Arhar produced in the country come from Madhya Pradesh. The agriculture and the allied services contribute about 44% share in the economy and 72% of its working force is directly engaged in agriculture. The state has seen a decreasing contribution of agriculture in the state GDP from 33.32% in 1998-1999 to 28.8% in 2003-04. Although the state has the largest number of the livestock population in the country it lacks behind other states in the income from the livestock.

Madhya Pradesh is rich in mineral resources. The Iron ore found in the state is of high grade. Manganese is another important mineral which occurs in Balaghat and Chhindwara districts. Bauxite, which is used in the production of Aluminum, is also available in the state. The state has largest deposit of limestone

required for the production of cement. The state has good quality coal and rich Diamond bed.

Madhya Pradesh has many advantages in comparison to other states. It has strong rails, roads and transportation connectivity to different parts of the country. The state has cheap availability of labour and more than 30% of the population is under 15 years of age which can be trained and efficiently utilized to increase the productivity of the state. The state has Special Economic Zone (SEZ), a software technology park and connection to large northern and western markets.

Thus, Madhya Pradesh is a state blessed with vast natural resources, rich cultural heritage, an excellent Industrial base coupled with a progressive, investor friendly government.

One of the most fundamental challenges for good democratic governance consists in our ability to associate and engage individuals in a two way dialogue with the government on public issues without depending on vicious interest groups or other intermediaries. We describe here a new open initiative to develop a citizen participatory model for governance so as to enable the top levels of government, to reach out to those whom they may not have chance to meet in person in spite of their best intentions to do so. To achieve this objective, we have set up a web based platform through which citizens can participate in the whole process of development of government policies from formulations to their implementations. Inputs directly received from the civil society greatly help in reliable Impact Analysis of Policies and improving quality of delivery systems. Using the self-driven portal, any citizen from within the state of Madhya Pradesh, the country or even beyond can post his ideas concerning development of the state or improvement in government delivery systems either in Hindi or English.

Starting from 19th January, 2009, in the first six months more than 2200 contributions were received, by the time of submission of the proposal for award, from MP and several other states of our country and foreign countries like Australia, Canada, UK and USA. All the contributions so received were examined and analyzed through a very rigorous process and 251 contributions were shortlisted for further scrutiny. Finally, a committee chaired by the Chief Minister himself decided to implement 10 contributions for innovations and improvement in governance, out of about 90 shortlisted contributions which have been finally processed so far.

Before the launching of web portal www.ideasform.in, there was no formal and well defined mechanism for active and direct involvement of people in planning and development process. Of course some modest and sporadic efforts were attempted in the past, to involve people but they were neither effective nor institutionalized. Of late, efforts were made to involve stakeholders in the planning process by organizing their Panchayats (Group Meetings), but the process was time consuming, costly and it again involved intermediaries. This web portal eliminated the drawbacks of Panchayats and at the same time institutionalized a very dynamic and cost-effective process of involving people in planning and development process, without intermediaries.

We believe that this IT-enabled system of contact with people is unique with seamless access right up to the top level of the Government with dynamic IT-based processing through Committees and Departments and expeditious decisions and responses to the people by the Chief Minister. The facility for tracking the status of contribution provided to the contributor through the portal gives him a sense of involvement, belongingness and responsiveness which is unusual in government system.

II) Result Indicators

1. Key Performance

- a. Stakeholder-wise services and benefits of ICT/eGov initiatives
- b. Implementation coverage (geographical areas covered under pilot, roll-out, next steps, % of total services covered under the lifecycle of projects processes, % of total branches/departments covered by the project)

2. Efficiency Improvement

- a. Time and cost efficiency improvements in the delivering the above set of services.
- b. Time and cost savings for the key stakeholders to avail the above set of services.
- c. Specific innovative ideas implemented in eGov area; best practices implemented

Initiatives integrated with other departments

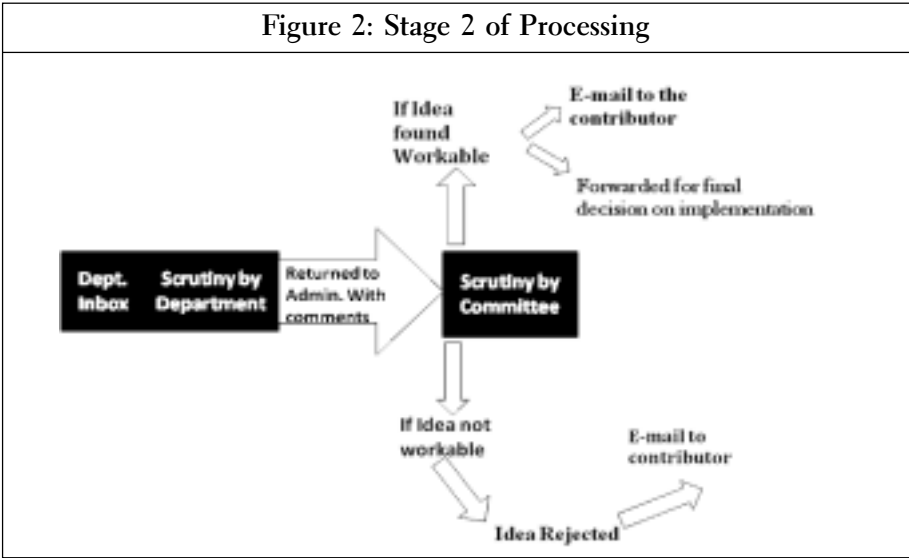
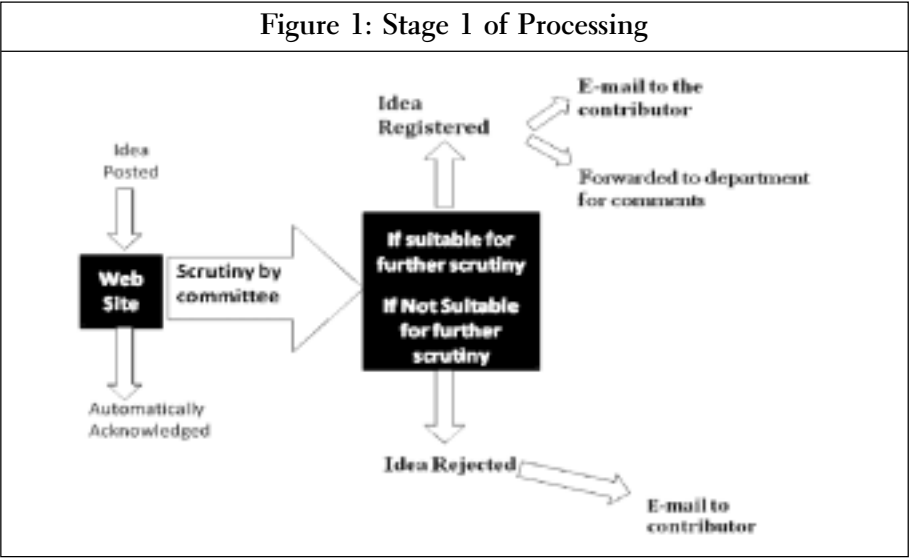
It is interesting to observe that some innovative and very useful ideas received from people of our society who are from the grassroots have proved to be very

successful. Several good practices of governance have their origin from such ideas which are appropriately channelized and modeled by the Government machinery. There are also ideas which emerge from individual's effort to solve problems encountered in their work. The interactive portal ideasforcem.in is a new initiative inaugurated and launched on January 19, 2009 by the Chief Minister himself to provide a seamless access and opportunity to any citizen to post his ideas for The facility of posting ideas and contributing in the planning and development of the state is open to all, irrespective of their caste, creed or religion. Ideas can be freely posed by anyone irrespective of gender, profession and age-group he or she belongs to. The web portal has no geographical barrier and person sitting in any corner of the world can contribute for the development of the state, if he or she wishes to do so.

This web portal enables the common man to give his/her suggestions without going to any government office. Thus the contributor can participate in the planning and development process at their will, convenience and comfort and without any cost. The whole process is user friendly and self driven, without causing any strain or frustration to the user. Looking at the government perspective, the whole process is online and no use of paper is being made at any stage of processing of received ideas, resulting in time and cost saving. Right from the generation and sending of receipt of ideas, inviting comments on ideas from the concerning departments, communicating present status of the ideas posted and communication of final decision on the ideas is web-based without involving any paper and large work force. the development of the state or improvement in systems of governance, especially those focused on the aam adimi. Besides dynamic connectivity of government with the civil society, this intervention greatly contributes to restore public confidence in government. This is one single very important factor for good government governance.

The whole process of processing the ideas can be summarized by the following flow diagram.

Thus, this process of involving people in planning, development and decision making is perhaps first of its kind in the country. The continuous display of status of idea at different stages of processing and promptness in communication gives the contributor a sense of involvement and belongingness, which is unlike in government system.



III) Enabler Indicators

The Enabler Indicators are primarily the processes that are implemented to achieve the above mentioned results. For the purpose of these Awards the Enablers are being evaluated on selected attributes listed below. Nominations should address the required information as per attributes below, and if desired important additional information for the purpose of this Award may be given.

1) Project Roadmap

- a. Vision defined
- b. Objectives defined
- c. Measurable objectives
- d. Project milestones

2) Process reengineering & legal reforms

- e. Major front-end process changes
- f. Major back-end process changes

3) Project Sustainability

- g. Financial model (funding pattern, business model, PPP, etc)
- h. Technology maintenance
- i. Disaster Recovery Center
- j. Project management team (full time department officials/consultants)

4) Change Management

- k. Change management strategy
- l. Capacity building plan
- m. Leadership support & visibility

5) Project Monitoring

- n. Monitoring & Evaluation process
- o. User Feedback, project assessment mechanism
- p. Third party overall project audit mechanism

1. Project Roadmap**a) Vision**

The democratic system in our country is well established and we are privileged to have the largest democracy of the world. The country has ensured many important measures to protect the democratic rights of the civil society. There are greater concerns both in the civil society and the systems of governance to

bring in more transparency and increased efficiency in public delivery systems. However, we feel quite concerned about serious imbalances in socio-economic status of our population. There is apparent divide into classes of rich, middle, poor and those below poverty line, BPL as they are called. Then there is urban and rural divide. It is well recognised and understood by all that one of the fundamental responsibilities for any successful democracy should be focused on narrowing down these divides. Several policies to address this basic problem have been introduced from time to time by the Government but we are also aware that at times we are not able to ensure the delivery of the desired benefits to the society. We also realize at times that even if we succeeded in the public delivery systems of a policy the same is not to the satisfaction and expectations of the targeted society. It therefore emerges that while framing policies in government, we must ensure to incorporate people's participation from the initial stages through various processes. One of course is through the elected representatives of the people. But, due to large populations covered by different constituencies and at times voting being even less than 50%, we are not able to provide every individual a right to participate in policy making. It therefore seems that besides the existing processes we have to take some new initiatives to connect the Government systems with the last citizen of our society, the *aam admi*.

b) Objective

The fundamental challenge for good democratic governance consists in our ability to associate and engage individuals in a two way dialogue with the government on public issues without depending on vicious interest groups or other intermediaries. With this objective new open initiative to develop a citizen participatory model for governance so as to enable the top levels of government, especially the Chief Minister (CM) of Madhya Pradesh to reach out to those whom they may not have chance to meet in person in spite of their best intentions to do so, was conceived. With this web based platform citizens can participate in the whole process of development of government policies from formulations to their implementations. Direct inputs from the civil society would also prove to be very useful for impact analysis. Any citizen from within the state of Madhya Pradesh, the country or even beyond can post his ideas for consideration of the CM, concerning development of the state or improvement in government delivery systems either in Hindi or English. The website is user friendly with self-driven instructions for users.

c) Measurable Objective

The analysis of the ideas received up to June 2009 shows very encouraging results. The results of this analysis, which was carried out by an Indian Institute Management (I.I.M.)- Indore MBA student during his summer Internship with the school, is a measure of fulfillment of project objectives. The main points of analysis are summarized below. The project objectives can be measured in terms of the –

1. Geographical reach of initiative

Analysis shows (Table 1) that ideas were contributed from Madhya Pradesh covering all the districts, several other states of our country and foreign countries.

Table 1: Area-wise Distribution of Contributors		
S.No.	Region	Percentage (%)
1	From M.P	93
2	Other States	5
3	Other Countries*	2
* Australia, Canada, U.S.A., U.K. etc		

The ordering of major cities of Madhya Pradesh with respect to number of ideas is as follows –

Bhopal (424),

Indore (299),

Gwalior (188),

Jabalpur (95).

The reverse ordering of these from the lowest is Anuppur and Umaria Districts.

2. Involvement of Various Stakeholders

(i) Age Group-wise

The age group-wise analysis of the contributors shows (Table 2) that ideas were contributed by all age groups, though younger generation contributing the maximum ideas.

Table 2: Age-wise Distribution of Contributors				
15-25 Yrs Age	26-25 Yrs Age	36-45 Yrs Age	Above 46 Yrs Age	Age not mentioned
25%	33%	18%	23%	1%

(ii) Education-wise

The analysis shows (Table 3) persons having education up to higher secondary contributed less idea perhaps due to less accessibility to the internet facilities. Maximum ideas were contributed by graduates and post graduates.

Table 3: Educational Qualification-wise Distribution of Contributors				
Higher Secondary	Graduate	Post Graduate	Others	Not mentioned
7%	37%	43%	9%	4%

(iii) Profession-wise

The table (Table 4) shows that students were largest contributors to the ideas. It was encouraging to see that even house wife's made the contribution.

Table 4: Profession-wise Distribution of Contributors						
Business	Farmers	Government Employees	House Wife	Student	Others	Not Available
17%	3%	21%	1%	36%	3%	19%

3. Number of Ideas Received

More than 2200 ideas have already been received by the time of submission of this proposal for award, which shows the popularity of the web portal.

4. Number of Hits/Visits on the Website

The summary of the daily (average) and monthly hits and visits to web portal www.ideasform.in is as given below (Table 5)

Table 5: Daily and Monthly Summary of Hits and Visits on Web Portal					
S. No.	Month	Hits and Visits summary by Month			
		Daily Averages of Hits & Visits		Monthly Total of Hits & Visits	
		Hits	Visits	Hits	Visits
1.	Jan. 09	4,250	254	1,40,150	7,894
2.	Feb. 09	2,140	162	59,937	4,559
3.	March 09	1,154	82	35,801	2,558
4.	April 09	595	48	17,879	1,464
5.	May 09	483	69	15,003	2,169
6.	June 09	596	102	17,895	3,086

d) Project Milestones

1. **Project conceptualisation (Mid December 2008):** The initial conceptualisation of this important model of public participation in governance was conceived around mid December, 2008 and a well coordinated team was identified which consisted of Secretaries in the Office of the Chief Minister, the Director General and Directors of the School of Good Governance and Policy Analysis and IT experts from CRISP, to put the entire process of implementation on an unusually fast track.
2. **Project Inauguration (19th January 2009):** As a result of a very active Team Work, the whole process was completed within 30 days from initial conceptualisation and the website was inaugurated by the Hon'ble Sri Shivraj Singh Chouhan, Chief Minister, Government of Madhya Pradesh on 19th January 2009, in a function where the Chief Secretary, Government of Madhya Pradesh was a special Guest of Honour. The Chief Minister and the Chief Secretary spent nearly one and half hours and ideas started pouring in during the inaugural function itself.
3. **Thousand Ideas Received within Ten Days of Inauguration (30th January 2009):** Due to overwhelming response to the portal, more than 1,000 contributions were received within ten days of inauguration of website.
4. **Ten Ideas chosen for implementation:** So far ten contributions have been chosen for implementation by a committee headed by Hon'ble Chief Minister.

