



Tata Institute
of
Social Sciences

THE
INDIAN JOURNAL
OF
SOCIAL WORK

Volume 72, Issue 4
October 2011

E-Governance as a Pre-requisite for Development Rhetoric and Reality

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Even while Information Communication Technologies (ICTs) are perceived to have positive impact on socioeconomic development, lack of concomitant mechanisms to enable the poorer sections of the society to access useful information and engage with decision making processes would render ICTs to be less effective in bringing about social transformation. The paper discusses the issues involved in viewing development of ICTs as a prerequisite for socioeconomic development, with special reference to e-governance. The key concerns to be addressed in a citizen centric e-governance programme which include equity, transparency, responsiveness and accountability warrant substantial changes in the approaches towards developing and implementing such programmes. Various issues involved in developing comprehensive e-governance initiatives to strengthen grassroots level institutions in order to improve service delivery and development administration are critically examined. Inferences drawn from the experiences in establishing e-governance in local self government institutions in Kerala emphasise the need to shift towards a participatory paradigm of e-governance to empower people through ICTs.

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INTRODUCTION

There is a significant dichotomy in the way Information Communication Technology is perceived in socioeconomic development. While one view emphasises a direct correlation between development of societies and growth of ICTs, the other maintains that there is no such proven relationship. Over the years, the euphoria on the potential of Information Communication Technologies (ICTs) to radically transform the lives of people, particularly the poor has of late given way to more realistic perceptions in this regard. The notion that advances in ICT would hasten development as

maintained earlier by many is a far cry. It has become clearer that technological advances alone would not improve the lives of people. Several authors have noted that the issues involved in establishing a definite role for the ICTs in the development of communities are complex (Fraseri, 2000; Brodnig and Schonberg, 2000; Bimber, 1998) and these technological advances would not resolve any fundamental development problems ultimately. That is, in order to have the desired impact of ICTs on the lives of the common people and the less endowed, there has to be concomitant mechanisms to provide them with fair and adequate chances to access the technology as well as the information disseminated through them. In fact, the problems that are related to dissemination of any modern technology among the members of a community are more conspicuous in the case of ICTs. This is because of the fact that even as ICTs have excelled all other technologies devised hitherto both in terms of innovation and spread, and have eased out the drudgery of human effort, they have remained largely elitist in terms of their applicability and content. This has given a significant advantage to the developed economies over the rest of the world in terms of the efficacy in employing ICTs in various sectors, which subsequently helped them reap the results early. Though the ICT revolution has been so overarching and pervasive that no country has been able to keep away from its influence, the developing economies are yet to make full use of it (Joseph, 2002).

The varying degrees of access to technology and knowledge regarding its application among individuals, communities and nations have led to a new kind of stratification of the human society as symbolised by the term 'digital divide'. The issue of digital divide, as it is usually done, can not be simply attributed to lack of knowledge or limited access to technology alone. It reflects more relevant socioeconomic imbalances: how technological advances are used by the forces of production to safeguard their interests, how are the interests of the dominant classes protected and championed, what is the nature and volume of the content available, how does information get manufactured, treated and disseminated, and so on. Related to this are the several other dimensions such as flux of misinformation, dominance of big operators, dominance of prominent cultures and languages, risk of being observed by others, risk of being attacked by others, and even the risk of being manipulated (Fraseri, 2000). The monopolistic dominance of the industrialised world on the manufacture of vital hardware used in ICTs has also been a major deterrent in bridging the digital divide.

With the apprehension of being relegated to the fringes of the development arena looming large, serious efforts have been initiated in several parts of the developing world to use ICTs for effective intervention in the process of socioeconomic transformation. Creation of knowledge societies by integrating the information embedded in ICT systems and the innate knowledge systems of the people has evolved as a major action point towards this direction. Given the elitist nature of the technologies, these efforts would be fruitful only if alternative methodologies to utilise ICTs for the empowerment of the deprived sections of the society are designed. Needless to say, this would require demotion of the elitist tendencies in all aspects of the technology in use. The conventional proponents of ICTs who are largely unresponsive to the social and ideological underpinnings of a technology programme will have to be reoriented for desired results. It is important to consider all these dimensions while looking at the various manifestations of ICT applications and their use in various sectors of development.

Designing the technology in a pro-poor manner has been found to be a crucial issue, particularly with regard to the interface of technology and relevance of content. This also implies refinement of the present skills of the institutions involved in the ICT sector. Absolute technological determinism would be inappropriate and improper a tool to analyse the issues related to ICT applications for the development of the common man. Instead of the conventional prescriptive approach, technology generation and dissemination should adopt methods that would allow thorough participation of the stakeholders at all levels. Otherwise, the complex situations entailed by centuries of underdevelopment—as reflected in archaic systems that ICTs try to transform—would defy the very purpose of technological intervention. As Unnikrishnan (2001) observes, even though the technological evolution in ICTs has aroused much interest among policy makers, the business sector, the media and the academic world in industrialised countries, the impediments to the diffusion and use of information technologies in developing economies need to be better understood.

