

Thirty Years of e-Governance in CSI

Forefathers' Dream of India

Our forefathers gave their all to win political freedom for our country. Their dream of an India in which the poorest of the poor shall feel it is their country and in whose making they have an effective voice; women will have the same rights as man; neither exploiting nor being exploited; will have the smallest army and no police but only *santhi sainiks*, remains largely a dream. Unemployment, corruption gender and caste insensitivity are major problems that beset our country. People in rural areas waste their energies as they have no regular and fulltime work. The land problem is fundamental. The unemployment and underemployment bring about physical deterioration and undermine mental and physical capacities. The absence of the village communities having opportunities to develop their social, economic, political, cultural life in accordance with their own ideas and aspirations, results in the increasing authority of the state. Ineffective governance breeds corruption. Strong *Jan Shakti* will keep government in balance. To think everything will be done by the government is very wrong and even dangerous. Recent agitations on Lok Pal Bill by Anna Hazare brought to light the weakness of our present political dispensation. The effort of our legal and parliamentary democracy in starting serious investigations against the powerful political/corporate lobby is yet to yield results. In such a scenario, the question to our nearly 50 years old professional society, the Computer Society of India (CSI) is what is its contribution to Governance in general and eGovernance in particular in using Information and Communication Technology (ICT) for the populace?

Information and Communication Technology (ICT) for India's transformation

The social and geographical distance between sections of the populations is being rendered meaningless by the new Information and Communication Technologies (ICTs). The old dichotomies

of *north and south* are being replaced by *fast and slow* and *empowered and unempowered*. The opportunities arising out of ICTs are immense and in convergence with a visionary approach, political stimulant and right value framework can secure considerable gains toward a sustainable human development. The danger is, countries that fail to use technologies to their advantage will fall further behind, what is popularly termed by Gartner Group as Digital Divide. The political negative impacts of not using ICTs - upon economies, economic decision making, networking, advocacy and empowerment potential to civil society groups - are the major areas of serious concern to CSI.

With enactment of IT Act, Right to Information Act, the necessary framework has been set up in India for supporting use of ICT for improving quality of life of common citizens. The freedom of Media and press enables free expression to be encouraged at all levels. Deregulation can help free and fair information flows effectively to civil society. Support to enhancing such flows to the most vulnerable and marginalized groups should be given priority. NGOs, CSOs, CDOs and social society can effectively get their voices heard and share knowledge and experience in managing affairs of governance. The convergence of internet, radio and TV offers new opportunities for strategic donor support to key intermediaries that develop pro-poor content and who inform civil society. Support to developing content on new ICTs should not be allowed to erode, due to their exclusivity support for developing pro-poor media content. Poverty excludes poor people from the most basic of ICTs. Governments and donors must support the development of pro-poor strategies that actively promote social inclusion and social equity.

CSI Role: 1965-1980 Computer Awareness Era - the early years

CSI formed in 1965 was the sole professional body in Computers, due to the vision of stalwarts like R Narasimhan (first President) and A Balasubramanian (first

Secretary). CSI was always in forefront of spreading computer awareness among users community, through its members. All Chapter and Student Branches were duty bound to conduct professional activities in spreading computer culture among the professionals. Computer Science Departments in IITs and Universities played a major role in ensuring that this essential knowledge of first generation computers is not missed in India, in spite of high cost and difficulty in importing. There were regular CSI Courses for Banking, Insurance and other private sectors, as prerequisite for their in house competence building. CSI Directorate of Education at Chennai played a major role in conducting regular examinations to encourage the computer professional to upgrade their skills in system analysis and design of computer based systems using upcoming programming languages.

The last 30 years

1980-90 Computer Education Era

Department of Electronics (DOE), the prime agency in Government of India was made responsible for spread of Computerization in early 80's. One of the major handicaps was non-availability of computer trained manpower to undertake various projects for utilization of computers in the Government sector. CSI was called upon to come up with a scheme utilizing the expertise available in private sector for training working level people, both in Government and private agencies. CSI conceived a unique scheme called 'Department of Electronics Accreditation of Computer Courses (DOEACC)', which made tremendous impact in initial computerization of all agencies in India, under the leadership of Late Brig V M Sundaram, one of the past Presidents.