2. Process Reengineering

Before the launch of web portal www.ideasform.in, there was no formal and well defined mechanism for active and direct involvement of people in planning and development process. Though efforts were made, here and there, to involve people but they were neither effective nor institutionalized. Of late, efforts were made to involve different stakeholders in the planning process by organizing their Panchayats, but the process was time consuming, costly and was through intermediaries. This web portal eliminated the drawbacks of Panchayats and at the same time institutionalizes the process of involving people in the planning and development process, without intermediaries.

The backhand IT-propelled process also brought in a major change in the system of processing through the government systems. The government system

is generally leveled as slow, non-responsive and hostile to the common man. The system introduced here eliminates human interface, it is user friendly and immediately generates the receipt of the contribution giving the contributor a sense of positive and active response. The next response after careful scrutiny is expedited in less than 15 days from posting of the contribution, thus breaking the myth that government system is slow and non responsive. The transparent facility provided to the contributor for tracking the status at his end also gives an indication to the contributor that the government is seriously processing the contribution. The major change in back hand is that the idea is considered and processed at very senior levels of government, increasing the seriousness and avoiding routine response. Even if idea is not acceptable, response is send to the contributor indicating non acceptance of idea with an encouraging note showing curiosity to receive another idea.

3. Project Sustainability

Since the IT-support to the model is robust and time tested and the processing at Government levels is well established, there is no scope of any problem in sustaining it. The cost of sustaining the model is almost negligible because the whole process is IT-enabled and IT supported. Besides this, the School of Good Governance and Policy Analysis is in the process of setting up an Information and Communication Technology Centre with high end capabilities for IT and ICT Applications. The School of Good Governance and Policy Analysis is acting as Administrator and overall coordinator for handling the web portal www.ideasform.in. Software for the portal was initially developed by Centre for Research and Industrial Serves Professional (CRISP) which was set up under Indo-German initiative. The Details of software design, localization, search, help and accessibility are as under.

Details of Design:

- HTML and ASP based coding are used for static page designing
- Eye catching color combinations are used.
- Light weight images (JPG, JPEG etc.) are used
- CSS based designing
- Fonts are visible and clear for viewing
- Best monitor resolution

Localization:

- The instructions, guidelines and the idea submission form are available on web interface in both English and Hindi languages to the users for submission of ideas.
- Local date and time is managed during ideas processing.
- For Static content: Unicode based Hindi fonts support is provided
- For Dynamic pages: EOT based support of “Kruti Dev”(Hindi) Fonts is provided. (Government departments officers/employees are very comfortable in typing with “Kruti Dev”)

Search:

- Not open for public, but viewers can search for status of their own ideas.
- Search facility has been provided to Administration, Departments, and Review Committee members according to different parameters for their queries.

Help:

- The guidelines are provided in both Hindi and English for the users on the web interface for their help in submission of ideas.
- Validates and instructions used are very helpful for proper information submission by the contributors.
- Auto generated e-mails from the administrator to the contributors and updating status of contributor’s ideas which help him in monitoring processing of his idea.

Accessibility:

- The portal is accessible all over the world using internet.

Privacy Policy:

- Privacy policy is declared under the “Guideline”/”Instruction for you” section.

The portal is also being maintained by CRISP. The portal has inbuilt security provision and there has not been even a single instance of portal being hacked or not working. The system has provision for backup facility so that there is no data loss in any mishap. After the development of the portal, there is no need of full time team for maintenance purposes. This work is being carried out by

CRISP, as and when required. For responsible and effective coordination, one Director of the School and one Officer from every Government Department have been identified. The Director of the School extends support to one Principal Secretary and one Secretary in the Chief Minister’s Secretariat in processing of the contributions. At the higher levels of decision making the Chief Minister, the Chief Secretary, Additional Chief Secretaries, Principal Secretaries, Director General of the School along with this group all participate.

4. Change Management

Over the years the Government of Madhya Pradesh has given due emphasis to bring in change in the systems of governance through e-supported initiatives. We were first to introduce as pioneering initiatives in the country which led to e-Choupal and Bhoomi projects recognised internationally. However, the difference in the project proposed for award is that the entire system of processing by 53 Government Departments interacts through IT-networks. There seems to be significant systemic change with dynamic systems of governance in place which are motivated through the functionality of the model. In preparation of our expansion the Government is already in advanced stage of creating nearly 10,000 Common Service Centers with ICT capabilities and IT trained manpower. The state is emerging fast as e-governed state and already has capacity to handle such initiatives. The processing of ideas is done at state level and the process is so simple that with suitable instructions and training during the meeting, nodal officers are able to manage the work, and do not require any capacity building.

5. Project Monitoring

The software has inbuilt provision for monitoring. It automatically generates the summary report (Table-6) which includes all necessary information for monitoring like no. of ideas received, no. of ideas pending for processing, no of ideas pending with administrator, no of ideas pending with departments for comments etc.

Table 6: Summary Report of Contributions									
Ideas received	Pending in inbox	Rejected	Registered	Pending with Admin.	Pending with Dept.	Sent back by Dept.	Pending with Committee	Ideas approved by Committee	Ideas rejected by Committee

There is inbuilt provision to get department-wise summary report (Table 7) which gives the idea about which department is lagging in sending comments on ideas referred to them.

Table 7: Departments' Summary Report								
Name of Dept.	Ideas forwarded	Ideas pending with the Dept.	Ideas sent back by Dept.	Ideas pending with Admin.	Ideas pending with Committee	Ideas chosen for implementation	Ideas rejected	Ideas sent back to Dept. for clarification

The software also has the provision of sending e-mail to the Nodal officer of the Departments as soon as an idea is transferred in their inbox. There is also provision to send reminder through e-mail, if the department is not able to send their comments in the prescribed limit of 15 days. There is provision for Administrator to update the e-mail I.D. of the Nodal officer, in case of any change in posting. The software gives a warning to Administrator if initial processing of ideas is not completed in prescribed time limit of 15 days and all such ideas are displayed in a separate folder. Likewise, respective departments can also monitor their progress by generating their own progress report for monitoring of ideas forwarded for their comments.

For monitoring and analysis purposes software has the provision for search of ideas region wise, i.e., country wise, state wise, district-wise (for Madhya Pradesh). Similarly, ideas can also be searched by date, by idea reference no. and by contributor's details (if any of the three parameter-names, e-mail address or subject of idea is known).

(Akhilesh Argal, Director (Governance) School of Good governance & Policy Analysis Room no. 324-C, IIIrd Floor, Narmada Bhawan, 59, Arera Hills, Bhopal (M.P.), Bhopal, Madhya Pradesh. Telephone no. 0755-2572216, Fax no.: 0755-2570218, email: akhilesh-argal@yahoo.com).

e-Integrated Co-operative Development Projects (e-ICDP)

Tajwar Musharraf

I) Project Overview

Integrated Co-operative Development Projects (ICDP) Scheme was started by NCDC (National Co-operative Development Corporation) all over India and implemented by state Offices of Registrar, Co-operative Societies. Presently this project is implemented in all 17 ICDP districts of Madhya Pradesh. Through these projects, about 2,550 societies are funded and approximately 6 lakhs people are benefited in MP. As MP is the first state to initiate its computerization, this Web-based Application “e-ICDP” has an immense potential for replication all over the country.

Aim of ICDP is to support financially the downtrodden population through Co-operative Societies in districts by optimum use of available resources in agricultural and non agricultural sectors like Consumer Products Distribution, Dairy, Fisheries, Sericulture, Animal Husbandry, Horticulture, go-downs of Agricultural Products, Human Resource Development etc.

Financial Assistance is provided in the form of Loan, Share Capital, Subsidy and Physical Assistance is provided in the form of training to the people of Societies so that they could do their business well. Loan is for infrastructure development and Share Capital (on 0% interest rate) as Margin Money for augmenting the Business of the Societies. Subsidy is for Human Resource Development and Administration.

Now a days, Societies have become very important entities as most of the Schemes of the Government of India/State Government are being implemented through Societies instead of individuals. Like in Food Department, Fair Price

Shops are run by Societies (PACS–Primary Agricultural Credit Societies) and not by an individual. So we are attempting a very important area which is covering almost every department like Seeds, agriculture, sericulture, handloom, horticulture, marketing, labour, poultry, industrial, Consumer Products Distribution, Dairy, Fisheries, Human Resource Development, Animal Husbandry etc.

Keeping in view of the importance of Societies, Government of India has constituted Baidyanathan Committee for strengthening of PACS (Primary Agricultural Cooperative Societies) and based on the committee's recommendations, crores of rupees have been sanctioned for revival, strengthening and Computerization of PACS.

The main benefits of “e-ICDP” are greater convenience, more transparency, effective monitoring, revenue growth, and/or cost reductions. Most important reason for sending the nomination is that beneficiary of ICDP are the **people who are on or Below Poverty Line** and e-ICDP has tried to reach the destitute population.

NCDC (National Co-operatives Development Corporation) was established by an Act of Parliament in 1963 as a statutory Corporation under the Ministry of Agriculture. NCDC started ICDP in 1986-87 for the development of the Co-operatives Societies in districts.

AIMS of ICDP:

1. Development of Primary Agricultural Credit Societies as Multipurpose self reliant entities.
2. Development of Allied Sector Co-operatives
3. Development of Viable functional linkages among Cooperatives

Functions of ICDP:

1. NCDC provides loan and Subsidy to State Government for the operation of ICDP.
2. Loan is for creation of infrastructure facilities – such as go-downs, banking counter, transport vehicles, small processing units, etc. and strengthening of share capital/providing margin money for augmenting the business of the societies.
3. Subsidy is for Administration and Human Resource Development.

4. State Government adds 5% subsidy, divides the loan into loan and Share Capital for Societies (Share Capital is a loan with no interest).
5. State Government takes no interest from Societies on share capital but bears interest and gives it back to NCDC.
6. Societies return the loan with interest to State Government in 8 equal installments and State Government returns the loan with interest to NCDC in 8 equal installments.
7. Subsidy component is restricted to 30% of the total project cost and is shared between the NCDC and the State Government on 50:50 basis.
8. The project period is 5 years during which it is monitored regularly. In the States where the projects are more than two in number, a monitoring cell is created at the state level to monitor all the projects in the State.
9. At monitoring cell, Joint Registrar is monitoring the projects supported with four or more Deputy Registrars and three or more Assistant Registrars.
10. PIA i.e. Project Implementing Agencies like DBCC (District Central Co-operative Bank) are responsible for the working of the project in districts under the leadership of General Manager. General Managers are monitoring the Project supported with Deputy Registrar, Assistant Registrar, Junior Engineer, Development Officer etc.

Physical Support: 1. Gaps in managerial skills are identified and necessary training is provided to personnel in cooperatives. On the job, PIT (Project Implementing Team) personnel provide training and guidance. 2. The Scheme also has an incentive component for motivating the paid staff of primary cooperatives to perform better and improve the functioning of the cooperatives.

IC Madhya Pradesh State Center (MPSC) Designed, Developed and Implemented the Role specific web enabled application “e-ICDP” (with UNICODE in ASP.net using SQL Server at back end) for the computerization of every activity of this project. It has three sub- systems, i) for Societies, ii) for Districts and iii) for State Level Monitoring Cell. We have covered – Submission of Application form for Assistance by Societies (detailed information), Acceptance of Application form, Loan Management, Share Capital Management, Subsidy Management, accounts etc. Achievement is the amount given to Societies as Assistance, that we have not taken as an input from the Societies but it is generated from the account management.

After giving one year of Financial Assistance, department measures the IMPACT(performance after providing Assistance) on Societies. For this, before providing Assistance we took detailed information about the Societies,(Just to check whether Society is having potential for Development or not) department wants information of Assets, Cumulative Profit, Cumulative Loss, Yearly loss, Yearly Profit, Undistributed Profit, Working Capital, Pending Loan, Working Plan etc for the last three years and projection of their forthcoming three years (Societies give the projection that after getting assistance from ICDP what will they do in future). After giving assistance department wants the actual data on all these parameter. The actual Data is then compared with Projected Data to generate the IMPACT on Societies. It will also facilitate in preparing the BDP(Business Development Plan).

II) Result Indicators

1. Key Performance

Stakeholder wise services and benefits of ICT/e-Governance initiatives

Stakeholders:

Internal

National Co-operatives Development Corporations, Delhi, State Government.

External

Co-operative Societies, Citizens.

Services: G2G, G2C

Government to Citizen (G2C):

G2C aims at connecting the Government to Citizens by informing the public about the accountability of the Government as well as its rationale to increase the pressure on the Government officials to perform well and to improve the public understanding. In “e-ICDP” G2C service is delivered as follows:

Sub-System for Societies:

- a) Registration for the Login and Password for the new Society
- b) Submission of Application form for Assistance (very detailed information about Societies, because Department wants to check whether society is having potential for development or not). Department wants data for the

last three years and projection for the forth coming three years (societies give the projected data as to what they will do in future, if they get the assistance from the department) on Assets, Cumulative Profit, Cumulative Loss, Yearly loss, yearly profit, undistributed profit, working capital, pending loan, working plan etc

- c) Societies can track their application through option “Application Status”
- d) When Department finds that Society can be given financial Assistance then Department updates the status of Application
- e) After taking financial assistance, societies can see all the details of installment schedules and penalty details, if any
- f) After giving one year of financial Assistance, once again data is taken from Societies on all parameters that we have taken earlier at the time of giving Financial Assistance (like Assets, Cumulative Profit, Cumulative Loss, Yearly Loss, Yearly Profit, Undistributed Profit, Working Capital, Business, Pending Loan, Working Plan etc) for IMPACT STUDY.

Complete procedures of Loan and Sharecapital Allotment and Recoveries including Penalties, Prepayment and Re-scheduling all installments after Prepayment are computerized. But it will be available in Sub-System for District Offices.

The monthly progress reports generated at the state level which helps the Project Director (Joint Registrar) at Monitoring Cell, in decision making and monitoring of the projects for the citizens through various Co-operative Societies in the entire state of Madhya Pradesh. Hence, the project helps in providing better services to the citizens as well as in the planning and effective management for the ICDP projects. Thus it meets the expectations of citizens with respect to proper distribution of loan, share capital and subsidy.

Government 2 Government (G2G) Service

G2G aims at making inter-agency relationships more friendly, convenient, transparent, and inexpensive. e-Government refers to the use by government agencies of information technologies (such as Wide Area Networks, the Internet, and Mobile Computing) that have the ability to transform relations with citizens, businesses, and other arms of government. These technologies can serve a variety of different ends: better delivery of government services, improved interactions,

with business and industry, citizen empowerment through access to information, or more efficient government management. The benefits can be reduced corruption, increased transparency, greater convenience, revenue growth, and/or cost reductions. In 'e-ICDP' delivery of services are as follows:

Sub-System for District Level offices of ICDP: This has following Functional Modules for the Project at districts:

1. Acceptance of application form for Assistance (loan, share capital, subsidy)
2. Loan Management
3. Share Capital Management
4. Subsidy Allotment
5. Setting the loan installments and recoveries according to the prescribed penalty
6. Share Capital Recovery
7. Financial Accounts Maintenance in the form of Ledgers (head-wise and subhead-wise)
8. Balance Sheets Generation
9. Training Management
10. Managing amount spent on salaries
11. Go-downs construction monitoring
12. Data Capturing every year, after giving assistance, as an input for Impact Study
13. Various Queries and Reports Generation

Sub-System for State Level Monitoring Cell: This is for Monitoring Cell and its Functional Modules are:

1. Allotment of Funds for various ICDP Projects
2. Financial Accounts Maintenance in the form of Ledgers (head-wise and subhead-wise)
3. Setting Targets
4. Achievement Analysis

5. Monitoring of Performance of Co-operative Societies after giving Assistance (IMPACT STUDY)
6. Various Reports

Staff of the department has been trained for using the application.