This paper tries to briefly discuss the issues related to the significance of ICT as a prerequisite for modernisation and development of the less endowed people, with special reference to e-governance. For this purpose an overview of the different streams of thinking on the role of ICTs in development and the theorisations thereof has been attempted. It would help to have a critical look at the predominant corporate approaches in the

development and deployment of ICTs and the changes to be adopted to make it pro-poor and truly development oriented. The core competencies that would be required for analysing various administrative systems in a participatory mode and for undertaking other pertinent components such as human resources development, capacity building, establishment of support mechanisms for handholding, content development, content management, and so on are also briefly discussed.

CONTEXTS AND PURPOSES OF ICT APPLICATIONS: A BRIEF OVERVIEW

Technological innovations are normally evaluated on the basis of the contexts in which they are generated and the purposes for which they are used in various situations. Historically, being borne out of military and strategic intentions, major ICTs have remained out of the reach of the common people, not to mention the poor, for a fairly long period. However, when they were available for public use—by way of its uniqueness on account of micro miniaturisation and networking—it became so ubiquitous and the accompanying innovations qualified it as a general-purpose technology (Helpman 1998). It is generally observed that we have not been able to fully comprehend the manifold ways in which ICT could contribute to human welfare. Also, there have been very few attempts to study the impact of ICTs on third world economies primarily because of severe problems of statistical classification and data availability; and issues arising out of non-standardisation of the measurement of the impact of ICTs on economies (Unnikrishnan, 2001). This is reiterated by the observation that advances in ICTs as indicated by growth in ICT investment need not have any immediate impact on the overall economic development of the country. Studies have shown only limited correlation between investment in ICT and traditional economic growth indices (Wellenius and others; Yang 2001, cited from Soefstad and Sein, 2003). The findings of general failure in such studies have led others to question whether ICTs have any real effect on national development (Heeks, 1999).

However, there is an overall consensus on the positive role of ICTs in the development process across the world. Though it draws heavily from the arguments of technological determinism, a direct correlation is assumed to exist between economic development and the growth of ICTs in the context of globalisation. It is argued that the ability to harness this technology would improve the capability of firms in developing countries to

withstand competition from multinational corporations (Pojhola, 2001). Digital divide, which results from the discrepancies in the capability of people and countries to access various components of ICTs, is currently regarded as an indicator of development and governments across the world. A review of the ICT policies of governments show that almost every developing country envisages huge investments and are striving to establish national level information infrastructure to facilitate growth of ICTs. In the wake of globalisation, it is feared that if this new source of wealth is not harnessed, the developing countries would certainly face the threat of further falling behind the developed countries, thereby accentuating the inequality across countries. The inevitability of investing in this sector as a prerequisite for development has been reiterated even by the UNCSTD¹ Working Group on Information Technology and Development, which undertook an extensive study on these issues. They maintain that developing countries are at very different starting positions on the task of building innovative and distinctive knowledge societies and in using their national information infrastructures to support their development objectives (Mansell and When, 1998). There is also a note of caution that although the cost of using ICTs to build national information infrastructures which can contribute to innovative knowledge societies are high, the costs of not doing so are likely to be much higher. Here, the author does not approach the issue on the basis of the benefits accrued on the basis of exports of software products or facilitation of the private sector by the state governments. The discussion is exclusively on the investments on infrastructure, human resource development and other supportive administrative reforms for enabling better public services through e-governance. The corporate dimensions of ICT application is not a main point of discussion.

As regards development of the poor, bridging the digital divide through faster adoption of ICTs is considered as one of the most important steps to liberate the masses from their tribulations and poverty. This has been envisaged through various means and ways, which has led to the emergence of a cyber libertarian philosophy that places ICTs as a key element in the process of development. Both the developed and developing communities would benefit out of this technological revolution. This approach hopes that advances in ICTs would create a more equitable and democratic society in the advanced industrial world and bridge the development divide in less developed economies, especially in rural areas (Sreekumar, 2011).

In this approach, ICTs in general and the various offshoots of its applications, such as e-commerce, e-governance, e-democracy, and so on in particular have been viewed as the tools for diversifying the choices of people, enhancing productivity, and widening the scope for international exposure even to the most disadvantaged communities.

ICT in the Context of Globalisation

There are also critics, who argue that ICT is used more as a tool to propagate and strengthen globalisation, the growth of which in turn would develop these technologies further. Unnikrishnan and Sreedharan (2000) observe that global capitalism and the emergence of ICT have a direct correlation, each contributing to the growth of the other. ICTs form the technological basis of globalisation, opening up new markets and facilitating trading of services and products on a global scale. On the other hand, these technologies in turn are shaped by the rules of globalisation, namely concentration, liberalisation, privatisation and unequal intellectual property rights. ICTs by virtue of this relationship are often described as the new missionaries of corporate capitalism that widen the socioeconomic divide among nations and within nations. Herman and Mc Chesney (2000) argue that the global market system and the commercial media and communication system have widened social inequalities, weakened the public sphere worldwide and there is a need to look for democratic alternatives to market driven centralisation and commercialisation. Emerging third world contexts testify that such technological advances are mostly used by corporate giants for widening their markets. For example, globalisation and the myriad covert ways of attracting and modifying consumer preferences are largely accomplished by deliberate and intense campaigns aided by modern ICTs.

