Initiatives in India

A selection of major e-Governance Projects,
which competed for coveted CSI-Nihilent
e-Governance Awards for the year 2006–2007.
The Awards were presented during
Computer Society of India Annual Convertion
CSI-2007 at Bangalore on 1 December 2007.

— Editors

Compendium Supported by

Computer Society of India

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The Computer Society of India (CSI) is the largest association of information technology professionals in India, with over 36,000 members comprising software developers, scientists, academicians, project managers, CIO's, CTO's and students, among others uses. 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.

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Compendium of e Governance

Initiatives in India

Editors

Piyush Gupta • R K Bagga

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*Winner of CSI Nihilent e-Governance Awards 2006–07

Foreword

CSI - Nihilent e-Governance Awards have been instituted by the Computer Society of India for recognizing the contributions made in the field of e-Governance in various States, besides appreciating the successful efforts by various organizations, in achieving good governance using ICT. An evaluation framework to select the Best e-Governed State, Best Government Department and Best Project was developed and implemented for these awards by the expert committee, who visited various states for the ground study and appreciation of 25 short listed projects. This monograph covers the illustration of case studies of short-listed projects after the finalization of the field visits undertaken by the Principal Experts. I consider it a great pleasure to write a few lines about this compilation of case studies of projects carried out in the year 2006–2007 which is being released on 1st December 2007, at Bangalore, in a special function for announcing the CSI-Nihilent e-Governance Awards during 42nd Annual Convention of CSI.

With the rapid advancement of technology in all spheres in general and ICT in particular, the importance and need of e-Governance is also growing very fast. Recent developments in the field of ICT have impacted all aspects of life globally. It has facilitated better interface between the public and the Government departments and organizations. Recognised as the best effort to diminish the digital divide and the rural-urban divide, especially in the developing countries the aim of e-Governance is to ensure transparent, smart, seamless, secure and authentic flow of information, thus extending fair and unbiased services to general public at remote and inconvenient geographical locations crossing the inter-departmental barriers.

India has more than 6,00,000 villages, 70% of Indians live in villages and hardly 5% can speak English. Therefore e-Governance models which do not support the rural delivery system in the local language will not adequately contribute towards the good governance. Therefore, the goal of e-Governance should be in directions which can benefit rural India also.

Case studies covered in this compendium will help to understand the strength and weaknesses of the projects which can further be used for the progress of e-Governance initiatives, formulations of certain critical factors and framing guidelines for new projects. These case studies reveal, exemplify and illustrate advantages as well as new challenges which need to be encountered while planning new projects and adopting new technologies. Truly speaking, internet is diminishing the role of indifferent and lethargic public servants and corrupt middlemen. Case studies in this book have revealed the strength of Internet as a great democratizing tool. Governments have to ensure that e-Governance will enhance the possibility to give efficient, clean, honest and visible service. This comprehensive document is, therefore, likely to prove itself as a useful and thought provoking compilation, having covered all essential spheres of e-

Governance, highlighting the processes on education, project management, system approach and skillful change management which are essentially required for successful implementation of the projects.

There is no denying the fact that the cost of inefficiency for the delivery of services particularly in the government departments is largely borne by the poor. e-Governance is an important issue for countries like India, where improvement in the delivery of government services is required to be put on fast track. As per the case studies, many of the projects have delivered appreciable benefits to citizens. We should now take on the key challenges to scale up the successful pilot projects undertaken and implement the same as nation-wide projects.

I am happy and hopeful that this compendium of case studies of few of the on-going e-Governance projects short listed for the CSI-Nihilent e-Governance Awards 2006-2007 will provide useful insight to all stakeholders in e-Governance covering authorities, researchers, practitioners and academicians. It will also help all in sharing the critical success factors in the evaluation and implementation process.

Finally it gives me immense pleasure to congratulate the committed and dedicated editorial team of this Compendium and the representatives of all the Award Winning projects.

Prof. K K Aggarwal
Vice Chancellor
GGSIP University, Delhi
President, Computer Society of India

Message
The Need for Another Technology-Enabled Green Revolution

Amidst all the reports in the media about suicides by farmers and the crisis facing the Indian agriculture sector today, a report on spending on information technology by various sectors of the economy recently caught my attention.

Titled 'Overall Trends in IT spending in India by Industry verticals: 2006-2010', the report by IDC, published earlier this year, was illuminating. All the usual suspects in the form of banking, insurance, manufacturing, media and entertainment, and even government and education made their presence felt in terms of deployment of information technology. What was shocking, however, that the sector which still provides livelihood to 64% of the population of this country – agriculture – finds hardly a mention in the report!

While the government and the English media cannot stop gloating about 9% annual growth of India's Gross Domestic Product (GDP), the question arises whether the GDP growth and the bullish stock markets reflect the complete economic growth of India. The answer to this is an emphatic 'No', and will be so as long as agriculture provides livelihood to more than three-fifths of the country's population, and continues to struggle, as it currently is. Contributing merely 18% of the GDP today, agriculture is in dismal state. The sector has the slowest rate of growth of all sectors of the economy – at 1.8% per annum for the past 5 years.