Video Conferencing Facility

Monthly monitoring of the project is done by the Joint Registrar and other officers of Monitoring Cell of ICDP with officials of the districts, face-to-face through the powerful Video Conferencing studios located in each of the NIC district Centres. This facilitates the online monitoring of projects.

Citizen to Government (C2G):

C2G constitute the area where the citizens directly interact with the Government. Citizens' feedback is a must for improving the Government services and unless the Government responds to the citizens, it remains a distant dream for the Government to know what exactly needs to be planned. "e-ICDP" a web based application is taking feedback from societies to know what exactly needs to be planned. Apart from the feedback in the software e-ICDP, one can also send the feedback to Joint Registrar of ICDP through e-mail.

2. Efficiency Improvement

Time and Cost Efficiency Improvements in Delivering the Above Set of Services

- Since 'e-ICDP' is a web-based Application all the information is provided instantly by district offices to Monitoring Cell at the State.
- Tour and travelling expenses are reduced
- Monthly Monitoring of the Project through Video Conferencing is free of cost to the department by NIC which is reducing time and cost for tour and travel of officials of the districts.

Time and cost savings for the key stakeholders to avail the above set of services.

- i. Quick and accurate information to the key stakeholders
- ii. Delay in the Administrative processing is reduced
- iii. Travelling expenses are reduced

Specific innovative ideas implemented in e-Gov area; best practices implemented Initiatives integrated with other departments

- Achievement Calculation on the Basis of Grassroot Level Data (like loan, share capital and subsidy given to co-operative societies), generating achievement, not taking as an input from District offices of ICDP, that will be reducing corruption.
- Impact Study on the basis of Year-wise Grassroot Level Data. This is giving the improvement in performance of societies after assisting them.
- Data Collected for Impact Study facilitates in preparing Business Development Plan (BDP).
- Uniform Code for the State, Districts and Blocks and Society Code for integration with other applications of other/same Department.
- Modules developed for Loan Management and Share Capital Management will be used in other/same department.
- Complete software of e-ICDP can be linked with other departments application like in e-cooperative complete software of ICDP is going to link.
- We have use Unicode for Hindi data, this will facilitate for other languages in other States.

III) Enabler Indicators

1. Project Roadmap

Vision Defined

- To uplift the below poverty line and destitute population
- Infrastructure Development of Co-operative Societies
- To strengthen the Business of societies

Objectives Defined

- To help the Government in effective monitoring of project
- To bring transparency in the system

- To provide fast and accurate information to the Government for strategic decisions
- To track the defaulters.

Measurable Objectives

- To measure the performance of the societies on various parameters before and after providing Assistance (Loan, Share Capital and Subsidy) i.e. IMPACT ANALYSIS
- Achievement Analysis
- Business Development Plan

Project Milestones

- Project Proposal
- SRS (Software Requirement Specification)
- SDD (Software Design Document)
- Coding
- USER Manual
- Implementation

2. Process Reengineering & Legal Reforms

Major Front-end Process Changes

- There were no uniform Sectors, Sub Sectors, Item, Sub Item, Minor Item etc. They were different in every districts.
- Loan recovery method was different in every district.
- Every Sub Sector had different and long application form. So re-design of common application form for all societies and specific application form for Dairy, PACS and Fisheries was needed.

Major Back-end Process Changes

- Uniform Codes for State, District, Blocks and Tehsil
- Unicode data

3. Project Sustainability

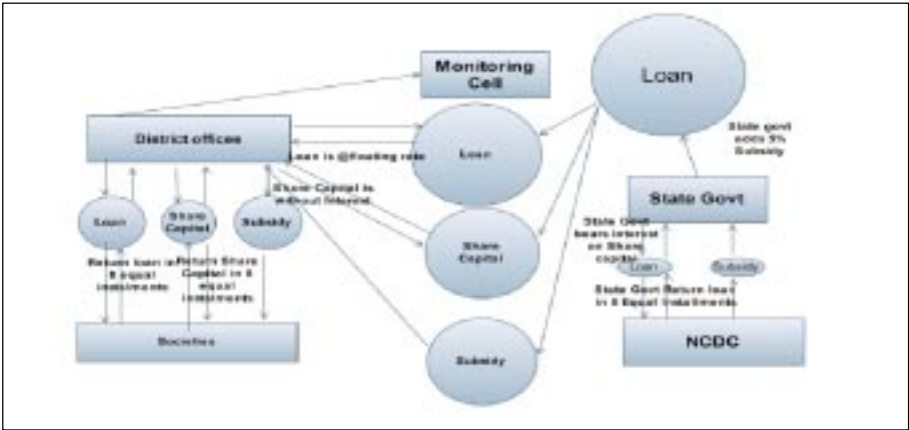
Financial model (funding pattern, business model, PPP, etc)

Funding Pattern

- This is a paid project assigned to NIC for Design, Development and implementation. Existing resources of Office of Registrar Co-operative Societies, M.P. have been used. NIC resources at state centre like IDC, NICNET and district centers have been used. Video Conferencing of NIC has been used for monitoring.

Business Model

- The Project has been developed by using three tier architecture using MicroSoft Dot net technology and MS SQL Server at Back end, with Unicode.



PPP

- Not Applicable

Technology Maintenance

- Application is hosted at NIC data center and maintained by NIC.

Disaster Recovery Center

Project management team (full time department officials/ consultants)

- Prakash Khare, Director Projects (Monitoring Cell, ICDP) and Joint Commissioner, Cooperation, MP.

- Meera Aswaal, Deputy Commissioner (ICDP Monitoring Cell) Cooperation, M.P
- A.N. Siddiqui, Technical Director, NIC

4. Change Management

Change Management Strategy

- Change management requires both an individual and an organisational perspective
- In individual Change Management:

ADKAR Presents an Easy-to-use Model for Individual Change

The first step in managing any type of organisational change is understanding how to manage change with a single individual. Prosci's model of individual change is called ADKAR – an acronym for Awareness, Desire, Knowledge, Ability and Reinforcement. In essence, to make a change successfully an individual needs:

- Awareness of the need for change
- Desire to participate and support the change
- Knowledge on how to change
- Ability to implement required skills and behaviors
- Reinforcement to sustain the change

ADKAR describes successful change at the individual level. When an organisation undertakes an initiative, that change only happens when the employees who have to do their jobs differently can say with confidence, “I have the Awareness, Desire, Knowledge, Ability and Reinforcement to make this change happen.”

- **Organisational Change Management:** Understanding what tools we have to help individuals make changes successfully

-Tools like communication and training are often the only activities when no structured approach is applied.

Capacity Building Plan

- Training of Computer Awareness and Application specific to the General Managers and staff of ICDP districts.
- Training of Computer Awareness and Application specific to the Officers at Monitoring Cell at state
- Monthly Video Conferencing to interact with the users.

Leadership Support & Visibility

- Regular discussions with Joint Registrar, Deputy Registrar and Assistant Registrar for development of ICT based system.

5. Project Monitoring**Monitoring & Evaluation Process**

- Monthly Video Conferencing by Joint Registrar, Monitoring Cell at State level.
- District Level Monitoring by General Managers, ICDP Projects.

User Feedback, Project Assessment Mechanism

- Through Monthly Video Conferencing
- Through Email and telephone

Third Party Overall Project Audit Mechanism

- Already submitted for Security Audit, to NIC headquarters, Delhi.

(Tajwar Musharraf, Scientist-C, NIC M.P State Centre, C-Wing Basement, Vindhyachal Bhawan Bhopal – 462004, Madhya Pradesh, Telephone no. +91-(0755)-2551265 ext 261, Email: tajwar@nic.in).

Drug Logistics Information & Management System

Ramila ben S Patel

I) Project Overview

Central Medical Stores Organisation (CMSO) has been entrusted with the function of procurement, storage & distribution of Medicines, Surgical goods, Medical equipments/Instruments & Insecticides for the Health Institutions of Government of Gujarat. In this reference activities and functions of CMSO in brief are as under:

- Procurement, storage and distribution of medicines, drugs, injectables, surgical goods and medical equipments on behalf of Health & Family Welfare Department.
- Distribution network covers medical colleges, district and taluka hospitals, community health centers and municipal corporation (435 Direct Demanding Officer)
- Facilitate supply of medicines & drugs at the time of epidemics and emergencies
- Quality assurance of above supply.

It was conceptualized to use latest information and communication technology and the facility of Gujarat State Wide Area Network (GSWAN) a dedicated network of Government of Gujarat to facilitate and improve the existing system and overall functioning of the organisation. National Informatics Centre (NIC) Gujarat State Unit was requested to develop such system. After studying various functionalities in depth an online web-based application named Drug logistics Information and Management System (DLIMS) has been developed by NIC

integrating various inter-related activities of the office. Following are the benefits experienced with the implementation of the system

- (1) To receive indent from about 430 direct demanding offices spread over the state earlier a manually filled-in indent were received through post and data entry was done centrally to consolidate the overall demand. With the implementation of DLIMS indenting become online and it saved the manpower required to centralized entry, saved time in receiving manually filled indent and communication lapses thereof. Because of decentralized entry it is now possible to workout variation in requirement easily and indenter also in a position to see their indent status online.
- (2) All activities indenting, procurement, receipt, dispatch, billing etc are integrated in a single database so accuracy is maintained throughout the process.
- (3) No duplication of data due to central database.
- (4) Suppliers are a part of system, which increase the transparency of the process.
- (5) Due to maximum automation of various activities time and cost saved considerably.

II) Result Indicators

1. Key Performance

a. Stakeholder-wise Services and Benefits of ICT/eGov Initiatives

The stakeholders of this system are the concern employees', suppliers and direct Demanding Officers.

DLIMs has brought about a significant Co-ordination between various Govt. Agencies such as the CMSO, Commissionerate of Health both located at Gandhinagar, & state wide health organisations (up to CHC level) i.e District Medical Hospitals, Community Health Centres, District Health Offices and other Govt. Health Organisations.

The important offshoot of DLIMs is the vendor interface. Vendors have been issued a User Id, Password to access DLIMS through NET. As all the transactions are made transparently online, efficiency has increased.

The DDOs get timely needed drugs. Ultimately, all over the state, no patients has to go back without medicine.

b. Implementation Coverage

Practically the whole state of Gujarat has been covered under this project. Today approximately 457 DDOs can get required medicines, without any delay.

2. Efficiency Improvement**a. Time and Cost Efficiency Improvements in Delivering the Above Set of Services**

1. To receive indent from about 457 direct demanding offices spread over the state earlier a manually filled-in indent were received through post and data entry was done centrally to consolidate the overall demand. With the implementation of DLIMS indenting become online and it saved the manpower required to centralized entry, saved time in receiving manually filled indent and communication lapses thereof.
2. Monitoring of requirement vs. availability of stock is now automatic.
3. Payment orders are automatically generated by entering required quantity.
4. Suppliers automatically get intimation of the orders placed.
5. As suppliers enter details of delivery, it is automatically reflected to depot.
6. Stock gets automatically updated on receipt of delivery.
7. Activities like generating notices for late supply, risk purchase orders etc. gets automatically generated.
8. Accounts wing receives intimation automatically when depot enters receipt.
9. Stock gets automatically updated on issuing drugs and medicines to indenting offices.

b. Time and Cost Savings for the Key Stakeholders to Avail the Above Set of Services

All stakeholders can see online status of various activities which enhanced the transparency and saved time in getting necessary information, for which previously phone calls, mails and sometimes personal visits were required.

c. Specific Innovative Ideas Implemented in e-Gov Area; Best Practices Implemented***Initiatives Integrated with other Departments***

DLIMS is a unique system, pioneered by the C.M.S.O., Gujarat. This system has brought about a significant co-ordination between various Govt. agencies

such as CMSO, Health Commissionerate, CDHOs, CHCs and PHCs and Vendors.

II) Enabler Indicators

1. Project Roadmap

a. Vision Defined

To improve the efficiency and effectiveness of drug logistics system via information and communication technology so as to deliver quality healthcare services to patient.

b. Objectives Defined

1. To improve efficiency and effectiveness of drug logistics and warehousing system.
2. Using latest information and communication technology to improve various functions like procurement; indenting, placing order, bill payment etc. to serve in a better and effective manner.
3. To facilitate continuous online monitoring of all activities.
4. To integrate all inter-related activities through common database to avoid redundancy, increase accuracy and transparency.

c. Measurable Objectives

- Reduction in Time gap between actual indenting and supplies to Direct demanding officers.
- Timely supplies from vendors as per terms and conditions.
- Timely distribution to DDOs with least transport overheads.

d. Project Milestones

The project has been successfully executed and today 457 Direct Demanding Officers spread all over the State, are getting timely quality drugs and hence almost no patient has to go back with empty handed.

2. Process Re-engineering & Legal Reforms

a. Major Front-end Process Changes

DLIMS has been developed by considering all legal aspects of Tendering process and in consultation necessary changes are made as per requirement of all stakeholders.

b. Major Back-end Process Changes

A technical cell in CMSO, with the support of National informatics centre, constantly monitors the whole process of indenting to supply of drugs to DDOs.

3. Project Sustainability**a. Financial Model (funding pattern, business model, PPP, etc)**

The whole project is fully financed and maintained from the budget of state Government.

b. Technology Maintenance

Technology maintenance and upgradation is carried out by National Informatics Centre Gujarat.

c. Disaster Recovery Center

As this system is hosted on Central server of National Informatics Centre, which is considered as safe and also having sound technical backup with reference to technical manpower and other technical resources for disaster recovery, backup services etc.

d. Project Management Team (full time department officials/ consultants)

This project is managed by Director of Central Medical Stores Organisation with assistance of Technical cell in CMSO and Technical support of National Informatics Centre.

4. Change Management**a. Change Management Strategy**

1. In the earlier system only few employees were working on computer while in the present DLIMS all employees are doing their work online at their own, which shows capacity building in the area of computerization.
2. Earlier all indenting offices had to send indent by post, with the implementation DLIMS significant saving with reference to time and cost has been experienced due to online indenting.
3. Supplier had to use phone call for communication for various inquiries to know the status of R.C., order detail, dispatch etc. With the implementation of this system all cost and time incurred is saved in these areas also.

4. System conceptualized by Central Medical Stores Organisation and developed by National Informatics Centre, Gujarat State unit , so not much cost incurred in development except payment to the programmer hired for coding which is very less compared to the benefit to the organisation.

b. Capacity Building Plan

With the support of NIC, the concerned officials at all levels i.e. at CMSO, health commissionerate, CDHO, CHC and PHC are adequately trained and vendors are kept fully informed so that system can function effectively.

c. Leadership Support & Visibility

CMSO and NIC has provided all basic inputs i.e. developing system providing software and constant training and updation to make DLIMS a notable success. The end results are visible as each DDO can get quality drug in time and no patient has to return empty handed.

5. Project Monitoring

a. Monitoring & Evaluation Process

A technical cell at CMSO monitors the functioning of DLIMS on a day-to-day basis and corrective actions are taken immediately. The IT committee meets quarterly to evaluate the DLIMS and if necessary suggests corrective measures.

b. User Feedback, Project Assessment Mechanism

A technical cell at CMSO monitors the functioning of DLIMS on a day-to-day basis, all users if they found any problem with system informs this to the cell and the cell with technical support of NIC tries to take corrective action mostly within 24 hours. This project is constantly monitored by Director, CMSO.

c. Third Party Overall Project Audit Mechanism

The NIC, with whose support DLIMS was conceived makes audit time-to-time and suggest corrective measures, so third party audit mechanisms are not required.