In 1988 a Working Group of DOE with representatives from CSI was set up, which went through the details of the manpower requirements in computer area and made the following major recommendations:

a. The existing Government/aided



DVR Vithal



R K Bagga



K S Vijaya Sekhar

institutions, through formal channel will not meet large manpower requirements, due to shortage of qualified teachers, financial constraints and limited resources.

- b. The private sector can play a major role in Computer Training to fill this gap, as it has the necessary competence, financial resources and adaptability to undertake changes in the curriculum, based on the job requirements.
- c. The following four levels of courses to be started for all category of computer manpower required:
 - i. 'O' Level Foundation course for programmers at assistant level
 - ii. 'A' Level Advanced Diploma Course for programmers
 - iii. 'B' Level Course for System Analyst/Software Engineers
 - iv. 'C' Level Master's course for System Managers



Founder President Late Prof. R Narasimhan unveiling plaque on 6th March 1991 at DRDL, Hyderabad (CSI Regd Office) to mark Silver Jubilee of CSI.

These recommendations were duly accepted by DOEACC scheme under the aegis of All India Council of Technical Education (AICTE) and DOE was started in 1990, for conduct of these examinations in consultation with the professional bodies. Computer Society of India (CSI) and Institution of Electronics and Telecommunication Engineers (IETE) were selected to conduct various examinations for these courses, once the students have undergone the necessary training. CSI looked after O,A,B levels where as IETE(I) helped in C level courses. DOE also approved a scheme where, various Private Institutions were accredited, based on their competence for conducting computer based training for various levels of courses. For this a

Screening Committee of Senior Computer Professionals from CSI carried out a thorough inspection, before giving provisional accreditation. Over 1000 institutions in all states in the country took part in this innovative scheme of generating trained manpower, utilizing the hardware and software available with CSI providing the main faculty from its large pool of members in various chapters. The DOEACC scheme is still being maintained by Department of IT, Government of India under DOEACC Society.

1990-2000 Computer in Government Era

The Government of India formed a special committee under Late Dr PP Gupta, Past President, CSI and Secretary of DOE to recommend suitable actions for spreading computer culture in India. The policy was framed in 1994 and the committee recommended undertaking Project INTENT - Information Technology for National Transformation. The policy focused on application development, infrastructure development and manpower development and made specific following recommendations for Government, Industry as well as CSI.

Actions by Government

- Support setting up, funding for COMPITANT (Commission for Promotion of IT for National Transformation).
- Treat IT on par with infrastructure industries
- Creation of telecommunications infrastructure - to begin with this could be accessible from all district headquarter towns and industrial growth centres
- Remove constraints on interconnection of public/private networks
- Promote use of project management/monitoring tools, electronic mail, work-flow automation, computing in Local languages
- Setup national body to oversee IT education, evolve standard courses, expert groups to set syllabi, liaise with industry to fund training facilities, 'canning' of training material, get case studies prepared - perhaps part of COMPITANT
- Promote Venture Capital funds for software development

- Fund and sponsor technology development projects

Actions by Industry Associations: CII, FICCI, ASSOCHAM, Chamber of Commerce, MAIT, NASSCOM, IETE, IE (I), NACT etc

- Re-examine role of in-house IT departments - departments to have business mission
- Support setting up, funding for COMPITANT
- Cooperate with CSI for instituting National IT Application Awards
- Development of IT Awareness programmes for telecasting, arranging sponsorships, conducting seminars
- Sponsor the effort of setting up National Database for electronic access

Actions by Computer Society of India

- Setup COMPITANT - This could be funded by the industry, government, CSI
- Institute National IT Application Awards
- Setup inter-disciplinary group to prepare Annual Technology Forecast
- Setup technical committees to identify IT standards to be followed
- Also, standards for Electronic Data Interchange (EDI) etc
- Development of IT Awareness programmes for telecasting, and arranging sponsorships for conducting seminars Conferences and Tutorials
- Liaise with Government and funding agencies to fund technology development projects
- Setup National body to oversee IT education, evolve standard courses, expert groups to set syllabi, liaise with industry to fund training facilities, 'canning' of training material, get case studies prepared - perhaps part of COMPITANT