Positive impact of ICTs on the lives of people would be in one way, a direct function of the job prospects offered to the trained manpower in society and the prosperity generated thereof. However, the question as to how these technologies would be put to use for improving the livelihoods of the common people is usually answered following the assumptions of the dominant paradigm. The dominant paradigm in ICT dissemination proposes gradual growth of the society as the positive effects 'trickle down'. Any direct impact on the lives of the less endowed can be accomplished only through alternate ICT programmes that would address the real life situations of peasants, fishermen, artisans, women, and other non-descript workers. ICT programmes, whether e-governance, or e-commerce will have to be customised with this objective.

It is not, however, what happens usually. In real experience, the overarching reliance on cyber libertinism does not envisage any macro social transformation (Sreekumar, 2000). Instead, it realises the intelligent and delicately conceived political agenda of facilitating globalisation and its pre-dominant actors who would be hugely benefited out of it. Pieterse (2000) points out that the interests of global capital are masqueraded in the current concepts of development like capability, entitlement, and the developmental state. Out of the two major strands of development thinking since the 1980s—neoliberalism and human development—the former has a hegemonic nature with the continuing prominence of finance and corporate capital and the latter is explained in terms of such concepts as capability, entitlement, and the developmental state. He observes that international development agencies have been quite successful in theorising these strands as mutually supplementary. Discussing globalisation, the Human Development Report (1999) states that it does not intend to stop expansion of global markets. The challenge is to find out the rules and institutions for stronger governance—local, national, regional, and global—to preserve the advantages of global markets and competition but also to provide enough space to ensure that globalisation works for people and not just for profits (UNDP, 1999). It is not by arguing against the neoliberal agenda, but arguing for strengthening it and posing it as a challenge as well as an avenue for the less-endowed communities to grow, that it tries to bridge the gap between the two. ICTs can be positioned as promoters of these apparently contradictory development propositions. As discussed earlier, this is a tricky situation, which has to be unsnarled with care.

Understood from the above review is the dominant tendency of the capitalist forces to use ICTs in all possible ways to protect its interests. E-commerce is the most telling examples of using ICTs for globalising markets. When it comes to e-governance, neoliberal policies tend to focus on reducing the efforts of the governments, including downsizing of administrative personnel and withdrawing citizen services substantially from public sector. In spite of these hegemonic interests of globalisation on ICTs, there is scope for exploring alternative methods, on account of the excellent malleability of these technologies. However, this would be possible only if ICT programmes are deliberately conceived and employed in a pro-poor manner, supported by strong back-end mechanisms. Appropriate technologies, suitable applications and relevant content could drastically improve delivery of information related services to citizens, agricultural and health

extension services and services in the social sector, to cite a few examples. It should be borne in mind that many developmental issues that deter the process of inclusive and positive social transformation are not essentially related to information. Further, it would be too reductionist to ignore greater socio-political issues for peripheral issues like 'lack of information', a problem that can be effectively addressed. The current recession proves beyond doubt that growth of basic economy is primarily important. The reckless policies of global capitalism would be disastrous, which would even slow down technological growth as evident from the declining prominence of ICTs the world over.

A proactive ICT programme that intends to facilitate the development of a society should, therefore, include plans to link the repository of information embedded in ICT systems with the basic needs of people. This essential concern does not appear to have received due recognition in the policy initiatives on the development of ICT in India and many such countries. Terms and conditions for investments in the ICT sector are goaded by blindfold inclination to the investment needs of prominent transnational companies invited to the country. At the end user level, mostly the urban elite reap the fruits of development in this sector. This implies that development promoted through ICTs or the model of employing ICTs should go beyond the dominant paradigm. More importantly, developing countries should not be considered as homogenous entities leading to one-size-fits-all view of development intervention. The strategy of implementation of ICT programmes, particularly e-governance should be contextual and to a great extent, location specific.

E-GOVERNANCE: CONCEPTS, METHODS, EVOLUTION

According to (Valentina, 2004), the initiatives of government agencies and departments to use ICT tools and applications, Internet and mobile devices to support good governance, strengthen existing relationships and build new partnerships within civil society, are known as e-governance initiatives. The relevance of e-governance initiatives is substantiated by Bhatnagar (2000), who observes that it has become the norm rather than an exception to utilise information and communications technologies (ICT) in a broad range of public sector operations in contemporary governments. Relying on the assumptions on the positive impact of ICTs on development, the role of ICTs in development, e-governance has been regarded as the harbinger of a great wave of technological

innovation as well as government reinvention and a tremendous impetus to move forward with higher quality, cost effective government services and a better relationship between citizens and government (Fang, 2000). This has gone a long way in the developed world as many government agencies have taken progressive steps towards the web and ICT use, adding coherence to all local activities on the Internet, widening local access and skills, opening up interactive services for local debates, and in creating the participation of citizens on promotion and management of the territory (Graham and Aurigi, 1997). This has been enabled by the ICT investment spree which has created the underlying infrastructure and applications that utilise computing power and connectivity. The significant decline in the prices of hardware, software, and related auxiliary services caused by rapid technological development in recent times has also substantially contributed to this. Deregulation and liberalisation of the telecommunications sector, which resulted in diversification of information transmission modes, has made the delivery of online services much easier and, most importantly, cheaper. Facilitated by all these, an increasing number of projects have been launched under the label of 'e-government,' and several governments have identified this as a key policy priority in recent years.