(Ramila Ben S Patel, System Analyst, Central Medical Stores Organisation, Gandhinagar, Gujarat. The author can be reached at sac-cmso@gujarat.gov.in).

Xtended Green Node (XGN)

P J Vachhani

I) Project Overview

XGN has been developed by NIC-Gujarat in association with Gujarat Pollution Control Board (GPCB), facilitating the users in their day-to-day dealings at 13 Regional Offices in 25 Districts in Gujarat, including approximately 17,000 Industries and over 25000 'Bio Medical wastes' generators including Hospitals spread across Gujarat. XGN is successfully launched on 5th June 2008 and proved instrumental in effective implementation of Pollution Control Act, Rules and Notifications. Acts covered are Air, Water, Hazardous Waste, Bio Medical Waste, and Plastic. The Stack Holders of the XGN are different types of users at the Regional Offices, Head Office, Industries, Hospitals/Clinics (Pvt. & Govt.), Local Bodies and operators of CETPs, TSDFs, CBWTFs. The core of XGN lies in e-movement and online processing of e-files leading to stoppage of Physical Files.

II) Result Indicators

1. Key Performance

a. Stakeholder-wise Services and Benefits of ICT/eGov Initiatives

The stakeholders of this service are Staff of GPCB, Industries, Health care units, Operator of CETPs/TSDFs/CBMWTFs, Urban local bodies.

Average daily users are approx 75 Technical Staff and 70 Scientists of GPCB, 625 Industries and 65 Hospitals/Clinic.

G2B

- Online NOC/CCA Application after Profile Updation, Uploading the Forms-File Pages as PDFs (34 pre defined ones as per the type of Application, Sector, Acts etc.)

- Status of the Application through SMS at any of the 8 Stages of processing.
- Online Queries on NET as well as SMS/Giving Replies.
- Industries can takeout print of their Bills/Payment Receipts/Assessment Orders/Analytical Result & Inspection-Samples history for a period.
- Any Transaction/Approval at any stage saved as a message in e-Box for further reference.
- Effective e-Talk between Govt. & Business Users.
- Alerts towards any expiry of Consents/Payment due Dates>Returns.

G2G

- Public Health Centres/C-Health Centres, Govt. Hospitals are a significant beneficiary of the Bio Medical Waste module.
- The 183 Local Bodies are the core of the Municipal Solid Waste module as far as monitoring of Municipal Solid Waste is concerned.
- The Inventory of Hazardous generated by Industries and its eventual Treatment/Disposal by TSDFs forms an important data flow for the CPCB, MoEF.
- Products/Raw Material/ Consent of Authorisation and Validity forms an important base for decision by the Industries Department – Government of Gujarat.
- Analysis & Compilation of data leads to Management Information System related reports for Departmental Studies.
- All LAQs and RTI replies are done through XGN in completeness.
- Important base for Industries Department, Planning Department, Water Resources Department etc.

G2C

- In case of Natural disaster Bulk SMS to a group of endusers. Already send more than 25000 SMSes. On 18/02/2009 Bulk SMSes sent to the Narol GIDC Industrial area of Ahmedabad for damage in Mega Pipeline sump no. 3.
- Sector/Product wise list of Industries
- Monitoring of Public Complaints.

b. Implementation Coverage (geographical areas covered under pilot, roll-out, next steps, % of total services covered under the lifecycle of projects processes, % of total branches/ departments covered by the project)

Industries and Hospitals spread all over Gujarat are using XGN. 10 modules are implemented and 5 modules are under development.

Modules Implemented

- Industry Profile
(Sector, Location, Scale, Previous NOC-Authorization Details, Products, Raw Material, Investment and Air/Water/Hazardous Technicalities etc.)
- Online application Module
(For the Industries (NOC/CCA Application, Uploading Pages, Fee Payment etc.)
- Application Scrutiny system
(e-Talk forms the base)
- e-File movement
(Up to the final GRANT/REJECT Putting up to Queries, Replies, Noting, comments etc.)
- Inspection
(Visits allocation, Inspection Due, Monthly Progress Report(MRP), Head Office references, Freezing of Inspection Report etc.)
- Laboratory
(Sample Collection, dummyming, Parameter Allotment, Testing Results, Reflection to various levels etc.)
- Accounting
(Application fees, Lab Bills/Payments etc.)
- GPCB/CPCB Projects
(Sampling Points Parameters GEMS/MINARS/AAQM etc.)
- Hazardous waste tracking
(Generation/Manifests/Disposal/Recycling etc.)
- Bio-Medical
(Covers all the above modules for Industries in brief, but with different parameters)

Modules under Development

- Legal
(Show Cause Notice/Closure Direction/Bank Guarantees)
- Public grievances/complaints redressal system
(a G2C utility)
- Municipal Solid Waste
(Covers all the above modules for Industries in brief, but with different parameters)
- Water Cess
(Billing, Payment, Notices, Accounts etc.)
- General File movement.

2. Efficiency Improvement

a. Time and Cost Efficiency Improvements in Delivering the Above Set of Services

Technical Unit Head, Regional Officer, The Stack holders can work 24x7 at their home also. With the facility of online e-talk there is no need to visit Regional Office by the industry.

Curtain the time limit and Resources

b. Time and Cost Savings for the Key Stakeholders to Avail the Above Set of Services

c. Specific Innovative Ideas Implemented in eGov Area; Best Practices Implemented

Initiatives integrated with other departments.

III) Enabler Indicators

1. Project Roadmap

a. Vision Defined

b. Objectives Defined

- Standardization has come into place at units of Head Office, Regional Offices and Industries responses.

- Physical File Movement has been completely stopped for Industrial CTE, CCA. No more forwarding of Physical Inspection reports, whereas for BMW, the entire cycle is through XGN and no Physical submission of Application.
- Speedy disposal of CTE,CCA through Technology Usage.
- A Transparent e-Movement from Regional Offices to Head Office.
- Consent Grant/Reject within 45 days.
- Monitoring of Technical Parameters related to Air/Water/Hazardous.
- Monitoring Previous Inspection and Sample History for reviews.
- Widening the base of industries registered with GPCB.
- Monitoring of Ground Water/Surface Water/Ambient Air, through GEMS, MINAR, AAQM project etc.
- Timely Alerts for Renewals/Expiry of CCAs & Payment Dues.
- Effective Monitoring of Hazardous, Bio Medical Waste generation, its treatment and eventual disposal. (cradle to grave)
- Effective Online Interaction between GPCB Staff-Industries through e-TALK.
- Isolation of Sample Collections from Parameter Testing and Result Reflections.
- A generalized Public Complaints Redressal System.

c. Measurable Objectives

d. Project Milestones

2. Process Re-engineering & Legal Reforms

a. Major Front-end Process Changes

Physical file transfer is completely stopped from Regional office to Head office there by reducing— % of inwards after implementing XGN at head office. The application inward at respective unit at head office is completely closed. Transfer of Laboratory data sheet with sample is completely stopped. Person who visits the industry, entered visit report and data sheet details of the sample on daily basis.

b. Major Back-end Process Changes

3. Project Sustainability

c. Financial Model (funding pattern, business model, PPP, etc)

Industries can see their analysis result only after deposit the amount of analysis charges. These effective changes resulted in increase of revenue of the Board. Stoppage of Physical file transfer also reduced the postal expenses. After successful implementation of XGN in Gujarat, helped in Himachal Pradesh Pollution Control Board is going to inaugurate XGN with HIMXGN name on 5th June 2009. Other State Pollution Control Boards also planning to implement XGN. Top Level Management can easily review the performance of Regional Offices and Technical Units at a glance.

After XGN, Unit head of head office can monitor the activity going on in their respective Regional office and Regional officer can view the status of any industry, which is possible only through XGN.

Indiscretions of data submitted for Water Consumption to levy water cess can be counter checked with Water Consumption data furnished in Consent application. This has resulted into increase in revenue of the Board.

Future Plan: Unit head at Head Office and Regional Officer at region level can only grant or reject the consent with help of bio metric technology. This will stop the issue of illegal or unauthorized consent.

Mapping of this database with Geographical Information System (GIS) will help us to identify the ground level specific features, which will help us to identify new industrial spot based on Pollution sensitivity for sustainable development of the state.

d. Technology Maintenance

e. Disaster Recovery Center

f. Project Management Team (full time department officials/consultants)

4. Change Management

g. Change Management Strategy

h. Capacity Building Plan

i. Leadership Support & Visibility

5. Project Monitoring

j. Monitoring & Evaluation Process

k. User Feedback, Project Assessment Mechanism of Industry is Happy with XGN.

l. Third Party Overall Project Audit Mechanism

(P J Vachhani, Environmental Engineer, Gujarat Pollution Control Board Paryavaran Bhavan, Gandhinagar Gujarat. The author can be reached at unit1-uh-gpcb@gujarat.gov.in).

GeoAmpere – An Intelligent Decision Support System for Electrical Network Planning

Dhiraj Kumar Muniya

I) Project Overview

Madhya Pradesh Paschim Kshetra Vidyut Vitaran Company Ltd. (“MPPKVVCL” or “West Discom”) was formed in 2002 as a result of unbundling of the Madhya Pradesh State Electricity Board. It owns and manages distribution and retail supply of electricity in the area comprising the Revenue Commissionaires of Indore and Ujjain in Madhya Pradesh.

The Company is responsible for all activities associated with distribution of power within its territory, including management of assets, operation and maintenance of network and supply, technical and financial planning, business development and management of human resources, legal and regulatory affairs.

There are about 12178 employees in the company at present, most of whom were originally functionaries in their current positions within the MPSEB. The company operates through two regions namely Indore and Ujjain. Further Indore and Ujjain regions are subdivided into 7 and 6 circles respectively. Circles are further divided into total 377 distribution centres. The Company currently serves approximately 28 lakhs customers (including HT consumers and temporary consumers), and manages about 199829 km of lines, 945 sub-stations, and over 80000 distribution transformers. In 2008-09, the distribution system conveyed 12,655 MU of energy.

Majority of customers of the company draw power under Low Tension Domestic category. Agricultural connections (24.48 %) account for the second largest connections for the company, followed by LT Non Domestic/ Commercial

(7.97%). High Tension consumers represent much less than 1% of connections, while other consumers such as the low-tension, commercial and public services segments make up the remaining connections.

High-tension consumers, although small in number, nevertheless represent a considerable portion of the system's units (35.67%) due to their intensive usage of electricity. On the other hand, agricultural connections have a relatively lower power demand which tends to be concentrated over the Rabi season each year, from October to March, when their pumps are active. This, in turn, negatively affects the load factor and hence the technical efficiency in supplying agricultural consumers. However, agricultural connections consume a significant proportion of total energy delivered in the system due to constant running of their pumps during the Rabi season in available supply hours.

II) Result Indicators

1. Key Performance

- a. Stakeholder wise services and benefits of ICT/eGov initiatives – GeoAmpere has benefited at consumer and organisation level. Thousands of consumers are benefited from each proposal evaluated by GeoAmpere software and it also helps organisation to manage better with scarce resources.
- b. Implementation coverage (geographical areas covered under pilot, roll-out, next steps, % of total services covered under the lifecycle of projects processes, % of total branches/departments covered by the project) – GeoAmpere software is functional at corporate level & it covers 33 KV lines and 11 KV lines up to village level radiating from 33/11 KV substations spread over nearly 75000 Sq KM company area. The next step is to provide access to the 13 nos. O&M circles and 49 nos. Divisions through implementing web based module. GEOAMPERE has enabled 60 nos. 33/11 KV substations erection & 65 nos. 33/11 KV substation bifurcation through systematic and scientific evaluation. This has resulted in loss reduction of 84 million units of electricity and annual savings accrued is to the tune of Rs. 210 million. GeoAmpere has covered all the 12029 villages in its database. 1890 villages with 3.4 million populations got benefited through proper planning since its implementation.

2. Efficiency Improvement

a. Time and cost efficiency improvements in delivering the above set of services through GEOAMPERE has cut the response time almost by 1/6.

b. Pre Project State

- No digitized data of 33 KV and 11 KV lines integrated with the village profile was available.
- Line diagrams of 33 KV and 11 KV lines were available on A2 and A4 Size papers and were used for evolution of proposals. The interconnectivity and possible alternatives/geographic attributes were not available.
- Scale of 1 Inch = 2 mile were not sufficient to show all the attributes and computation of distance was not possible with expected level of accuracy over paper maps.

c. Post Project State

- Verification of the spread & location of electrical resource/assets is available in digitized format.
- Distance computation is available and software is capable of measuring air distance as well as the route lengths with its built-in traverse-aid and distance computation tool.
- Locating a village, feeder or substation is prompt due to incorporation of the query tools.
- The map output can be printed over desired scale and the output can be taken in different formats such as Graphic image file, Bitmap image file and in PDF format.
- Displays of other vital features (road, railway, forest, river etc) are available in addition to electrical resources to analyze in reference of other infrastructure facilities.

d. Time and cost savings for the key stakeholders to avail the above set of services

Earlier evaluation of any new substation was a tedious job with involvement of employees at each level such as Regional office, Circle, Division and Distribution center . Examination of a proposal was taking minimum 3 days time, now with the help of GeoAmpere Software, it can be done in 4 hours time. Since the software greatly facilitates in optimization of the network, substantial savings are

achieved in Capital Expenditure/operations cost. With the help of GeoAmpere 125 proposals have been evaluated, out of which 65 cases saved Rs.35 Million by identification of alternatives and in 60 cases Rs.175 Million is saved by loss reduction through identification of correct location of new 33/11 KV substations.

e. Specific innovative ideas implemented in eGov area; best practices implemented

Initiatives integrated with other departments – GeoAmpere software integrates census data like population and % of SC/ST in the village. Its powerful search engine expedite the process of locating any village along with its profile to give a holistic view in planning stage of any new substation.

III) Enabler Indicators

1. Project Roadmap

a. Vision Defined

Transforming from heuristic based approach to precise, scientific and optimal planning for electrical network through user-friendly, low-cost Geomatics-based decision support system

b. Objectives Defined

- Creation of spatial database of Power Distribution Network (Sub-stations & Feeders) along with administrative locations/ boundaries, major road & railway, forest and integration with attributes.
- Identification of the portion of feeders for re-orientation for making optimum utilization of available resources and loss reduction.
- Creation of Transparent system for selection of proposals for system strengthening, voltage improvement and loss reduction.

c. Measurable Objectives

Installation of new 33/11 KV substation & bifurcation of 33/11 KV substations, reduction in T& D losses of electricity, number of villages and populations benefited, monetary benefits

d. Project Milestones

At present GeoAmpere is functional at 33/11 KV substation and 11 KV lines up to village level but it has to further reach across the organisation. It has to

penetrate further to 11 KV up to Distribution transformer level and LT network level

2. Salient Features

The following are some of the salient features of GeoAmpere.

Open-ended Design

Presently, it covers habitations demography facilities & power attributes conveniently distributed in 4 application areas for illustrative purpose. However, GeoAmpere offers a seamless integration of any additional facility owing to its open-ended design.

Thematic Maps

Thematic maps are often required to provide decision support information for spatial planning in several key areas. GeoAmpere facilitates efficient generation and display of sector-wise thematic maps directly by the enduser to enable situation analysis and gain an insight for proper decision-making. It also supports map tool bar (zoom, pan) on any thematic map. It also provides map composition features.

Display of Habitation & Load Profile

Habitation profile is a template containing a set of predefined attributes of the habitation (habitation/ village name, population details with name of EH/SS, name of the feeder, load details & DTR's etc). User can view the profile of any specific habitation by clicking on the habitation in the map or by choosing the name of the desired habitation from the habitation menu list displayed on the screen.

Sub-Station & Feeder Information

As GeoAmpere encompasses power network inventory, key information corresponding to any selected sub-station/feeder on the map can be easily obtained. The information may consist of category wise details of feeder along with names of habitation benefited, no. of DTR connected & load attributes.