CSI 1995 - Issue Process Action Agenda

Advancement in Information and Communication Technology (ICT) had started impacting all aspects of life worldwide. It was changing the way of functioning of Governments and its interface with citizens. In spite of all the efforts, the digital divide worldwide started appearing, especially in the developing countries. e-Governance aimed at

transparent, smart with seamless access, secure and authentic flow of information crossing the inter-department barriers and providing a fair and unbiased service to the citizens. ICT was increasingly being used by governments to deliver services to citizens at convenient geographical locations. Computer Society of India was the most popular platform during this decade, where thousands of computer professionals from all walks of life would participate in its annual convention and contribute in sharing of their expertise for improving computer applications in all areas including the Government sector. In one of its annual conventions in 1995 held at Hyderabad (CSI-1995), a special effort was made to discuss the issues facing computerization of the country under the following three selected heads:

1. Will software growth and exports continue?
2. Will hardware industry survive?
3. Manpower in IT: Is quantity the answer?
4. Link every village to Internet
5. Start National Identity Card Project
6. Automate Land Record Registrations
7. Implement FAST transit systems
8. Consolidate National database of all IT initiatives

Even in 2011, we see how important these policy directions are for Indian Government. These policy guidelines were regularly reviewed by Computer Society of India in various forums to make suitable corrections depending on the availability of resources and trained computer manpower. Somehow in later part of decade, CSI remained in back ground and newer bodies like NASSCOM, MAIT and CII took the lead in Government Sector computerization leading to formation of National Task Force on Information Technology and Software Development in 1998. Its 108 point Action Agenda, mostly based on CSI policy recommendation set the trend for IT revolution in India!

2000-2010 Internet and e-Governance Era

With rapid computerization, particularly in major centres in Bangalore, Mumbai, Delhi, Chennai, Kolkata and Hyderabad, the computer industry was transformed in to Information Technology Hubs for undertaking major International projects meeting the requirements of multi-nationals by extensive outsourcing.



Leading specialists including Dr PP Gupta, CMC; Shri N Vittal, Secretary, DOE; Shri Dewang Mehta, NASSCOM; Ashok Agarwal, CSI; Thadani, NIIT; Shridhar Mitta, WIPRO; Prof PVS Rao TIFR; Dr Gopal Rao, ECIL; Shri FC Kohli, TCS and JA Chowdary, STPI participated in Action Agenda sessions and made the following major recommendations for implementation of Government policy by all.

It was during this period that a number of State Governments came forward with their IT policies to attract Foreign Direct Investment (FDI), thereby bringing in much needed foreign exchange. The Government of India's liberalization policy launched by Mr Manmohan Singh, then Finance Minister set the trend for explosive growth of IT sector in the country. With availability of Internet, e-Commerce applications started taking shape even in India and required a National Policy Framework in the form of IT Act 2000 (amended in 2008) to ensure proper nurturing of this important technology in India. Right to Information (RTI-2005) Act gave the common man a long pending tool for finding out the progress of various cases in Government domain. CSI with its over 50 chapters, 200 student branches and over 20,000 members played a major role to ensure that their voice was heard and IT Revolution was not missed by India like industrial revolution! Many CSI Chapters conducted regular e-Governance events to benefit professionals working in Government sector and bridging the gap between industry and Government.

CSI Special Interest Group on e-Governance

CSI under its revised Constitution set up a Special Interest Group on e-Governance (CSI SIGeGOV) in 2007, to address some of the major issues, which still remained unsolved in later half of the last decade. The objective of e-Governance initiatives was to improve the reach, make services more transparent

and reduce response time by reducing costs. In developing country like India, one of the important result of ICT Enabled SMART (Simple, Moral, Accountable, Responsible and Transparent) Government was to reduce corruption. e-Governance empowers citizens and increases transparency. ICT applications in e-Governance define a major share of IT spending worldwide and it is crucial to address the key issues of reducing digital divide, as well as corruption. A key focus area of this SIG was to consolidate the e-Gov initiative in different States and ensure that the experiences and best practices are shared to benefit all, with its regular events.