E-government projects deploy ICT applications in the public sector for different purposes. The evolution of these applications follows a continuum from e-administration to e-services to e-participation (Ranerup, 1999; Heeks, 2001). The primary intention of using ICT was to improve efficiency and overall performance through automation of back-office functions and introduction of management information systems (MIS). Governments then explored the scope of using ICT to directly interact with citizens, through informational web sites that provided the entry point for citizen services. With the advancement of technologies, interactivity and integration of e-governance systems got enhanced. At the far end of the evolution of e-governance, is e-democracy, which is now being tried out in some places—the ultimate point at which citizens can participate in major policy making processes electronically. Through such means as electronic voting and virtual discussion forums, the interface of governments has widened beyond the horizons of traditional public administration. It may appear impressive, but reaching this point would require strenuous efforts at the social, political and economic fronts.

Differentiating e-Governance and e-Government

To proceed with the discussion on e-governance, it would be appropriate to distinctly understand the various concepts associated with it. The term government and governance are currently in widespread use, some times interchangeably. Riley (2003) cites Donald F. Kettl's recent book, *The Transformation of Governance*, on the historical analysis of American public administration to distinguish between government and governance. While government is an institutional superstructure that society uses to translate politics into policies and legislation, governance is the outcome of the interaction of government, the public service, and citizens throughout the political process, policy development and service delivery. Governments are specialised institutions that contribute to governance. Representative governments seek and receive citizen support, but they also need the active cooperation of their public servants. Governance is the outcome of politics, policies, and programmes. As seen in the definitions of Valentine (2004) and Bhatnagar (2004), e-governance is the use of ICT by the government, civil society and political institutions to engage citizens through dialogue and feedback to promote their participation in the process of governance of these institutions. Riley compares six milestones of government with six milestones of e-governance to draw a distinction between the two. According to him, when 'government' is characterised by superstructure, decisions, rules, roles, implementation and outputs, 'governance' correspondingly denotes functionality, processes, goals, performance, coordination and outcomes. At the operational level, e-government involves electronic service delivery as against electronic consultation in e-governance, electronic workflow against electronic controllership, electronic voting against electronic engagement, and electronic productivity against networked societal guidance respectively. Nevertheless, the pillars of e-government and e-governance are now being defined and considered as the natural extensions of sound methodologies of running government organisations.

E-Governance: Emerging Issues in Developing Economies

The distinction between governance and government discussed earlier provides us with a logical plane to analyse the issues involved in operationalising e-governance programmes in different contexts. It would be better to place the process of governance in the context of the pressing transformations required in response to the changes in the socioeconomic

scenario. Governance has undergone several changes in response to globalisation and liberalisation, and world wide, governments are faced with the challenges of transformation and the need to modernise administrative practices and management systems (Tapscott, 1996). Most of the e-governance initiatives in developing economies are trying to improve or replace the archaic and complex forms of bureaucracy that had existed for a long time. Ideally, with e-governance in position, the traditional bureaucratic paradigm characterised by internal productive efficiency, functional rationality, departmentalisation, hierarchical control and rule-based management (Kaufman, 1997), would be replaced by competitive, knowledge based economy requirements such as: flexibility, network organisation, vertical and/or horizontal integration, innovative entrepreneurship, organisation learning, speed in service delivery, and a customer driven strategy. Going by the definitions of Riley (2001), e-governance being the interface of the super structure with the citizen, should provide the citizen with the opportunity to interact with the government as much directly as possible, without interference and inhibition by the bureaucracy. Since the governments maintain an air of secrecy that ward off the public from being too much involved in the process of administration, transparency should be enhanced to bring about desired results. Equally important is the issue of responsiveness, which is directly related to the lack of efficiency, which is in turn related to lethargy. Departure from the existing tendencies to usher in these qualities has proven to be difficult as the complexity of the systems that we propose to change and the volume of efforts required for it are the results of the interplay of different human, social, economic, political, organisational and technological factors.

For e-governance initiatives to be successful, the government should undergo transformation in three critical areas namely, internal areas, external areas and relational areas (Hirst and Norton, 1998). Internal areas refer to the use of ICT to improve the efficiency and effectiveness of internal functions and processes of government by inter-relating different departments and agencies. Thus, information can flow much faster and more easily among different governmental departments, reducing processing time, paper work bottlenecks, eliminating long, bureaucratic and inefficient approval procedures and increasing internal efficiency by enabling time reductions for using, storing and collecting data, reduction of labour costs and information handling costs as well as the speed and accuracy of task processing. External areas refer to the new possibilities for governments to

be more transparent to citizens and businesses, giving access to a greater range of information collected and generated by the government. ICT also creates opportunities for partnership and collaboration among different government institutions. Rational areas refer to the interface of the state with its citizens that have evolved as a result of deployment of ICT in governance. Vertical and horizontal integration of services can be realised, enabling the integration of information and services from various government agencies to help citizens and other stakeholders get seamless services.