Built-in Traverse-aid

GeoAmpere has a built-in traverse-aid which can be used for traversing between any two or more locations and for computing the traversed distance on the map.

Spatial Editing

GeoAmpere facilitates editing/updating of spatial layers using editor-tool. It also allows to update the key attributes pertaining to the spatial layers on fly.

User-friendly Interface

GeoAmpere provides an interactive and user-friendly interface and it does not require any GIS expertise for its operation. It requires about 4-5 hours of learning time and could be thus easily deployed where the operating personnel are usually novices.

3. Process Re-engineering & Legal Reforms

a. Major Front-end Process Changes

Elimination of paper based records and receipt of input data in electronic form.

b. Major Back-end Process Changes

Intelligent Data analysis through GeoAmpere software system for planning of the electronic network.

4. Project Sustainability

a. Financial Model (funding pattern, business model, PPP, etc)

Major cost items are software and hardware support which were met through internal resources.

b. Technology Maintenance

Technology maintenance is taken care of by company staff but in case of critical technological aspects support is sought from NIC.

c. Disaster Recovery Center – Planned

d. Project Management Team (full time department officials/consultants)

Project management team consists of following key members:

- i. Superintendent Engineer (Works)
- ii. Executive Engineer (Planning)
- iii. Executive Engineer (Computer)
- iv. Assistant Engineer (Planning)
- v. Junior Engineer (Planning).

5. Change Management

a. Change Management Strategy

At present GeoAmpere is operational at corporate level but as per our strategy GeoAmpere is planned to be implemented at 2 regions, 13 circles and 49 divisions

across the organisation to make GeoAmpere an integral part in network planning process.

b. Capacity Building Plan

West Discom has made concrete plan to train company staff about GeoAmpere software and investing in infrastructure (software and hardware) for making GeoAmpere a grand success across the organisation level.

c. Leadership Support & Visibility

Implementation of GeoAmpere software is top management driven initiative that aims to make network planning more effective and sustainable with minimum human intervention. A dedicated project team is already constituted to meet the vision and objective of GeoAmpere project.

6. Project Monitoring

a. Monitoring & Evaluation Process

Project monitoring & evaluation is done with respect to number of substations added and bifurcated and benefits thus accrued thereon for villages and populations.

b. User Feedback, Project Assessment Mechanism

Feedback and project assessment mechanism is based upon status of pilot running project.

c. Third party overall project audit mechanism – None at present.

7. Highlights

- 1) Award for Excellence in e-Governance Initiative in Madhya Pradesh 2008-09 under Best Application Software Design & implementation by Government of Madhya Pradesh.
(Copy Enclosed : GeoAmpere_annex1.pdf)
- 2) Appreciation by Chairman & Managing Director, Madhya Pradesh Paschim Kshetra Vidyut Vitaran Company Limited (MPPKVCo. Ltd), Indore
(Copy Enclosed :GeoAmpere_annex1.pdf).
- 3) Appreciation letter of Dr. V.D. Garde, Chairman Valedictory Session, Geomatics-2008 Conference (Copy Enclosed :GeoAmpere_annex1.pdf).

- 4) Paper entitled “Building Enterprise DSS using ArcGIS Engine GeoAmpere – A Case Study” was presented in National ESRI Annual User Conference 2009 at New Delhi (Copy Enclosed).
- 5) Paper entitled “GeoAmpere : Geomatics-based Application Model for Planning Distribution of Electricity to Rural Entity” was presented in Geomatics-2008 national conference.
- 6) Members of M.P. Electricity Regulatory Commission (MPERC) appreciated GeoAmpere during the demonstration.
- 7) GeoAmpere was also presented to Ministry of Power, GoI & Rural Electrification Corporation (REC), GoI Undertaking. Team of officials of REC & MoP visited the state to discuss the development of GeoAmpere which was widely appreciated and GeoAmpere formed the baseline for the project “ GIS Based Power Distribution System For Rural Electrification Under Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) Program “ and 2 districts of M.P. were taken for pilot development under the project of national importance.

(Dhiraj Kumar Muniya, Assistant Engineer, Distribution Planning Cell, Madhya Pradesh Paschim Kshetra Vidyut Vitaran Co. Ltd., Indore, Madhya Pradesh. The author can be reached at dhiraj_1968@yahoo.com).

GePNIC-Government e-Procurement Application

Nihar Ranjan Biswal

I) Project Overview

Sound Public Procurement is a valid arm for promoting Good Governance and better fiscal management of projects. With the vision of bringing various reforms related to public procurement under the administrative reforms, Govt. of Orissa with World Bank assistance and guidelines formulated an agenda out of which e-Procurement was a priority area. Since during that period; NIC was already engaged in e-Procurement activities, the Govt. of Orissa requested it to work towards achieving a common goal. With the principle that *what is good for citizen is good for the Government*, Govt. of Orissa and NIC committed to adopt e-Procurement as a major e-Governance initiative to bring transparency in public procurement process. With introduction of **GePNIC (Government e-Procurement Application of National Informatics Centre)** in 2008 by NIC, achieving the goal became a reality.

Any time, Any where tender publishing and bidding feature of GePNIC, has added convenience and flexibility for bidders and improved the efficiency for departmental users. Implementation of the project has saved lot of cost and time as compared to the conventional ways of manual tendering. Reduction in cartel formation, tender related crimes and with increased participation base has led to a better and cleaner society. The GePNIC system has given the reformist face to the Government & empowerment to bidders. Reductions in adverse press reports in tendering process, National level recognition for project and Acclamation for creating social impact have added to the reformist face of the Government. Bidders have been empowered for Remote submission of bids, Reduced bidding costs, No more dependence on departmental officials.

GePNIC being a Mission Mode e-Governance application caters to works related tendering activities, which accounts to almost 85% of Orissa Government's procurement budget. NIC has extended services like Business Process Reengineering, Software Design and Development, Operations and Maintenances of the system, Training and Management, Hosting of GePNIC web Application, Issue and Management of Digital Signature Certificates, Mail services required in the application, Redundant Network connectivity, Data Centre services, & SAN storages etc. It also assisted Govt. of Orissa in various other Programme Management issues.

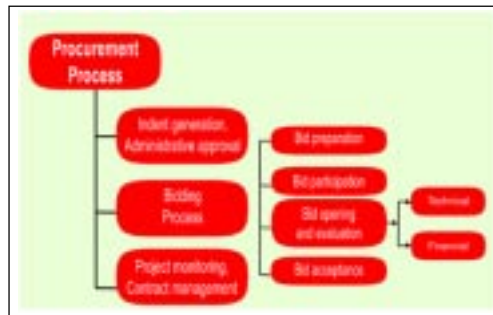
The challenges faced during the development, planning and implementation of the project in the state of Orissa and the steps taken starting from Process Reengineering to Change management, from implementation of innovative ideas & best practices to project monitoring, to overcome the issues with an amazing success result, is thus creating a precedence for other states to adopt the same.

GePNIC application uses latest technological aspects like the use of DSC (Digital Signature Certificates) for the purpose of signing, authentication, encryption, decryption of bid documents for the purpose of confidentiality along with open source tools.

II) Result Indicators

1. Key Performance

a. Stakeholder wise services and benefits of ICT/eGov initiatives.



Stakeholder I: State Government

Departments (Tender Inviting authorities, Bid Openers, Evaluators etc.)

Services Provided through GePNIC

- **Tender Management** – Department officers have been enabled to create and publish the tenders online along with corrigendum.
- **Bid Opening** – Department bid openers open technical and financial bids online in stages. These bids can only be opened after the designated time and only by the pre selected bid openers.
- **Bid evaluation** – The financial evaluation is done automatically and comparison chart is generated indicating the L1 and other bidders. Technical evaluation is done manually.

- **Award of contract** – The award of the project is automatically intimated to the bidder by mail and through the portal, and any public can see the results of the tendering.

Benefits of ICT / e-Gov Initiatives

- The tender drop box facility was withdrawn which relaxed pressure on Government machineries. Problem of managing multiple sites, bringing them to a centralized location etc. have been done away.
- Earlier tendering, which was considered to be a nightmare activities for the tendering-inviting authority now, it has become a smoother activity. Thus engineers can now focus on the actual constructions and development work instead of wasting valuable time on paper activities only.

Stakeholder II: Bidders

Services Provided through GePNIC

- **Bidder Registration:** The application facilitates free online portal registration for any bidder from any place and it is a self registration process. The bidder also has to register his Digital Signature Certificates to get access to the bidding process.
- **Bid Management:** The bidder could search, prepare and upload his bid documents. The bidders documents are stored in encrypted format thus, not revealing the bidders price and identity, till the bids are opened.
- **Seek Online Clarification:** Bidders could seek any clarification online and would receive the answers over his mail.

Benefits of ICT/e-Gov Initiatives

- The major online extended facilities include easy to search the tender by a bidder, easy registration system, submission of bids by a button click, online seeking tender related clarifications, less scope of malpractice related to tampering of bids, work on holidays, no need of physical presence etc.
- The application is also helping in immediate notification of tender cancellations, Corrigendum issued etc.

Implementation coverage (geographical areas covered under pilot, roll-out, next steps, % of total services covered under the lifecycle of projects processes, % of total branches/departments covered by the project)

- **Pilot Implementation**

GePNIC went through piloting in two identified major engineering departments namely Works and Water resources of Govt. of Orissa on 17th. March 2008. With **mock bidding** practice for prospective bidders and the incentive of waiving of tender cost during pilot, there was a overwhelming response from the participating bidders community as-well-as the department users for adopting this new transparent and easy-to-use process and technology. The piloting activities were carried out for a period of three-and-half months till June 30th 2008 with total of appx. 20 tenders. The pilot launch itself saw bidders participating from remote backward districts of Orissa (Kalahandi from KBK districts that is 500 kms. from Bhubaneswar).

- **Roll Out**

The goal of achieving the objective of adopting e-Procurement as a state wide practice becomes reality with Govt. notification to compulsorily do away with manual tendering processes coming into effect from 1st July 2008, for tenders of value Rs.50 lakhs and above, and for all tenders above Rs.20 lakhs from 1st. Nov. 2008.

Roll out was planned for four major engineering departments like Water Resources, Works Department, Rural Development and Housing, and Urban Development departments which accounts 85% of Govt. of Orissa procurement budgets.

- **Branches Covered by the Project**

As per Govt. order, Works tenders which are more than 20 lakhs of Estimated Cost are done through online GePNIC portal. The offices covered are Chief Engineers offices and Superintendent Engineers and Executive Engineers.

- **Services Covered Under the Life Cycle of the Project Processes**

The prime objective of the Government of Orissa was the e-Tendering. Therefore the modules implemented by GePNIC so far includes

Table 1: Indicates the Number of Offices Covered under e-Procurement Mode				
Departments	No. of Chief Engineers offices	No. of Circles (Superintendent Offices) Engineers	No. of Divisions (Executive offices)	Total
Water Resource	20	27	129	176
Works Departments	6	13	80	99
Rural Development	3	6	50	59
Housing and Urban Development Dept.	1	4	13	18
Grand Total	30	50	272	352

- User Management Module
 - Bidder Registration
 - Department User Registration
- Master Management module
- Tender Management Module
- Bid Management
- Bid Opening
- Bid evaluation(Technical & Financial)
- Award of contract.

With these modules the e-Tendering process completes by 100%.

However, the proposed plan for GePNIC is to add the pre-tendering and post-tendering activities like contract management etc and other value additions like auto technical evaluation modules integration.

2. Efficiency Improvement

Time and cost efficiency improvements in the delivering the above set of services.

- a. The bidder with help of his DSC can submit the tender anytime and from anywhere thus adding convenience and flexibility to the existing process
- b. Online clarification facility of the application also reduces the collusion between the bidder and the department users.

- c. The tender cycle is being completed within six weeks, which used to take about 4 months in manual mode.
- d. In case of re-tendering the available template helped in doing the task in a single day, which used to take months earlier.
- e. Identification of non-responsive tenders and its management becomes extremely easy for hundreds of tender inviting authorities.
- f. In the last state level steering committee it was discussed that opportunity cost to the tune of Rs.72 crores in the year 2008-09 has been saved because of the initiative.

Time and cost savings for the key stakeholders to avail the above set of services.

- g. Withdrawal of Tender Drop Box facility has saved substantial cost of labor, vehicle, fuel, print media advertisement cost and other tangible and intangible costs.
- h. Bidders have saved their travel cost as they can drop the tender from any place any time.

Impact Assessment

With completion of one year of GePNIC implementation an Impact Assessment study was conducted at one of the Chief Engineer of Works Department, which yielded the following results. The details has been provided in the supportive document.

Office Inviting Authority: Chief Engineer Office, National High way, Works Department

	2007-08 (Manual Bidding)	2008-09 (Online Bidding)
Total No. of tenders floated	25	44
Total No. of tenders quoted excess w.r.to Estimated Cost	21	18
Total No. of tenders quoted Less w.r.to Estimated Cost	4	26
Gross Total Estimated value (In cr.)	207.91	334.81
Gross Total Accepted Value (In cr.)	223.47	325.63
Total Amount paid (in Cr.) Excess/Less w.r.to Estimated Cost	15.56 Excess	9.18 Less
Total percentage paid/saved by Govt. w.r.to Estimated Cost	7.4% extra paid	3% Less saved

The above figure supported by department user interaction indicates more participation of bidders leading to competitive prices and has enabled saving to the Government exchequer. In the manual bidding the percentage of Excess quoted tenders w.r.t Estimated Cost was 84%, which has been reduced to 41% after implementation of GePNIC implementation.

Specific innovative ideas implemented in eGov area; best practices implemented Initiatives integrated with other departments

Encryption Process

As security is the key requirement for any bid document, the GePNIC system uses PKI technology while storing the critical documents. The bid documents are digitally signed using the Private key of the Bidder and after signing, the documents are encrypted using Bid Openers Public Keys (min 2 bid openers) and then the encrypted documents are transferred. To ensure that the document is transferred safely to the portal, another key pair is generated in the system and hash is generated using the private key and transferred to the server using Secured Socket Layer (SSL) and once the bid document reaches the server, the hash is regenerated using the public key and checked with the hash generated at source to prevent any fraudulent activity during transfer. The encrypted document resides in the server till the bid opening time and is decrypted in the reverse way during bid opening time.

This project is unique in its nature because of the integration of the above technological inputs that has made GePNIC a robust, secure online web application

- **Secured Socket Layer** – Application is implemented over **Secured Socket Layer** that works on the basis of public key algorithm to encrypt the transaction data and operates on the 128-bit encryption mode. It ensures the high difficulty for the hackers to sniff the data during transmission and in decrypting the same.
- **Public Key Infrastructure (PKI)** – The application binds the user with their own Digital Signature Certificate and use the same for various operations like digital signing, certificate verification, encryption and decryption of data. It also often verifies the validity of the DSC with the appropriate Certifying Authority (CA).

- **Two factor authentication** – It facilitates the authentication of system to be strong enough that malicious user cannot breach the authentication though they know the user name and password of a user.
- **Digital signature on uploaded documents** – Digital Signature facilitates to have a proof of evidence (Non-Repudiation) and integrity on the data. As far as the DSC is concerned, the system does 3 important validations at various events.
 - Certificate Expiration
 - Trust-chain validation
 - CRL Check.
- **Encryption on the sensitive data** – The encrypted information is digitally enveloped and transferred to the server in a secure channel.
- **Decryption of encrypted data** – The application has a security check that minimum 2 or maximum 3 bid openers are required to encrypt and decrypt the same.
- **Audit Log and Trail** – The log files are made as a read-only file that even system administrator cannot alter the content of the log file. Audit trail encompasses the history of the tender.
- **Security filters** –
 - Strong password policy
 - Encrypt the password during transfer and storage.
 - Blocking user after 5 password failures.
 - Asking CAPTCHA in important user input screen.
 - Session tracking.
 - More than one user is not allowed to login at a time with same user name and password.