Major Activities of CSI SIGeGOV

- The website for the Special Interest Group (www.csi-sigegov.org) was launched to act as knowledge sharing portal for all e-Governance initiatives in India. All major activities including e-Governance Awards database is maintained and updated.
- Based on inputs from Executive Committee, research work was undertaken with NISG and IIIT-H on Methodology for Evaluation for e-Governance projects, to be used for e-Governance Awards.
- Concept of Field visits and Analytical Hierarchy Process (AHP) was implemented to make the Awards process transparent unbiased and thus acceptable to Government officials for sharing their project.
- Conducted CSI Nihilent

e-Governance Awards (started since 2002) on yearly basis with financial support from M/s Nihilent Technologies, Pune and extended from State, Industry and Projects, to cover Departments and Districts also. Since Industry was covered by other CSI Awards, these were dropped for e-Governance Awards list.

- Major efforts on knowledge sharing was initiated with States of Andhra Pradesh (2009), Madhya Pradesh (2010) and Gujarat (2011) for encouraging knowledge sharing of e-Governance Initiatives at grass-root level, by organizing Knowledge Sharing Summits.
- International research taken with University of Tampa, Florida, USA for comparison of Citizen Services in US and India (eSeva of Andhra Pradesh) in 2009-2010.
- Interaction with International Conference on e-Governance (ICEG) since 2007 by holding joint conferences at University of Hyderabad (2008) and IIT, Delhi (2009) at IIM, Bangalore (2010) and current year at Nirma University Ahmedabad (2011).

CSI Nihilent eGovernance Awards -Documentation of Case Studies

CSI, along with Nihilent Technologies started a series of Awards at national level to encourage government departments by giving annual awards. In this process, all the nominations, which were shortlisted for final phase are documented and published every year since 2006. The idea of this publication is to share the best practices among various government agencies by providing them a good resource. From 2011 onwards, SIGeGOV has started a new award called 'Sustainability Award' for those Projects which had already won awards in earlier years.

The following SIGeGov six Publications covering case studies were released during Annual convention of CSI and are available for free download for use by all:-

1. **Enablers of Change:** Selected e-Governance Initiatives in India (eds) Piyush Gupta, R K Bagga and Ayaluri Sridevi by ICFAI University Press (2010).
2. **Fostering e-Governance:** Compen-

dium of Selected Indian Initiatives (eds) Piyush Gupta, R K Bagga and Ayaluri Sridevi Published by ICFAI University Press (2009).

3. **Transforming Government:** e-Governance Initiatives in India (eds) by Dr R K Bagga and Piyush Gupta Published by ICFAI University Press (2008).
4. **Compendium of eGovernance Initiatives in India** (eds) by Dr. R K Bagga and Piyush Gupta by University Press (2007).
5. **eGovernance Case Studies** (eds) Dr Ashok Agarwal Published by Universities Press (2006).
6. **The State, IT and Development** (eds) R K Bagga, Kenneth Keniston and R R Mathur by SAGE Publications (2005)

5th ICEG in 2007 at Hyderabad

International Conference on e-governance (ICEG) was founded at IIT Delhi in 2003 to address the growing need for furthering our knowledge in e-governance by inviting researchers to share their work. It is organized under the umbrella of International Congress of e-government (ICEG) (www.iceg.net) which is a forum for the advancement of knowledge in the discipline of e-governance and promotion of the same at various levels of governments, across the globe. The event held in Hyderabad ensured that structured methodology of issue process was followed in the area of eGovernance, in particular, sociopolitical areas. 5th ICEG was hosted by CSI SIGeGOV at the University of Hyderabad in Dec 2007. It was inaugurated by then Chief Minister of Andhra Pradesh Late Mr YS Rajasekhara Reddy.

The main highlight of this conference was the release of a document containing 'Issues' that require immediate attention of the policy makers. This was made by taking inputs from various stake holders. A set of recommendations and action plan emerged and which was shared with all stake holders. A structured *Issue Process Methodology* was followed for this purpose. A set of four critical Issues were identified and specific recommendations were made for each of the following issue:-

- Building Capacity for implementation
- Management of the Complete Project Lifecycle
- Enterprise Architecture Model,

Integration and Interoperability

- Socio-Political Implications of e-Governance

SIGeGOV Knowledge Sharing Summit, Hyderabad (June 2009)

The first Knowledge Sharing Summit (KSS) was made possible with major support from Principal Secretary Shri Ajai Mishra, IAS and Additional Secretary Shri Suresh Chanda, IAS Department of IT&C, Andhra Pradesh. The Presidential address was delivered by Shri S Mahalingam, President CSI. In his address he elucidated the evolution of CSI and objectives of establishing its SIGeGov head quarter in Hyderabad. He also set tone for the CSI for supporting National e-Governance Plan.