Principles of E-governance

In the backdrop of the above, it would be appropriate to examine the key concerns that should form the basis of any pro-poor and development oriented e-governance initiative. The different areas of transformation discussed above should be translated into specific action points. In fact, these concerns should be considered as the principles of developing and deploying e-governance programmes in developing economies.

Equity

The first concern is with equity, which can be operationalised at many levels as the division among various stakeholders in e-governance with regard to access to technology and knowledge on technology is substantially wide. This is a direct function of the socio-economic characteristics of the end users. For example, there is a distinct chasm between the urban and rural population, with the former having an advantage over the latter on account of awareness, education, availability of access points, and so on. Presently, the focus on the concerns of the illiterate, marginalised sections and women are inadequate. Equity principle shall be applied not only to the physical access of the end user to hardware, but the nature of the content as well. Actual access by the marginalised sections requires several prerequisites, such as availability of relevant content, cultural compatibility of the content and several context specific factors. Establishment of information kiosks across the country alone would not solve the issues. Rather, focus should be on collating relevant information and presenting them in usable form, with adequate back-end support mechanisms to get timely response and action. The transaction of information should be directly linked to real life transactions that support the livelihoods of the end users. Comprehensive and exhaustive overhauling of the information dissemination process and service delivery process would be required to accomplish this. It

should also help the grass roots level development process by facilitating acquisition of inputs or selling of produces. For example, there should be strong ICT enabled back-end mechanisms to link up markets, government agencies or producers' unions to respond to the transactions from the grass roots level.

Transparency

The second concern is centred on the inevitable outcome of e-governance, namely transparency. As discussed above, the archaic systems of bureaucracy quite often feign ignorance of the submissions made by citizens and operate in a clandestine manner. This makes the administrative decision-making process secretive and opaque. Though e-governance provides immense technological solutions to ensure transparency, it can also be used for being secretive in decision making. Governance would not be transparent unless the government decides to be so. Transparency can be ensured by putting in place adequate institutional mechanisms such as file tracking systems, on line bidding, disclosure processes in auction and tenders, on line procurement, online listing of defaulters, and so on. By strictly insisting on standards and norms, public agencies can be held accountable to a considerable extent. Transparency assumes much importance in countries that deliver most of the citizen services through public agencies and it is one of the foremost values that can be added to the existing systems of service delivery and grievance redressal.

Accountability

Accountability of the person responsible for decision making could be the next important aspect that has to go hand in hand with transparency. The quality of the decision is dependent on the knowledge of the person concerned, which is again dependent on the extent to which he is informed of the situation. However, the person or the official who is responsible for a decision should be held accountable for the fall out of the decision. The government which tends to be impersonal can be made accountable by insisting on mechanisms such as citizen charters, well defined response time, and so on. Work flow applications in offices could be an other way of holding the officials accountable for the specific decisions in the overall decision-making processes. Establishment of touch screen kiosks at government offices to let citizens have easy and speedy information on the progress of movement of files and inbuilt electronic controls and tags to avoid delay in decision making are examples of ensuring accountability.

Administrative Reform

Concomitant administrative reform is another concern, as the traditional systems in most cases of e-governance would be procedure ridden and slow, and would have formed a complex maze in itself. Unsnarling the innumerable procedures and iterations would require a strong resolve to simplify decision making procedures by reducing the number of decision points. This may lead to varying degrees of administrative reforms or simple business process reengineering. This is a point that is strongly contested by trade unions in fear of attrition. These fears will have to be allayed as much as possible and the strategy of e-governance should focus on enhancing productivity without attrition. This could be attempted by channelising the human resources available to innovative functions in governance. For example, personnel who are mostly occupied with clerical routines can be trained to perform field level functions; as that can be done in a corporation which has dearth of field staff to assess taxes and collect money from defaulters. However, this should not lead to attrition and it requires careful engineering of human resources.

Participation

Participation has become the buzz word in e-governance parlance and the nuances of this term are very many. E-governance initiatives for grass roots level development require high degree of participation of its stakeholders, to make it more acceptable and user friendly. A healthy contestation of the plurality of views would be of immense value in e-governance as its effectiveness depends greatly on the quality of interface between citizens and the government. Participation should be ensured at various levels and phases of an e-governance programme, starting right from the analysis of the systems. Improvement of the system and the processes can be accomplished in consultation with the stakeholders, as they know the constraints in the system completely and the improvements required. The interface of the e-governance applications and the content can be improved greatly by consulting with the end users. Even the deployment of the e-governance programme and post-deployment hand holding of the new system can be made hassle free if stakeholder participation is done purposefully. However, this requires an acute departure from the traditional programme development process, with continuous consultation and unwearied listening to the arguments of the end users, and building consensus on the features and functionalities of the applications. In this paradigm of e-governance, prescriptive solutions give way to consultative processes. In Internet based

services, development of content and presentation can be participatory. Participation can also be viewed in terms of the advancement of e-governance, which implies that the ultimate point of evolution of governance would be e-democracy, in which citizens are directly represented in the process of decision making. This is a stage where the space for consultations are legitimized and citizen voices are incorporated into policy formulation and operational modalities; and for influence—when the citizens are accorded right to litigate and directly impact on policy and praxis.