Today agriculture has become unprofitable for farmers and, according to recent surveys, 40 per cent of them want to quit farming if they have any other option to earn their daily bread. Situation has become so bad in several parts of the country that farmers are forced to commit suicides. An even more alarming issue is that a vast majority of the thousands of farmers who have committed suicide till date belong to those states that are so called economically most progressive e.g. Maharashtra, Gujarat, Andhra Pradesh and Karnataka. Not only is this shameful for the rest of us Indians that farmers who keep others alive are forced to take their own lives, the geographical distribution of their plight perhaps also indicates that unbridled growth in other sectors could be happening precisely at the cost of agriculture, leading to mass suicides in the so-called most developed states.

The reasons for slowdown in agriculture are several and it will not be possible to go over them in detail here. What is indubitable, however, is that if the current situation continues for a few more years, India can face huge shortages of food grains. For the last three years, India is importing wheat to fulfill its domestic demands. If the present situation continues, the quantity of import of pulses and edible oil will shoot up, too, as will several other commodities.

The situation is alarming. Global food grain productivity has slowed down in recent years. The decline in agricultural growth is taking place at a time when international prices of major food grains are appreciating steeply, partly owing to the use of grain for ethanol production. India will have very few nations willing to export food grains. Consequently, the cost of import would be much higher and may prove unbearable to the Indian masses. The deterioration in agriculture, therefore, will not only impact the farming community but the whole nation will have to bear the brunt in the long run. Decline in the agricultural production below the population growth rate and the depletion in the stock of public distribution grain could give birth to recurrent famines as it happened in the pre-independence era.

Information and Communication Technology can play a very crucial role in mitigating the socio-economic problems faced by the rural masses, particularly the farming community. The whole face of Indian agriculture can change through the effective and efficient usages of Information & Communication Technology. The only thing that is required is to integrate farmers and technology and to develop & deploy such technologies that cater to the need of the farming community at large. Keeping in mind the large illiterate population and certain inhibition towards usages of technology in Indian masses, the project development must ensure accessibility and manageability of the technology.

We, at the Computer Society of India and Nihilent, have been doing our bit in the last few years, towards enabling deployment of technology for the benefit of the common man. The cases that we published last year, and those that you will read in this compendium this year, bear testimony to that effort. Year after year, our effort has been to increase participation from states and various government departments. This, in sum, is our contribution to the idea of catalyzing evolutions and revolutions through technology, and we will continue to do so.

A very good example is 'e-Sagu' – a project that has been deployed in six districts of Andhra Pradesh. This project has immensely helped farmers in managing their agricultural practices and generating profits. The project needs to be extended to the other districts of Andhra Pradesh as well as to other states. e-Sagu was adjudged as Best Project overall during 2005-06 CSI Nihilent e-Governance Awards. For the current year 2006-07, Food Corporation of India's Project 'Integrated Information System for Food Grain Management (IISFM)' is joint winner under G2G category of e-Governance projects.

The Indian IT industry has been the engine of economic growth for India in last decade. Today, the contagion of robust growth has spread to all other sectors – from real estate to aviation – save agriculture. The synergy between technology, public policy and farmer's effort led to the Green Revolution in India in the 1960s. The same synergetic effort is required to help Indian agriculture to come out of the current crisis. And the IT sector can lead from the front. Let Agriculture be regarded as a next frontier for the IT sector to excel in. The time is ripe for the pioneers of IT sector to show that

they are not only master in individual wealth creation but also have the ability to lead the farming community out of the crisis it currently faces. Let the IT sector catalyse the Second Green Revolution in India.

L C Singh
President & CEO, Nihilent Technologies Pvt. Ltd.

Preface

The explosive growth of Information and Communication Technology (ICT) during the previous decade has had tremendous impact on its cost-effective applications to Government sector. A new area of electronic governance, where almost all countries in the World are making serious efforts to use ICT for providing better citizen services has come of age. India, initially was using ICT for capturing international business right from Y2K era to earn much needed foreign exchange (FE). With the hardware cost, becoming affordable, it is only recent phenomena that the government sector has started using ICT for development in this decade. Government of India has come out with a National e-Governance Plan (NeGP). It is estimated that over Rs. 35000 crores may be spent both for mission mode projects and capacity building efforts at Centre, State and other agencies in next few years.

Computer Society of India being premier body of professional in India established in 1965, has been in the forefront of ICT applications in all sectors of Indian industry, academia and the Government. With over 30,000 members in 65 Chapters and over 300 student Branches throughout India, CSI provides a well connected network of computer users, who can help providing computer related interface for all government applications. Nihilent has been partnering with CSI since 2002 and is providing the much needed support for conduct of e-Governance awards every year. The awards are aimed at providing incentive to States, Departments, as well as Project, so that their applications get recognised and shared across different parts of the country.