Two day programme was organized as 4 sessions on e-Governance Applications and a special session on 'e-Governance-Appropriate Technology' followed by Panel discussion on "e-Governance initiatives: Implementation Issues". During the four sessions on e-Governance Application, many State Government leaders shared the e-Gov initiatives taken up by their respective States. State project heads had come forward to share their knowledge and experience for the replication of their respective projects with the participants of other states. During the summit, the knowledge on a number of e-Governance Projects were shared by the respective state Governments for the benefit of the delegates, who all are invited at the host States' cost.

SIGeGOV Knowledge Sharing Summit, Bhopal (June 2010)

CSI SIGeGOV, in collaboration with Department of Information Technology, and MAP_IT, Government of Madhya Pradesh, conducted the second successful Knowledge Sharing Summit on e-Governance in June 2010 at Bhopal, Madhya Pradesh. The inaugural session was presided over by Hon'ble Minister IT, Shri Kailash Vijayavargheya, where Prof P Thirumurthy, the then President, CSI; Dr Ashok Agarwal, the then Chairman, CSI SIGeGov took part in the deliberation, including inaugurating an exhibition of e-Governance Solutions from Government and Private organizations. The Summit was attended by a large number of participants from different States, including some of the IT

Secretaries with the theme 'Transforming Government and Enabling Citizen'. Shri S S Mantha, Chairman, AICTE, as well as Hon'ble Justice Shri Rajesh Tandon, Chairperson of CAT also shared their views on ICT in e-Governance. Mr Anurag Jain, Secretary IT, GoMP shared the status of e-Governance initiatives in Madhya Pradesh. The Knowledge Sharing Summit concluded with a special IT Awards ceremony conducted by Government of Madhya Pradesh, where all award winning projects leaders were honored by Shri Avani Vaish, Chief Secretary GoMP and Hon'ble Justice Rajesh Tandon.

2011 Updates

Knowledge Sharing Summit (KSS) & ICEG held at Ahmedabad (17-18 Oct 2011)

In a unique experiment, an integrated program of Knowledge Sharing Summit and International Conference on e-Governance was launched at Ahmedabad on 17 Oct 2011 by

Shri Narendra Modi, Hon'ble Chief Minister of Gujarat. In the Inaugural session, Shri R Chandrasekhar, IAS delivered the keynote address stressing the need for innovative approach in India to derive maximum benefit from Telecom Growth and ICT applications in e-Governance. He also highlighted the recent Government regulations including NTP-2011 and updated IT Policy, apart from Delivery of Services Rules being released shortly. Chief Guest Shri Narendra Modi in his usual style covered the meteoric rise of state of Gujarat by using ICT for providing efficient services to all its citizens. He shared his experiences of last decade in applying ICT in improving e-Governance scenario in state of Gujarat. As a recognition, CSI President Shri MD Agarwal and Past President Prof P Thirumurthy honored Shri Narendra Modi with citation and plaque of the newly instituted 'CSI-eRatna' Award. Chief Secretary Shri A K Joti welcomed the guests including President, CSI and Chief Minister. Shri Ravi S Saxena's effort in ensuring high quality of participation from Government, Academia and Industry was highlighted by R K Bagga, CSI-SIGeGov Chair.

With the theme, Government Transformation: Agenda for eGov 2.0, four plenary sessions covered Inclusive



Chairman, SIGeGov highlighting KSS-2011 & ICEG program during 3rd Knowledge Sharing Summit and 8th International Conference on e-Governance during Inauguration on 17 Oct 2011 at NIRMA University, Ahmedabad. Hon'ble Chief Minister Narendra Modi Inaugurated the Conference and seated on the dias.