Responsiveness

Responsiveness is corollary to participation, in the e-governance contexts. This implies effectiveness and efficiency with which governments respond to the requirements of the citizens. This in fact addresses the issue of the time within which the government responds; whether the requirements are met in a reasonable period, or whether it takes longer duration to respond so that the requirements become stale.

Capacity Building

Success of any e-governance programme relies largely on human resource development, particularly capacity building of the end users. Capability of the citizens, as well as the personnel who use the systems should be enhanced to handle the interface and the hardware. Capacity building would require huge investment of time, energy and money—as the personnel involved in big programmes would be many who are most likely to be novices to computers. A considerable strength of technical personnel also has to be trained as part of maintaining the system after deployment. Language is an issue to be looked into while training low end employees; in countries where there are wide regional vernacular variations, software interface and the training manuals would be required in the respective language. Being participatory, the human resource development strategy should be end-user oriented, which focuses on the user's central role right from the system study stage and advocates for a three way partnership of the user, the designer, and the action researcher (Unnikrishnan, 2000).

Comprehensive Perspective for Future Development

A well conceived e-governance programme should nurture a comprehensive perspective, with well defined roles for each stakeholder and a well laid out road map for future development. Though the programmes might have been initiated partially, by addressing a few facets of the whole programme, the government should have a comprehensive perspective

regarding the grand design of the programme under consideration. Unless the grand design is not kept in view, integration of different component applications would be difficult in the future. Choice of technology platforms, design of interfaces and data bases should be in line with the ultimate scenario envisaged.

Partnerships

Any development oriented e-governance programme would envisage strategic partnerships with institutions and organisations who can contribute to the programme on several fronts. Partnerships are important given the volume of the efforts involved in designing and implementing mega scale e-governance programmes. Government alone can not ensure that ICT plays its designated role in development. There are several stakeholders, many times better positioned than the government to ensure the success of e-governance initiatives. For example, NGOs, local institutions, small scale local entrepreneurs, and so on, would be good sources for wielding complementary responsibilities in training, technical support and content development in e-governance initiatives. Roping in the private sector with well defined roles and controls can also be tried out to assist the government in developing and deploying applications, provided they conform to the standards set by the government. There is also tremendous potential for cross-learning between the states and institutions. In fact, the bureaucratic structure could be leveraged for replicating successes elsewhere.

All these reflections are on the assumption that the country has adequate infrastructure backbone to support an e-governance system. Availability of hardware, availability of required bandwidth, speedy procurement of materials, updating of technology, customisation of off-the-shelf applications, and so on, are all required at varying levels.

E-GOVERNANCE INITIATIVES IN INDIA AND ABROAD: A BRIEF REVIEW

It would be appropriate to examine the e-governance initiatives in India in the light of the above discussion. How effectively have the initiatives in India addressed these concerns is important when we attempt to evaluate the efficacy and efficiency of such systems. In India, many states have ventured into establishing e-governance initiatives, with varying focuses and strategies. While some states have initiated projects on enhancing the efficiency of public services, some states have gone for projects that can

drastically transform the civil society with elements of massive public consultations on ICT.

A typology of the various e-governance programmes indicate that prominent technological interventions included back office automation, data gathering and management information systems, electronic delivery of services and e-participation.

TABLE I: Types of ICT Applications Deployed in the Public Sector

<i>Application</i>	<i>Examples</i>	<i>Benefits</i>
Delivery of Services to Citizens		
Payment of property taxes, tax information, Kerala issue of land titles:	Information Kerala Mission, CARD in AP at 230 locations, BHOMI in rural areas in Karnataka at 189 locations	Transparency, quicker processing, less corruption, higher productivity for offices
Civil registration and issue of certificates	Information Kerala Mission	Transparency, quicker processing, less corruption, higher productivity for offices
Income Tax on-line	Singapore, Brazil, Jordan, Chile	Convenient, quicker refunds
Issue of Driving license, motor registration, passport, birth certificate, social security and collection of fines	Citizens Service Centre (Mobile and in- shopping Malls) Bahia, Brazil, FAST in Hyderabad, India	Cut delays, several services under one roof Less corruption Reduction of intermediaries
On-line issue/payment of electricity, phones, and water bills and fines	E-Seva in Hyderabad, FRIENDS in Kerala	Convenient locations, quicker processing time, customer does many tasks in one visit
Delivery of Services to Business and Industry		
E-procurement	Mexico, Philippines, Bulgaria, and Chile	<ul style="list-style-type: none"> • Reduce advertisement costs. • Lower costs due to better prices • Transparency