III) Enabler Indicators

1. Project Roadmap

Vision Defined

Vision: To bring various reforms related to public procurement under the administrative reform agenda of Govt. of Orissa having e-Procurement as a major component that can facilitate to bring in the desired output.

a. Objectives Defined

Objective: The objective was to implement a suitable e-Procurement package in compliance with OPWD code (Orissa Public Works Department) of Govt. of Orissa and to bring transparency in public procurement system while eliminating tender related crimes and malpractices.

b. Measurable Objectives

- Pilot Hosting of Tenders of 1 Crore & Above in dual mode manual as well as online
- Hosting of all tenders of 1 Crore & above only in Online mode from June 2008 (4 identified Departments)
- Hosting of all tenders of 80 lakhs & above only in Online mode from September 2008 (4 identified Departments)
- Hosting of all tenders of 20 lakhs & above only in Online mode from November 2008 (4 identified Departments)

Project Milestones

Piloting: March 2008 – June 2008

DSC issue to pilot departments: Feb 2008- March 2008

e-Procurement Workshops: May 2008 – June 2008

Hardware Installations Severs: Feb 2008

Training of department Users: June 2008 – July 2008

Training to Bidders: June 2008 – August 2008

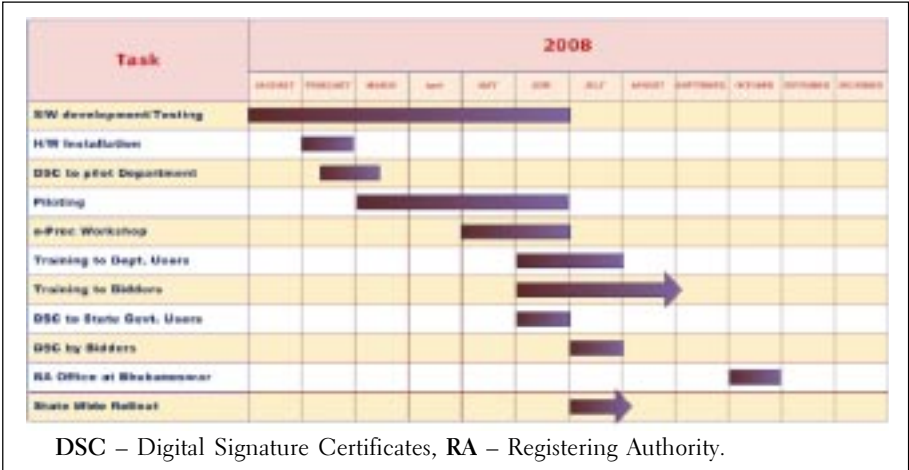
State wide DSC issue to State Govt. users: June 2008

DSC by bidders: July 2008

Setting of RA office at Bhubaneswar: Oct 2008

Roll out start date: 1st. July 2008

State Procurement Cell Approval: March 2009



2. Process Re-engineering & Legal Reforms

Major Front-end Process Changes	
Manual Tendering Process	Online Procurement process
Tender Publishing in News Paper	Easy Tender Publishing on Net by department office.
Availability of tender papers for sale and physical presence	Document available freely on net
Bidder coming to purchase document and source of tender crime as well as initiation of tender fixing	Bidder searches his favourite bid online and downloads their tender paper/Identity of bidder not revealed.
Bidder coming to office for clarification leading to exploitation	Seeks query online without revealing identity/ Collusion with department officers is reduced.
Bidder submits bid in boxes leads – May be prevented and scope of criminal activities	Online submission of bid by bidder anytime from anywhere.
Boxes collected from various location by department leading to wastage of time, money and manpower	The officer inviting tender gets all bids in encrypted format.
Bid openers are selected before opening of bids	Bid openers are pre selected and opens bid online
Intimation of bidders regarding activities hardly happens	Online notification goes to the bidder after each activity leading to greater transparency.
Storing documents leading for requirement of voluminous space with retrieval difficulty	Storing online in servers and later in back up medias with faster retrieval system.

Major Back-end Process Changes Electronics Vs Paper based Procurement		
	Paper Based Solution	GepNIC Solution
Confidentiality	Envelop	Data Encryption
Authenticity	Physical Presence	Digital Signature Certificates
Integrity	Tamper Evident Seal	Message Digest and Digital Signature.
Non-Repudiation	Signature, Dates	Digital Signature and Audit logs

3. Project Sustainability

Financial Model (funding pattern, business model, PPP, etc)

The system study, process re-engineering and other activities have been carried out for Govt. of Orissa with the help of NIC, Bhubaneswar, Orissa. The software development is being funded by National Informatics Centre Services Incorporated (NICSI), New Delhi, that is, a section 25 company under National Informatics Centre. Software development is being done in co-ordination with National Informatics Centre, Chennai Unit. NIC, Delhi has been involved for project sanction, policy decisions and other guidance.

It has been proposed that the initial corpus fund required for State procurement cell would be provided by Government and 10% of the sale of tender cost would go to State Procurement cell for meeting its expenses.

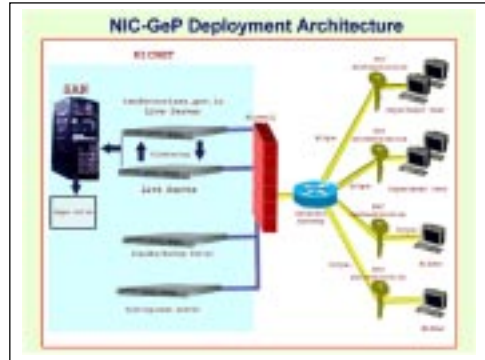
The State Procurement cell would have full time employees like one Superintendent Engineer, two executive officers and five Assistant Engineers and one representative, officers from Law, Finance and IT departments apart from other supporting staffs. This cell would be headed by EIC cum Secretary of Works department. It has been proposed that free services would be offered to the bidders community, and no extra charges would be levied on them for using the online system.

Government of Orissa has arranged necessary funds required for trainings, seminars and other project implementation costs. There is a move for replication of this initiative. GepNIC can easily be replicated and is available as a project as well as SAS (Software as Service) model.

Technology Maintenance

Infrastructure Management

The GePNIC Application has been hosted at NIC, Bhubaneswar. For Business Continuity and back up, separate servers at NIC, Bhubaneswar as well as at other data centers of NIC has also been planned. Multiple High end dual CPU Xeon Servers with SAN storage and other backup mechanisms have been placed.



Open Source Platform and Adherence to Open Standards

The national policy on open standards for e-Governance focuses on uniform and reliable implementation of e-Governance solutions. The technology platform was carefully chosen with proven open source technologies like, Linux AS, PostgreSQL and J2EE and other proven, reliable open source tools with objective to conform to open standards as a measure for e-Governance application. This also addressed issues like vendor lock-in, interoperability issues and saved technology deployment costs.

DSC Management and RA office at NIC, Bhubaneswar

IT Act 2000 validates usage of DSC (Digital Signature Certificates) for e-Governance Applications. For security and data encryption purposes usage of Digital Signature Certificates has been made mandatory in GePNIC Application. DSC management was a bigger challenge for NIC as well as for Govt. of Orissa for managing thousands of government users as well as bidders. In a significant movement one Registering Authority (RA) office under NICCA (National Informatics Centre Certifying Authority) was exclusively opened at NIC, Bhubaneswar for issue and renewal of DSC locally at Bhubaneswar. Facilitation centers were opened by Govt. with help of private DSC providers to address the DSC related issues of bidders.

Disaster Recovery Center

The GePNIC Application has been hosted at NIC, Bhubaneswar with disaster recovery system at NIC, Hyderabad.

Project management team (full time department officials/consultants)

- **Setting up state level steering committee**

With top to bottom approach and with active support and initiation of Chief Minister of Govt. of Orissa, the project got an impetus with formation of state level steering committee on e-Procurement in 2006 and with some coercive mechanisms like setting up reasonable but clear cut off dates and other bureaucratic requirements to achieve e-Governance targets to ensure transformation of governance process occurs gradually but surely.

The Steering Committee was formed with representatives from four major engineering departments dealing with works procurement like Works, Water Resources, Housing and Urban Development Department, Rural Development Department, and representatives from other departments like Law, Finance and IT departments. Major responsibility of State Steering committee was to identify and remove the bureaucratic impediments like approving procedural innovativeness, Attitudinal Mobility, Approving Programme Implementation plan, Inter departmental Co-ordinations etc.

- **Formation of mission team**

Earmarked as a Mission Mode project of Govt. of India and with the advantage to reach the un-reached this unique G2B e-Governance Application encountered various challenges and road blocks as it involved Government transformations and numerous change management activities. To achieve the objective idea of formation of a mission team was put forward and the e-Procurement mission team coming into existence in Nov 2006 with representatives from various engineering departments like Works, Water Resources, H& UD and RD department with the job to carry out system **re-engineering** with the help of NIC which brought the first generic view of the procurement practice in its raw form.

- **Setting up project management unit**

With the vision to extend the tendering facility at the remote to remote locations and to reach to the stakeholders who are geographically spread over the state of Orissa a project management unit was formulated by Govt. of Orissa to act as catalyst to spread the e-Procurement reach to all

corners of Orissa. With the central help desk facilitation, availability of toll free no. as well with visit to remote locations and conducting training through public private partnership across the state led to an immediate acceptance by stakeholders who were waiting for this change to happen. The PMU members were extensively trained by NIC to act as trainers at decentralized locations.

4. Change Management

Change Management Strategy

Understanding the bottleneck factor of weakening of brilliant e-Governance projects by absence of government network and legal oversight the Programme Management plan was chalked out meticulously with incorporation of all the change management ingredients like vision, skills, resources, incentives and the action plans. The low profile activities that were carried out till the pilot launch suddenly became a state level activity supported by Govt. orders and implementation strategies.

The various engineering departments preparedness was studied and necessary hardware and software requirements like computers, printers, scanners, required softwares and other critical elements like availability of communication links, broadband band connectivity etc. were provided in due course during launching of roll out phases.

- **Transitive counselling**

As said change is the only constant and resistance to change is inevitable, To reduce resistance of the user stakeholders and to help them to come out of the transitional phase extensive counseling session was carried out at various occasions and venues by NIC and Mission officials. e-Procurement awareness workshop for senior Chief Engineers, Superintending Engineers across the state was organized to bring change in attitude and reorienting the mindset at various levels of Govt. functioning and for the bidders as well.

Capacity building plan

- i. Sensitisation of Bidders and Department users

Realising the success of GePNIC roll out heavily dependent in the hands of the above two major stakeholders, massive Centralized and

Decentralized training was undertaken. In the month of June 2009 with help of NIC online training was given to appx. 1500 govt users and 2000 bidders of Govt. of Orissa followed by advertisements in print as well as in electronic media. User manuals, self-learning kit and CDs were distributed for effective learning and adoption of the new system.

- **Training of trainers**

The identified Trainers/Nodal officers from each department/Chief Engineers office were trained as trainers by NIC, as a strategy to carry out forward the new system at their respective organisations. This was well accepted by department users leading to the successful adoption. Special care was taken to select young nodal officers with open mind with urge to adopt the new technology and concepts and the leadership to carry out the changed process.

- **Facilitation centers for bidding by bidders**

Realising the fact that ease of online bidding from any location of state is the success input for GePNIC implementation, appx. 400 cyber kiosks operators were trained across the states w.r.to scanning and uploading of documents who could provide necessary service to the bidders by charging prescribed govt. rates. District Informatics Officers of NIC were trained as trainers to provide necessary support to department as well as to bidders at district levels. This added lots of support and helped in confidence building of bidders community.

1. DSC Management and RA office at NIC, Bhubaneswar

IT Act 2000 validates usage of DSC (Digital Signature Certificates) for e-Governance Applications. For security and data encryption purposes usage of Digital Signature Certificates has been made mandatory in GePNIC Application. DSC management was a bigger challenge for Government of Orissa for managing thousands of Government users as well as bidders. To meet this need, one Registering Authority (RA) office under NICCA (National Informatics Centre Certifying Authority) was exclusively opened at NIC, Bhubaneswar for issue and renewal of DSC locally at Bhubaneswar. Facilitation centers were opened by Government with help of private DSC providers to address the DSC related issues of bidders.

b. Leadership Support & Visibility

Major responsibility of State Steering committee which was formed to give a direction for the project implementation was to identify and remove the bureaucratic impediments like approving procedural innovativeness, Attitudinal Mobility, Approving Programme Implementation plan, Inter departmental Co-ordinations. Periodic Review was taken by the Steering committee as well as by the Chief Minister of Orissa created a clear understanding regarding the responsibilities of workers as well as the stakeholders of the project.

Mixed mode of change management strategies has been adopted like Coercive Mechanism through Government orders, To adopt the new change by gradually transferring from old system through transitive counselling, redefining and reinterpreting existing norms and values, and developing commitments to new ones by administrative reforms etc.

5. Project Monitoring**a. Monitoring & Evaluation Process**

Periodic monitoring is being conducted by State level steering committee meeting by inviting all agencies like State Procurement cell members, Mission members, NIC, IT department and other engineering departments along with members from Law and Finance. The observations, policy decisions and improvements are worked out, thus improving the project functionalities and other implementation strategies.

b. User Feedback, Project Assessment Mechanism

Through the mission team and State procurement cell Grievance Redressal and user feed back mechanisms have also been put forward. The bidders can call, send mail and talk to **toll free nos.** (1800-345-6765) regarding their feedbacks, problems and suggestions. On various occasions of training user feedback is also encouraged for improvement in the system and the process.

c. Third Party Overall Project Audit Mechanism

Embedded with the features of transparency of the process, non-discrimination of bidders, equality of access, open competition, accountability, probity and security features, GePNIC application was reviewed and accepted by various MDBs (Multi Donor Banks) like (WB) World Bank and Asian Development Bank (ADB). On various occasions the national and international representatives from World

Bank and Asian Development Banks have seen the software, the process and technology etc. and has given positive remarks regarding the implementation and roll out strategies. Thus the process of e-procurement system in Orissa has gained public and international confidence.

The application also went on security auditing by third party security auditing agencies like CyberQ and STQC for various issues related to security etc. and necessary certifications has been obtained.

(Nihar Ranjan Biswal, Scientist 'C', National Informatics Centre, Sachivalaya Marg, Unit – IV, Bhubaneswar, Orissa).

PayManager (State wide)

I D Variyani

I) Project Objectives

The requirement is initiated as a result of the State Government order that the Data Depository System may be implemented in the treasuries of Rajasthan to collect the employees personal as well as Pay bill details & submission of electronic data to deduction collection agencies of the state such as GPF & SI Department. The Project was entrusted to NIC by the Finance Department and Director Treasuries & Accounts (DTA) was the nodal agency for executing the project.

Initially it was decided that the project would be implemented in the offices of DDOs pertaining to the Treasuries. The Sub treasuries were not covered in the project. The objectives of the project were:

- To create a single database of the employees of the state at treasury level.
- To provide the Pay bill data in softcopy to Treasuries for further processing.
- To provide the data in softcopy to GPF & SI Department.
- To provide the common platform to DDOs for Pay Bill Preparation.

The Project required that the **common Pay Bill Preparation System (PayManager)** be provided to the Drawing & Disbursing Officers (DDOs) of the State. In view of the above objective, it was decided to develop common integrated software for Preparation of the Pay Bill with the further objectives of:

- Preparation of computerized pay bill.
- Preparation of computerized DA arrears, Bonus, arrears Bills.
- Delivery of Data in softcopy for treasury.