For CSI Nihilent e-Governance Awards 2006-07, a well established model based on Analytic Hierarchy Process (AHP) is used, which was introduced last year for the first time, bringing in transparency and objectivity in selecting the award winners. It is to the credit of Dr Ashok Agarwal, Convener of last year awards that a book of case studies has been published, providing enormous resource on Indian initiatives in e-Governance for use by all. For the current year also, this Compendium has been compiled based on the write-ups received from various e-Governance projects being implemented in different parts of the country. The Selection Committee has attempted to finalize these awards based on extensive evaluation of results & enablers, and field visits to the projects, before the annual convention of CSI scheduled in Bangalore on 1 Dec 2007.

This Compendium consists of four parts where Part I has four chapters covering vision and national plan for e-Governance, and the methodology adopted for CSI-Nihilent e-Governance Awards 2006-2007. In chapter 1, Dr APJ Abdul Kalam's vision of e-Governance has been re-produced that we find still very relevant for India even today and will be so in years to come. Chapter 2, e-Governance approach in India - The National e-Governance Plan (NeGP), shares the insights of the plan conceptualized at Government of India. The chapter consolidates the identified projects at the central, state level and other integrated projects. It also lists various other initiatives being

taken as part of infrastructure and capacity building. Chapter 3, Challenges and Role of Standards in building interoperable e-Governance solutions, brings out the areas of immediate concern in standardization in India, the methodology being adopted and the processes put in place. The paper talks about various areas of compliance to be considered and the Government of India initiative in this direction. Chapter 4, an approach for assessment – methodology adopted for CSI-Nihilent e-Governance Awards 2006-2007, explains the assessment framework as well as the possible insights that can be gained from it. The model of e-Governance award for this year has been thoroughly deliberated and discussed by the Core Team of the Awards. This chapter gives sufficient cases on the overall methodology and also discusses some of the key learnings in the process encountered by the team.

The subsequent Part II, III and IV consist of the 34 nominated e-Government case studies ranging from G2B, G2C and G2G and G2E category. Part II covers Government to Business projects from different States dealing with e-Procurement, value added taxes and dealer services. Part III of the Compendium forms details of 14 projects providing Citizen Services under G2C category (Government to Citizen). Nearly 15 States, who came forward to share their experiences have contributed these papers. The final Part IV covers Government to Government (G2G) projects, where Government to Employees (G2E) as well as centre and state governments utilize ICT for providing better services and environment to the country. Here again, a number of States and Departments have come forward to share their experiences for effectively monitoring use of ICT, internally in the government; thereby improving their efficiency and reducing overheads. The outline used to document all the case studies include: Project background – Conceptualization - Project Vision – Stakeholders - Project objectives - List of Services - Project plan - Technology architecture - Project milestones - Project management structure - Project implementation - Major challenges and Issues - Present status and Future plan.

The project documentation has been authored by the respective project team members and it does not express the views of the Editors of this book. CSI and editors take no responsibility for any ownership or copyright infringement.

Editing this book has truly been a rewarding experience not only for us but for all the members in the core team. We hope the book will provide an interesting reading to all interested in e-governance and provide a good learning for the policy makers, and implementers working in the Government, industry and academics. We sincerely appreciate the efforts of authors of this Compendium for meeting our deadlines and following the format.

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

R K Bagga and Piyush Gupta
Editors

Acknowledgements

I would like to express my 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 Compendium. This has been possible only through the total support of, Prof K K Agarwal, President CSI and Mr Lalit Sawhney, the past President and all the members of Execom of CSI.

Special thanks are due to Dr Ashok Agarwal, Mr Piyush Gupta, Dr Mahesh Chandra, Mr S P Singh, Dr MP Gupta, and Dr Sanjiv Vaidya for assisting, as Members of Selection Committee. Col Ghose, Prof V Prithviraj, Prof Sai Kumar, Mr Pranav, Ms A Sridevi, Prof G P Sahu, Mr Bipin Mehta, and Mr Satish Babu need special thanks for Participation in the field Visits.

Core Group members (Ashok, Gupta, Piyush, Pranav and Sridevi) 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 Minoo Dastur 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. Ms Renu Budhiraja, DIT deserves special thanks for providing writeup on standards at a very short notice. As Convener of CSI Nihilent e-Governance Awards 2006-07, I will be failing in my duty if I do not acknowledge all the States, Departments and Project officials particularly IT 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 and Project teams for frank discussions during our field visits and sharing their experiences. It has been a wonderful learning experience for all.

I want to complement all 108 registered nominations who helped us with their participation in this year awards. Special complements to 17 award winners for the year 2006-07 for their well deserved recognition. All of us were convinced that 8 States, 7 Departments and 26 Projects shortlisted were of very high standard and deserved recognition. Let me thank all e-Gov leaders who made presentations to the Selection Committee during field visits and the final meeting held at Hyderabad on 12 and 13 Nov 2007! Pranav's efforts as Researcher are thankfully acknowledge for the innovative work on e-Governance models, as well as helping in consolidating this compendium.

Lastly, thanks to my Secretary, Mr Vijay and the team at Universities Press who gave me full support in making this compendium possible.

Wishing for many more online applications for next year awards.

R K BAGGA
Convenor
CSI-Nihilent e-Governance Awards 2006–2007