- Transparency

<i>Application</i>	<i>Examples</i>	<i>Benefits</i>
New business registration	Jordan, Jamaica, China	<ul style="list-style-type: none"> • Cut down time and number of visits • Convenience on filing tax returns/quicker refunds
Tax collection (sales tax, VAT, and corporate income tax)	Gujarat check post, Singapore and Chile	<ul style="list-style-type: none"> • Cut down time and number of visits • Convenience on filing tax returns/quicker refunds Increase in revenue collection for Government
Customs on-line	India, Philippines, Mauritius and Jamaica	Quicker clearance, less corruption
Trade facilitation	Dubai, Singapore and Mauritius	Quick turnaround of ships in ports
Municipal services	OPEN Seoul Municipality, VOICE Vijayawada, India	Quick permissions and issue of licenses, access and permissions
Use of email and video conferencing	Andhra Pradesh	Faster communication, less travel
Document management and work flow for paperless operations	SKIMS project in AP	Speed of processing, traceably of actions, greater accountability
Knowledge management		Better and consistent decisions
ERP for administrative processes/approvals Decision support systems		Quicker processing, Improved operational control, better utilisation of resources
Empowering Citizens through Access to Information		
Publishing budgets-central and municipal level	Argentina, India and Turkey	Greater transparency

<i>Application</i>	<i>Examples</i>	<i>Benefits</i>
Repository of information on the legislations, rules and proceedings related to various functions of the Local Self Government Institutions	Sanchitha application developed by Information Kerala Mission	
Publishing project-wise expenditure, executing agency	Sulekha application by Information Kerala Mission, Panchayat web sites in Karnataka	Transparency and less corruption
Publishing citizen's charter for delivery of services	Canada, UK	Greater accountability
Publishing comparative data on school performance	UK	Greater accountability
Publishing information on vocation and economic activity useful to communities in a format understood by them	Gyandoot in MP, Swaminathan Foundation in Pondichery, Kothamale in Sri Lanka	Knowledge of market prices
Development Data Bases for Grassroots Level Planning		
Repository of development projects formulated by the Local Self Government Institutions		Source for ready reference by the officials and the public
E-literacy		
Campaign on e-literacy for total e-literacy in the state	Akshaya programme initiated by the Government of Kerala.	Access to Internet Hub of various citizen services at the village level, employment for rural entrepreneurs in the ICT sector

Source: Bhatnagar (2004) modified by the author.

A close examination of the initiatives listed above reveal that these programmes address almost every concern that were discussed at length earlier. The most important aspects is enhancing transparency of the process of decision-making by the government. Transparency of decision-making has been ensured by several means like providing the citizens with considerable access to information processing that is required at various stages of decision-making, civic engagement in governance including publicising of defaulters, and exposing corruption. Improved accountability is envisaged through file tracking. All the programmes in variably address the issue of speed of operation, and minimising corruption.

Comprehensive E-governance Initiatives for Grassroots Level Development: The Case of Kerala

Kerala has been the forerunner of such initiatives with the implementation of Information Kerala Mission, the flag ship e-governance programme to computerise the local self government institutions in the state and Akshaya, a massive e-literacy public service delivery programme. Both these projects symbolise the primary concerns and designs that have to be incorporated in any e-governance programme tailored for the immediate development needs of common people.

Unlike in other states, Kerala's approach to ICT has emerged out of the ruling left front government's strong conviction on the need to make the potential of ICT available to the people as equitably as possible. It is presumed that Kerala, with its noteworthy record of accomplishment in the field of political consciousness, literacy, education and health can provide a congenial environment for the creation and testing of a socially responsive ICT programme for the development of the state. The ICT policy of the state government and the subsequent formulation of the Information Kerala Mission, to develop a feasible e-governance model to strengthen democratic decentralisation of power and People's Plan Campaign are testimony to this conviction. Strikingly enough, the newly envisaged ICT programme is banking on the lessons drawn from public activism and popular movements in Kerala, particularly the efforts to demystify computer technologies and spread computer literacy. Important features of the e-governance programme initiated by the Information Kerala Mission are described below.

Participatory System Study and Software Development

The starting point of e-governance programme is an extensive study of the local systems which would help for formulate an elaborate framework encompassing all the components of the system under consideration. The system study should be put together from the perspective of administrative reforms and business process re-engineering which are regarded as the inevitable prerequisites for a result oriented e-governance initiative. This was in fact a natural consequence of the clarity of vision ingrained in the mass based and result oriented decentralisation programme which was set in motion.

The principle of participatory technology development is a departure from the conventional technology development programme. This is characterised by intense interaction, including vetting of the prototype itself by a wide ranging cross section of the personnel actually involved in operations, contrary to an elitist perspective of fixing software requirement specifications and working out a pure technology solution from a programmer's view point, thereby ensuring complete functionality of the applications. This would be followed by rigorous field testing of the applications by a representative of all the stakeholders involved in the programme.

The strategy of e-governance should focus on knocking down redundant and inadequate systems along with strategies for innovative system building. Directing change within a dynamically evolving system would be an uphill task.