- Delivery of Data in softcopy for different Banks.
- Use of Common Codification Pattern for ease of further analysis.
- Generation of Different Monthly and Annual Reports.
- Generation of Income Tax Reports to ease DDOs.
- Facilitate Employees for Monthly Pay Slips and Form 16.
- Facilitate Employees for their correct deductions statements.

The main intent of nominating this software is

‘A widely accepted and used software by over 9500 DDOs covering 3.35 lac employees of the State with the facility of preparation of various types of Bills and with the features of generation of softcopies for further merging of the pay bill data in the treasuries for further analysis. It facilitated the DDOs/Employees of the state for Fixation of Pay and Calculation of Arrears recommended by Sixth Pay Commission.’

The PayManager is meant for the Employees of the Government of Rajasthan State. It provides the common and integrated platform to prepare the pay bills of the employees. It is the unique software used by the Drawing and Disbursing Officers (DDOs) of the State. The software is being used by **around 9500 DDOs covering around 3.35 lac employees**. The Software not only provides the facilities for Pay Bill Preparation but also preparation of DA arrears, Bonus, Arrears and Leave Encashment Bills. The Special feature of the Software was the facility of Pay Fixation and Calculation of the arrears for implementing the recommendations of sixth Pay Commission. It also provides facility for the generation of Softcopy for different Banks and Treasuries. It provides various reports both DOS based as well as graphical based. It uses unique codification pattern for Allowances and Deductions for the whole state. A web based interface for the employees of the secretariat has also been provided.

Implementation of the project required, at least one system with the printer, should be available in the DDOs office. Since, during the project initiation, it was found that many DDOs are not equipped with the system. So it was decided to execute the project with the help of Computer Service Provider (CSP) wherever System was not available in the DDOs Offices.

Presently the Software is being used in all the Treasuries of Rajasthan. A Website was also hosted for the Employees of the Secretariat covering around 2500 employees in a single office.

1. Spread of Project Service Users

- Drawing And Disbursing Officers
- Treasuries
- Departments
- Employees
- Banks.

Drawing & Disbursing Officers (DDOs)

The Project is G2G/G2E initiative aimed at timely and proper service to beneficiaries besides maintaining accurate accounting of deductions made through salary bills.

- The General Provident Fund (GPF) Number was taken as the unique Number for the identification of employees.
- PayManager system specially designed helps DDOs to compile the salaries and arrears of the employees within no time.
- The PayManager system provides all the reports including various schedules, saving the pay bill preparation time.
- The Pay Bill and Arrears Bill are generated including all the relevant codes. DDO just need to print, sign and submit to treasury along with the softcopy.
- The PayManager system provides the facility to generate softcopy for different banks in the format required by the various banks. DDO just need to send list of employees to banks along with the softcopy and salary credits in the bank within no time.
- The PayManager System provides the facility to generate various bills other than Pay Bill, which includes DA Arrears, Bonus, Leave Encashment, and Arrears Bills.
- The PayManager system helps DDO to fix the pay and calculate the arrears as per recommendations of Sixth Pay Commission.
- The PayManager System helps DDO for Annual Report Printing like GA55, Form 16, and Quarterly Income Tax Statements.

Treasuries

Benefits of the PayManager System were not useful, until Treasuries would have accepted data in softcopies. All the Treasuries are accepting only computerized salary bills along with the softcopy of the data. Electronic data of Pay Bill are merged in the treasuries by using the Data Depository System.

- The Output of the Pay Bill information is being sent to treasuries in softcopy along with the signed Pay Bill by DDOs.
- The Treasuries validate the softcopy of the data with the available Master Data of the Employees. It helps treasuries to avoid the situation of drawing salary multiple times by any DDOs/Employees.
- Treasuries generate schedules for the deduction department like GPF & SI for sending data in softcopy.
- Treasuries generate various reports based on the data provided by DDOs for further analysis.
- The softcopy of the Pay bill data facilitating treasuries to make payments using ECS.

Departments

PayManager system provides the data in softcopy to treasuries enabling them to provide further consolidated data to the departments like Finance Department, GPF & SI Department etc.

- The Electronic data of salary bills help GPF & SI department to post details of employees directly to their ledger without mistakes.
- It facilitates the GPF & SI department to eliminate repetition of posting of data in ledgers.
- Softcopy of data enables departments to prepare reports in no time.
- It facilitates department for removal of wrong entries of GPF No.
- Finance department uses these data for further processing in different schemes.

Employees

PayManager system is a G2G/G2E initiative aiming employees to provide accurate and timely information.

- PayManager System helps employees to validate their GPF No. with the Master Data. It facilitates elimination of duplicate GPF No.
- PayManager System generates the Monthly Pay Slip to be provided to Employees for their own record.
- Monthly Pay Slip makes employees aware about correctness of their allowances and deduction figures.
- PayManager System provides Annual Reports like Form 16, GA55 and income tax statement to employees.
- PayManager System helps employees to make sure that their deduction has been posted in right account as directly softcopy of data are being sent to treasuries.
- PayManager System helps employees in calculating income tax.
- PayManager System helps employees to get their salaries well in time, as softcopy of the data is being sent to banks to facilitate faster credit in to respective bank accounts.
- PayManager System helps employees to get Sixth Pay Commission arrears and fixation of pay in time and faster way.

Banks

PayManager system also facilitates banks because the system generates softcopy of data for various banks in their desired format. This facilitates banks for credit of salary information into employee's account within no time. Also it facilitates transfer of salary of the government employees into bank account through ECS.

2. Geographical Area Spread

Over 9500 DDOs covering around 3,35,000 employees of the 38 treasuries of Rajasthan state are covered under this project. It covers around 70% of the government employees of the state.

3. Project Timelines and Milestones

Initiation

In 2003, NIC was requested to develop the Data Depository System for the government employees of the state to get their salary details in electronic mode. This System requires a common Pay Bill Preparation System made available to

DDOs of the State for preparation of Pay Bills and their submission to treasuries along with the softcopy. The Scope requires the proper integration with the Data Depository System running in the treasuries. Division Headquarters were taken as pilot districts. The NIC took up the feasibility and system study.

In September 2008, NIC was again requested to add a module in the existing software to implement the recommendations of Sixth pay commission in the state. For this purpose, NIC took up the system study. The Target for implementation was given to complete at the earliest so that the same may be implemented in the state in September 2008 itself.

Acceptance Test

An Acceptance test was conducted on the software developed by NIC. After carrying out the required modifications, the software was implemented in the Directorate Treasuries & Accounts and Secretariat Treasury then was rolled out for implementation in other treasuries.

Improvements

After roll out, some practical field problems were rectified and software was stabilized in October 2008. Since the arrears Payments was to be made in two Installments, 60 % in the September 2008 and rest in the April 2009. Therefore some more practical problems were identified during the second installment in March 2008, which was also sorted out.

Finally Software was stabilized in March 2008.

4. Direct Cost and Time Savings to Avail Services

Before discussing the cost involved, the concept behind the project is elucidated here. The project aims at providing all the salary related services for the government employees faster and more accurately. The cost to benefit ratio of this project cannot be measured merely in terms of Rupees incurred, spent, saved or earned but in terms of improved efficiency leading to improved performance of the DDO and lowered cost of delivery of services for the government.

There was no cost involved in availing the services. The software was available free to use for DDOs. However availing the services saved significant time of the DDOs as well as employees. The software was made available on the website for significant time saving.

5. Direct Cost and Time Savings to Deliver Services

The cost of delivery of services in the earlier system includes the manpower cost involved in repetitive non-value added services. In the current system, it was deliberately planned to keep technology simple and use the internal resources and manpower to the maximum possible extent so that, acceptance is high and risk due to change is minimal. This has been biggest area of the success in this project. The processing time has come down significantly as only minimum changes are required to process and print the salary bills. Also, availability of the Pay Slip and Other Reports on the net made accessible easy and faster without moving of the employee.

6. Replication

The project is so simple and flexible that it can be replicated in any other State without involving much cost. The DDO officers are not required to incur any expenditure on the part of the technology. Some Corporations of the state are also using the software.

7. Implementation Model

The Project is fully owned by Government. The Directorate of Treasuries & Accounts with the technical support of NIC implemented the Project. The Software was developed by NIC after a rigorous system study.

8. Technologies

PayManager System developed VB/MS Access environment is distributed to all the DDOs of the 38 treasuries for implementation in their respective offices. The DDOs use this software to prepare Pay Bills, DA Arrears Bills, Bonus Bills, Leave Encashment Bills, Arrears Bills, prepare Data files and submit at treasuries.

9. Capacity Building

Project Teams

Director, Treasuries & Accounts (Project Implementation Coordinator w.r.t. Administration) -> State Informatics Officer (NIC), Project Manager -> Scientist 'D' (Project Coordinator for Design, Development and Implementation (Technical)) -> DIOs of NIC and Treasury Officers for Implementation.

Trainings

DIOs are trained by NIC State Center for further imparting training to Treasury Officers and DDOs. DIOs provide training with respect to Data Entry, Reporting and softcopy generation at district level. DDOs were also imparted training at divisional headquarters directly by the development team.

Change Management

User department requests NIC for any change in requirements. NIC team undertakes the job, designs and modifies the software as per the new requirements and then asks the department to perform acceptance testing and report feedback. The performance testing is done to the level of satisfaction of the user department and then the new version of the software is released through Project Management Portal as well as Department Website for implementation at field level.

Computer Service Provider

Many of the DDOs in the state are not equipped with the computer systems. DDOs, not having computer systems, are allowed to get services of Computer Service Provider (CSP) for preparation of computerized salary bills. CSP are designated at each treasury to prepare the salary bills on the prescribed rate. Software has been provided to CSP also.

10. Process Reforms

To implement the Common Pay Bill system in a sustainable manner various Government Orders were issued and reforms were carried out.

- Treasuries were asked to entertain only computerized salary bills.
- Bulky Monthly Salary Bill format were modified so as to ease the printing of bills on computer stationary.
- The Team of Directorate and NIC finalized format of Bill Printing.
- Treasuries were asked to entertain bills along with the softcopy.
- Bill Passing process in the treasuries was modified. Before Computerization of Pay Bill, Bill was entertained at the token counter. After Implementation of Pay Bill, now first, Bill is entertained at Computer window for verification and validation of the Bill with the help of softcopy brought by DDOs along with the hard copy of the Bill. After validating and marking the Bill at computer window, the bill is taken at token counter.

- Unified coding pattern was adopted. Uniform codes for allowances and deductions were provided with the software.
- Process for designating computer service provider (CSP) was taken up. Finalization of rates for entering master data and transaction data were finalized with the help of NIC.

11. Project Financials/Sustainability

At DDO Level: No manpower was sanctioned. Existing manpower was trained to use the software. Hence the software did not put any burden on the DDO offices. Wherever DDOs are not equipped with the computer systems, they were asked to get prepared the salary bills from the computer service provider (CSP) identified by the Treasuries at a specified rates.

At Treasury Level: To equip the treasuries, Man with the Machine system was adopted. Technical manpower (Man with Machine) was provided on contract basis to treasuries for processing of softcopy of pay bill data. The number of contract manpower (one to three) varied treasury-to-treasury depending on the workload.

Hence, the project has to run to fulfill the requirements along with the Data Depository System with which it was made interoperable. Therefore, the project is sustainable.

To ensure proper and complete accounting, following procedures were adopted:

- GPF No. was used as a unique key for proper accounting.
- Computerized Pay Bill was made mandatory at treasury level.
- Proper trainings were organized.
- Proper technical support was provided to Treasuries & DDOs.

12. Project Teams and Leadership

Project Teams – Policy Level:

Principal Secretary (Finance)	} Project Implementation Coordinator w.r.t. administration
Director Treasuries & Accounts (DTA)	
State Informatics Officer (NIC)	Project Manager

Fulltime:

Joint Director Treasuries & Accounts (DTA)	}	Project Implementation Coordinator
		w.r.t. administration
Scientist 'D' (NIC)	}	Project Coordinator for Design,
DIOs of NIC and Treasury Officers		Development and Implementation (technical)

The project is running successfully since 2003 and that speaks excellent top-level support for the project.

13. Service Users' Feedback Mechanism

DDOs, Department directly can give their feedback to Director Treasuries & Accounts (DTA) as well as treasury offices and any one concerned can send their feedback through the E-mail. Regular meetings are held at DTA Office to discuss the issues related to feedback and changes of the requirements. User feedback is also taken during the workshops whenever organized.

14. Implementation Challenges

As the user at Implementation locations i.e. DDO Offices were not very much acquainted with the information technology, it required lot of efforts to implement the software. The main challenges were:

- To impart the training of the software. As the users were located widely geographically spread area, imparting training was a big challenge.
- Users were not very much acquainted with the computer system. It required a lot of effort to make them ready to use computers.
- Identification of all the Allowances and Deductions given to Employees. Since different departments are being given varieties of allowance, it took lot of exercise to identify all the allowances.
- Allotment of Uniform Code to Allowances and Deductions.
- Changes in the existing Pro formas.
- Many of the DDOs were not equipped with the System. Therefore, developing guidelines for them to get computerized bills prepared with the help of Computer Service Providers (CSP).
- Finalization of Rates for Computer Service Provider (CSP).

- Development of uniform software for the large numbers of department was also a major challenge.

15. Project Monitoring

Project Monitoring is a major step for the success and sustainability of the project. Project is consistently being monitored with the help of Treasury Officers. Different Information is sought from the treasury officers regarding the pay bill to monitor the project. This information in various formats is very helpful to assess the project. Regular workshops and meetings are also organized to tune them with the latest versions of the software.

16. Major Outcomes and Achievements

The major outcomes and achievements of the project are:

- Software is being used by around 9500 DDOs covering 3.35 lacs employees.
- Software helped to identify the duplicate GPF No.
- Consolidated Database of the Employees is available with the Treasuries and DTA.
- One of the widely used systems in the State.
- DDOs were made acquainted with the Computer Systems, thereby helps them in executing other projects without much difficulty.
- Created IT Culture in the State as DDO Offices are spread over the state.
- Pay Bill Preparation is a repetitive job as it is prepared on monthly basis. Therefore, considerable manpower efforts are saved using this software and DDO can spend more time in other creative activities of the offices.
- DDOs saved considerable time & efforts to implement recommendations of Sixth Pay Commission by using this software, as Software provided facility for Pay Fixation and Arrears Calculation.
- Software helped the payments to Employees through ECS.

17. Key Lesson Learnt

- It was assumed that the Pay Bill Project is an interested field for the employees so it will be implemented with the minimal efforts. But this theory did not apply. The lesson learnt from the project was that any Project should not be

taken in a light way for the purpose of implementation strategy. Developing a project is not as difficult as implementing it in masses.

- Use of the right technology in the right place with appropriate administrative decision benefits the masses.
- Strong top level commitment and support is key of success.
- Proper training and availability of documents to user is a major issue in the success of the project.

18. Other Information

One website *paymaster.raj.nic.in* has been hosted for employees of secretariat to facilitate them getting monthly payslips, Annual Reports, income tax calculator and Form 16 through net.

(I D Variyani, Scientist 'D', National Informatics Center, Rajasthan State Centre 8318, SSO Building, Secretariat, Jaipur, Rajasthan, Telephone no. 0141-2740637 email: id.variyani@nic.in)

ANNEXURE



Computer Society of India



About CSI Special Interest Group on e-Governance

Ashok Agarwal

Computer Society of India (CSI) has implemented the concept of “Special Interest Groups” to promote activities and research in few focused areas. Special Interest Group on e-Governance (SIGeGov) has been formed accordingly. The basic perceived objective has been to focus on an important area where Information Technology can be leveraged and bring like-minded professionals together to add value by bringing out recommendations relevant to various stakeholders.