Growth, Restructuring Governance, Citizen Empowerment and Technology Management during the two days KSS-ICEG-2011. Over 400 delegates from Government Sector, Private organizations and Academia participated in the deliberations of this unique event held at Ahmedabad. In 4 parallel tracks, ICEG contributed papers from over 60 participants from 9 countries were presented in implementation, emerging technologies and policy practices chaired by Distinguished professionals from CSI. In parallel Knowledge Sharing Sessions, IT Secretaries from a number of states including Maharashtra, Tamil Nadu shared their best practices for the benefits of all. In a special session exclusively devoted to the practices being followed in Gujarat chaired by Dr Viresh Sinha, Addl Chief Secretary moderated by Dr Neeta Shah, the unique experiments in various departments including Healthcare, Commercial Taxes, PDS and Education were shared. In the concluding session, Drs Ashok Agarwal and R K Bagga highlighted the need for strengthening electronics, hardware industry by making affordable tablet like Akash for use by common citizen. In the valedictory session of the conference, recommendation was made for CSI to undertake a special study for Inclusive Growth and Restructuring of eGov 2.0 era involving Govt of Gujarat.

Where Do We Go from Here?

- CSI can introduce courses on e-Governance at National level for various management colleges. There is an urgent need to set up a Centre of Excellence in e-Governance

for undertaking curriculum standardization for Government sector.

- CSI can also play an advisory role to bridge the gap between Central and State Governments in implementing various citizen centric services.
- Governments should offer consultancy for senior CSI Fellows to look after various welfare programs in implementation phases at National Level (like Nandan Nilekani).
- A roadmap to be designed for every 10 years of e-Governance activities under CSI banner
- Any government policy matter includes some kind of evaluation or pilot study, which CSI can take up with the help of its student members. Then CSI can come out with a final plan for implementation at National level. 3-tier architecture be maintained for any policy related matters and society members be involved.
- Provide both moral and financial support to the e-Governance professionals at Chapter and Student Branch level.

Role of Professionals in CSI

The CSI professionals must monitor the development of technology and its use and if necessary influence it. Radio and TV were hailed to be a boon for education and culture; instead became a boon for marketing. Web and networking, if allowed, will follow suit. Professionals need education that includes not only technology and its uses but also its history and social effects. Authority will press

for benefits in property. Professionals must press for benefits in personality. The willingness to part voluntarily with expertise, time and money for a social cause has great moral and psychological value. e-Governance provides an opportunity to CSI professionals to use

their expertise for betterment of the citizens. It should not be that the hearts of the haves are poor. We are in the business of creating future. ICT has provided a quantum jump in affordable broad band connectivity using mobile devices. We must pursue with both hope and fear -

hope that it will be used for public good and fear that it will be for destruction of all that we cherish. *Sarva Udaya*, empowering all, will ensure *Desh Udaya*, empowering our country to rise to dizzy heights in fulfilling the dreams of our forefathers. ■

» About the Authors

DVR Vithal is a Life Fellow of CSI and a recipient of its Distinguished Service award. He is also a Life member of ISTE and IEEE. He organized several national and international activities. He was associated with APTS and DOEACC and AICTE, NBA and UGC. He assisted in the formulation of IT programs and staff selection for institutions/ IT organizations. He initiated ECE and CSE disciplines and augmented Computing facilities at Osmania University etc. He has traveled widely and is consulted for IT education in particular and engineering education in general.

Maj. Gen. Dr. R K Bagga is the Advisor (Outreach Division) at IIIT, Hyderabad, since July 2004. He is responsible for International Programs, Research and Resources Generation by international and national collaborations for IIIT-H. He joined Army in 1958 and superannuated as Director Computer and Information Centre & Associate Director, DRDL, Kanchanbagh, Hyderabad in 1997 after 40 years in uniform. While in service, he obtained M Tech (CS) IIT Kanpur, PhD Osmania University and MA,LLB from Agra University. He is guiding a number of Researchers for their PhD from JNTU and Osmania Universities.

K S Vijaya Sekhar is presently working in Outreach Division at IIIT, Hyderabad. He is responsible for organizing middle level executive programs and international/national level conferences, seminars with a focus on filling the gap between academia and industry with support from Government. He completed his Masters of Commerce, Master of Computer Applications and currently Master of Business Administration (HR). He is also pursuing his PhD and working on eGovernance and eParticipation as a core.