India has already established itself as a leader in the Information Technology sector and created research echo system in the country in this area. Governments are under pressure to deliver a range of services in a timely, efficient, economical, equitable, and transparent and corruption free manner to its citizens. e-Governance can have a profound impact on the poor and ultimately on the economic output and growth of the country as a whole. Information acts as a revolutionary force in bridging the digital divide. IT can vastly extend access to education, health care, financial services, vocational skills, administrative services and other aspects of the modern society, to many more people at far lower costs apart from generating employment. IT can dramatically reduce the cost of communications; improve access to technology and marketing capabilities for the rural poor. It can help in eliminating intermediary exploitation in the production and distribution chains, increasing government accountability.

The last decade has witnessed e-Governance penetrating India in both Urban and Rural areas, Central Government has announced a National e-Governance plan (NeGP) and each State has also defined its own e-Governance policies within the framework of NeGP. The total investments being made to implement

these initiatives are huge, and are impacting the domestic ICT market as well as education and training area significantly. IT spending in our country is being driven primarily by this initiative and impacting the lives of ordinary citizens across the country in a very positive fashion.

CSI is the only professional society covering individual user/citizens as members and is most appropriately suited to focus and add significant value to the successful implementation of the e-Governance initiative in our country.

e-Governance has the capacity to take our country to the next generation and CSI-SIG-eGov plans to play an important role in that process.

SIGeGov Objectives

To create Computer Society of India (CSI) as a knowledge base to facilitate, promote, advice and support the e-Governance initiative in our country at State and Central level.

The following activities are proposed:

- Create a repository of e-Governance initiatives in India.
- CSI has instituted e-Governance Awards, SIGegov is expected to organize these awards and implement the award judging process. SIGeGov is also to act as the Secretariat for e-Governance awards and maintain updated data bases of all relevant stakeholders in this area.
- Support research in selected areas like Assessment Framework and Implementation Strategy for e-Governance Projects.
- Participate in the processes for evolving standards in Technology, Processes and Databases.
- Participate in various State and Central committees in e-Governance on invitation.
- Conduct National/International conferences in e-Governance individually or by joining hands with other reputed institutions, active in this area.
- Undertake to organize e-Governance Awards for CSI every year.
- Maintain website on CSI-SIG e-Gov at www.csi-sigegov.org

(Ashok Agarwal, Chairman, CSI SIGeGov, agarwal.ashok.k@gmail.com, sigegov@csi-india.org, Website: <http://www.csi-sigegov.org>)

Publications

(All CSI-SIGeGov publications are available on www.csi-sigegov.org)

Compendium of Case Studies

Edited By – Ashok Agarwal

ISBN 13:978 81 7371 596 3, ISBN 10: 81 7371 596 9

Published by: Universities Press (India) Pvt. Ltd., 2007

Contents

1. Evaluating e-Government
M P Gupta, Jaijit Bhattacharya and Ashok Agarwal
2. Effective Public Service Delivery and e-Governance: Who Drives Whom
Anita Karwal
3. e-Sagu: The Next Generation IT-based Query-less, Cost-Effective and Personalised Agro-Advisory System
P Krishna Reddy and G V Ramaraju
4. BHOOMI: Online Delivery of Record of Rights, Tenancy and Crops to Farmers in Karnataka, India
Rajeev Chawla
5. e-DHARA
Vilasini Ramachandran
6. KHAJANE: The Comprehensive Online Treasury Computerisation Project
Department of Treasurer, Government of Karnataka
7. BangaloreOne: Integrated Citizen Service Centre
Sashidhar Sarangamath
8. National Portal of India (<http://india.gov.in>)
Neeta Verma, Alka Mishra and Sonal Kalra
9. PIMS: A Self-Sustaining e-Governance Project in Government
Anil K Sharma
10. Satellite-Image-Based Water and Land Development Plan
T P Singh

11. Block Community Portals of Community Information Centres in the North-Eastern States
Shefali Dash
12. Centralised Allotment Process (CAPNIC)
V S Raghunathan and M Asir Edwin
13. Community Information Centres
Nandita Chaudhri and Shefali S Dash
14. Computerised Lok Ayukta Information Management System (CLAIMS)
V S Raghunathan and A Nisarudeen
15. Complaints Registration and Monitoring System (CRAMS)
Rajiv Prakash Saxena
16. DC* Suite
V S Raghunathan and M Asir Edwin
17. Dev-bhoomi: Land Records Computerisation in Uttaranchal – A G2C and G2G e-Governance Application
Rakesh Goel and Rajesh Goyal
18. Dharitree: The Web-Technology-Based Total Land Records Management System of the Government of Assam
Hemanta Kr. Saikia
19. e-DISHA: Electronic Delivery of Integrated Services of Haryana to All
Anurag Rastogi, Ghan Shyam Bansal, Deepak Bansal and Alok Srivastva
20. e-Kosh: Online Computerisation of Treasuries, Chhattisgarh
D Rama Prasada Rao and M K Mishra
21. e-Post: Department of Posts, Government of India
Shefali S Dash, Rakesh Gupta, Ravi Kumar and Mukesh Aggarwal
22. Implementation of e-procurement in the Government of Andhra Pradesh: A Case Study
K Bikshapathi and P Raghuv eer
23. e-SAMPARK: A Multi-Service Single Window Operations Project
Manjit Brar
24. e-SUVIDHA
Shefali S Dash and Dibakar Ray

25. HALRIS # HARIS Bridge: Dynamic Integration of Property Registration and Land Records Administration in Haryana
Anurag Rastogi, Ghan Shyam Bansal and Gurpreet Singh Saini
26. ICT Solution for NREGA Implemented in Andhra Pradesh
SS Rao
27. Instant Money Order (iMO)
Shefali S Dash, Rakesh Gupta, Ravi Kumar and Mukesh Aggarwal
28. Mobile Applications in Irrigation Department for Reservoir Level Monitoring
K Dakshina Murthy
29. MSEB's Secured e-Tendering Solution
Mahesh Sinha
30. NISANI: National Identity Cards Scheme
Rajendra Prasad
31. Pension Case Status Online
S M Shah
32. Open-Source Initiatives
V S Raghunathan and K C Asha Varma
33. Postal Life Insurance
Shefali S Dash, Rakesh Gupta, Ravi Kumar and Mukesh Aggarwal
34. Prioritized Project-Monitoring System (PPMS)
P K Mohanty, K Dakshina Murthy, PVSSVP Raju and Y Vijay Kumar
35. Rojgar Wahini: Portal of the Directorate of Employment and Self-Employment, Government of Maharashtra
Jayashree Mukherjee
36. SMART-Move
V S Raghunathan and M Asir Edwin
37. Spandan: File, Grievance and Press Reports Monitoring System
K Vijayanand
38. Service and Payroll Administrative Repository for Kerala (SPARK)
V S Raghunathan and G Jayakumar

39. Status Information Management System by NIC: A G2G Application
Moiz Hussain Hussain Ali and Yogesh Arvind Khadayate
40. SWIFT: State-Wide Information on Financial Transactions
J N Hathi
41. Portnet: An e-Governance Project for Rural Masses
Ajith Brahmanandan
42. Treasury Information Management (TRIM)
V S Raghunathan and A Nisarudeen

Compendium of e-Governance Initiatives in India

Edited By – R K Bagga & Piyush Gupta

ISBN 13: 978 81 7371 610 2, ISBN 10: 81 7371 610 2

Published by: Universities Press (India) Pvt. Ltd., 2008

Contents

* Winner of CSI-Nihilent e-Governance Awards 2006-07

Part I

E-Governance Overview and Project Assessment

1. A Vision of Citizen-centric e-Governance for India
APJ Abdul Kalam
2. e-Governance Approach in India – The National e-Governance Plan (NeGP)
Dhrupad Mathur, Piyush Gupta and A Sridevi
3. Challenges and Role of Standards in Building Interoperable e-Governance Solutions
Renu Budhiraja
4. Approach and Methodology for Project Assessment – CSI-Nihilent e-Governance Awards 2006-07
Piyush Gupta, Pranav K Vasishta and R K Bagga

Part II

Government to Business (G2B)

5. Computerized Dealer Service Centre
Suresh Chanda
6. e-Governance in Petroleum and Explosives Safety Organisation-PESO*
M Anbunathan
7. VAT Information Computerization to Optimize Revenue Yields (VICTORY)
Saurabh Gupta, S N Behera, Ashok Kumar and Rajiv Ranjan

8. e-Procurement*
Rajkumar
9. VAT Information System*
MM Shrivastava

Part III

Government to Citizen (G2C)

10. Samaadhan Ek Din Mein (Jan Suvidha Kendra in Mandla District)*
Subhash Jain
11. Basic Services/Amenities Management Programme (PARAKH)*
M Vinayak Rao
12. Child Record Information System – ChRIS*
Anil Srivastava
13. National Rural Employment Guarantee Act (NREGS-AP Software)
A Santhi Kumari
14. Web-Based Rail Reservation (Internet Ticketing)*
Sanjay Aggarwal
15. Gazettes on Web
R Ramachandran
16. Fast Reliable Instant Efficient Network for Disbursement of Services (FRIENDS Janasevana Kendram)
Krishnan B Nair
17. Centralized Allotment Process for the Professional Course Admissions – CAPNIC*
V S Raghunathan
18. System for Computerised Registration – SCORE
Saurabh Gupta, N K Prasad and Sanjay Kumar
19. Revenue Administration through Computerized Energy (RACE) Billing
S N Behera
20. Stamps and Registration Automation with Technology and Information (SARTHI)
R K Sharma

21. Grievance Management System through Call Centre
Rajendra Kumar
22. e-Mitra
Aparna Arora, A M Deshpandey and R K Sharma
23. Health Management Information System – HMIS*
Mona Khandhar and Amarjit Singh

Part IV

Government to Government and Government to Employees (G2G/G2E)

24. e-Public Distribution Monitoring System – ePDMS
M Vinayak Rao, A N Siddiqui and Musharraf Sultan
25. Cooperative Banking in Place – COIN
Saurabh Gupta
26. DC* Suite – Suite of Applications for e-Collectorate*
V S Raghunathan and M Asir Edwin
27. Election Confidential (ELECON)
Saurabh Gupta
28. Computerisation of Personnel Information Systems (CPIS)
Kh. Rajen Singh
29. CM Monitoring Programme
M Vinayak Rao
30. Integrated Information System for Foodgrains Management – IISFM*
Ranjna Nagpal
31. Online Computerization of Treasuries (e-Kosh)
D Rama Prasada Rao
32. GIS Based Emergency Planning and Response Systems
Indrani Chendrasekharan
33. Treasury Accounting and Management System of Government of Bihar e-KHAZANA
Kanhaiya Pandey, Ashok Kumar Mohanty and Saurabh Gupta

34. Loans Grants Investment (LGI) Monitoring System
Nagesh Shastri
35. Human Resources Query Desk
Nagesh Shastri
36. Service and Payroll Administrative Repository for Kerala – SPARK
V S Raghunathan
37. ICT in Delhi School Education System*
Ashok Kumar
38. Web-enabled Consumer Management and Energy Billing System*
Ajith Brahmanandam, Jobson Abraham and D Suman Babu
39. Integrated Workflow and Document Management System – IWDMS
Raj Kumar

Transforming Government: e-Governance Initiatives in India

Edited By – R K Bagga & Piyush Gupta

ISBN : 978-81-314-2222-9

Published by: The Icfai University Press, 2009

Contents

* Winner of CSI-Nihilent e-Governance Awards 2007-08

Part I

E-Governance: Overview, Issues, Approach and Project Assessment

1. e-Governance Approach in India – The National e-Governance Plan (NeGP)
Dhrupad Mathur, Piyush Gupta and A Sridevi
2. Critical Issues in e-Governance
Ashok Agarwal, Sita Vanka and K Sriram
3. Challenges and Issues in e-Government Project Assessment
Piyush Gupta
4. Approach and Methodology for Project Assessment – CSI-Nihilent e-Governance Awards 2007-08
Piyush Gupta, R K Bagga and Pranav K Vasishta

Part II

Government Departmental Efforts

5. Kerala Motor Vehicles (Kerala)*
S Anantha Krishnan
6. Department of Food, Civil Supplies and Consumer Protection (Chhattisgarh)*
B S Ananth and Somasekhar Kesava Ayyagari
7. Directorate of Treasury Accounts & Pensions (Chhattisgarh)
M S Paikara, SBJ Cladius and Rama Prasada Rao Devarakonda

8. Department of Rural Development (Andhra Pradesh)
K Raju and M Padma
9. General Administration Department (Personnel Division) (Gujarat)
Neeta Shah and K George Joseph
10. Board of Revenue (Uttar Pradesh)*
Aynees Gupta
11. Tamil Nadu Water and Drainage Board Integrated e-Governance System (TWADNEST) (Tamil Nadu)
Rajashekar A

Part III

Government to Citizen (G2C) Projects

12. Computerisation of Registry Department – CORD
Prasanta K Pramanik
13. Jan Seva Kendra
Sonal Mishra
14. e-Arik*
Saravanan Raj
15. Anytime Anywhere Office Application for Processing Office Files and Internet-based Interface – KM ATOM*
Suresh Chanda and Jacob Victor Ganta
16. Sankhyikiya Patrika: Internet-based Data Entry and Retrieval (SPIDER) System
Lautoo Ram Yadav
17. Electronic Citizen Services – ECS
S N Jha and Narayanan Krishnamurthy
18. Nemmadi Telecenter Project
Vipin Singh and Jayateerth Gururaj
19. Dynamic Integration of Property Registration and Land Records Administration (HALRIS)
Ghan Shyam Bansal and G S Saini

20. Computerized Monitoring of PWD-WSS (Water Supply and Sanitation) Activities [COMPWSSA]
Ghan Shyam Bansal and Neeraj Singal
21. NREGAssoft-MIS for National Rural Employment Guarantee Act, Delhi
Madhuri Sharma
22. Integrated Workflow System for Paperless Admissions to AICTE Approved Courses in Haryana*
Ghan Shyam Bansal and Susheel Kumar
23. e-Gram – Viswa Gram Project*
Varesh Sinha and Vipul Mittra
24. Rojgar Wahini*
Kavita Gupta
25. Dhan Kharidi-Online
B S Ananth and Somasekhar AK
26. Krishinet
D N Sharma and Kamal Kumar Jain
27. Chhattisgarh Online Information for Citizen Empowerment – CHOiCE
Aman Kumar Singh and Mounika Nandyala
28. Emergency Management – EMRI*
Anil Jampala

Part IV

Government to Business (G2B), Government to Government (G2G), Government to Employees (G2E) Projects

29. Computerisation of Mantralaya*
M Vinayak Rao and Prakash Rao
30. New Pension Scheme Accounting System
M S Paikara, S B J Cladius and Rama Prasada Rao Devarakonda
31. EVERALERT – Online Medical Inventory cum Cargo Management*
B V Selvaraj

32. Public Distribution System – Online
B S Ananth and Somasekhar Kesava Ayyagari
33. Content Management Framework (CMF)
Kala K
34. VATSoft – VAT Processing System
B A Harish Gowda and P V Bhat
35. Integrated Prisons Management System*
Sunil Kumar Barnwal
36. Integrated Workflow and Document Management – IWDMS
Neeta Shah and Raj Kumar
37. e-Enabled Employee*
V G Bhooma
38. e-Procurement*
Aman Kumar Singh
39. Digital Workflow using MESSAGE in Government of Kerala*
Kala K
40. Municipal Corporation of Delhi, Property Tax Self Assessment Online*
A K Ambasht