Participatory Human Resource Development

All these processes of software development and deployment require quality human resources. One important point in this regard is that human resources cannot be collected from any external source and the internally available resources have to be trained in most cases to manage the e-governance projects. Training should always be at the central stage in an e-governance project. The training strategy should include pedagogical methods, appropriate content and curricula that could be developed by following the principles of participatory empowerment. It should essentially include a life related, user centred and activity based pedagogy. Lines of attack to demystify ICTs on the one hand and of positioning the applications within an overall systems framework on the other are the essential components of this pedagogy. Demystification of the technology would tremendously improve the confidence of the trainee and improve the user

interaction substantially, whereas a systems approach would put in place the change management perspective of the applications.

Business Process Re-engineering

Business process re-engineering (BPR) has been defined as the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance such as cost, quality, service and speed. BPR advocates that enterprises go back to the basics and re-examine their very roots. According to Hammer and Champy (1993), BPR focuses on processes and not on tasks, jobs or people. It endeavours to redesign the strategic and value added processes that transcend organisational boundaries. According to many in the BPR, field re-engineering should focus on processes and not be limited to thinking about the organisations. A business process is a series of steps designed to produce a product or a service. However, in e-governance contexts, this definition would be greatly inappropriate and it can not be done as easily as it would appear.

Support mechanisms to provide technical support to the programme once it is deployed at the field is very important. Mechanisms for handholding should also be provided.

CONCLUSION

In this backdrop, the issues involved in e-governance initiatives of developing economies deserve to be critically examined. As mentioned earlier, the purpose for which e-governance programmes are designed is a key issue as it has significant bearing on technology choices, design of software applications, network design, content and the processes involved. Different purposes demand different technological and process designs. For example, a pro-poor e-governance programme that intends to facilitate grassroots level development may have to support the grassroots level development functions carried out by the line departments.

Addressing the plethora of functions at the grass roots level would require comprehensive data bases and interfaces. First, leaving aside all governmental functions that can be carried out normally with the help of ICT, such as delivery of public services; the fundamental issue that remains is whether the less endowed sections of the society with no or limited livelihood security are benefited from the application of these technologies. E-governance programmes that choose to ignore this reality, are destined to confine their scope to mere delivery of services. Conventional

development administration at the grassroots level should be modernised and made efficient with the help of ICTs.

Second, the question whether e-governance initiatives ensure true participation of the stakeholders is important in respect of the content, structure and business processes of the applications deployed. It would be desirable to have a decentralised structure for e-governance programmes, with the processes and information content facilitating decentralised decision making. The predominant tendency of governments to use information for centralised decision making cannot address the development needs at the grassroots level. E-governance application for development administration require fundamental changes in the way development is looked at by conventional bureaucracy.

Responsive administration, which is the first step towards improving interface with citizens, can be accomplished only through well conceived back end mechanisms and coordination. E-governance systems may be able to impose restrictions and guide the back-end processes to enable the government to take early and informed decisions, to a considerable extent. Governments by nature are conservative organisations and slow to adapt to change. However, for e-governance to work, output of the governments should fit with citizens' demands, to offer better services to citizens and to increase efficiency by streamlining internal processes. Accomplishment of e-governance is not about technological marvels; rather, it is about whether and how good governance has been attained through technology.

NOTE

1. United Nations Centre for Science and Technology for Development.

REFERENCES

- Bhatnagar, S. : *E-government from Vision to Implementation: A Practical Guide with Case Studies*, New Delhi, Sage Publications. 2004
- Bimber, B. : The Internet and Political Transformation: Populism, Community, and Accelerated Pluralism, *Polity*, 31(1), 133–160. 1998
- Brodnig, G. and : Bridging the Gap: The Role of Spatial Information Technologies in the Integration of Traditional Environment Knowledge and Western Science, *The Electronic Journal on Information Systems in Developing Countries*, 1(1), 16. Schonberg, V.M. 2000

- Fang, Z.
2002 : E-government in Digital Era: Concept, Practice and Development, *International Journal of the Computer*, 10(2), 1–22.
- Frasheri, N.
2000 : Recent IST Development in Albania - New Trends and New Problems, IFIP WG 9.4 Conference on Information Flows, Local Improvisations and Work Practices, 24–26 May 2000, Cape-Town, South Africa.
- Graham, S. and
Aurigi, A.
1997 : Virtual Cities, Social Polarisation, and the Crisis in Urban Public Space, *Journal of Urban Technology*, 4(1), 19–52.
- Hammer, M. and
Champy, J.
1993 : *Organizational Change; Corporate Reorganizations; Reengineering (Management)*, New York: Harper Business.
- Heeks, R.
1999 : Information and Communication Technologies, Poverty and Development. In R. Heeks (Ed.), *Development Informatics Working Papers, WP5*, Manchester: Institute for Development Policy and Management.
Available at : <http://www.sed.manchester.ac.uk/idpm/research/publications>.
- 2002 : Failure, Success and Improvisation of Information Systems Projects in Developing Countries. In R. Heeks (Ed.), *Development Informatics Working Papers, WP11*, Manchester: Institute for Development Policy and Management. Available at : <http://www.sed.manchester.ac.uk/idpm/research/publications>
- Helpman, E.
1998 : Introduction. In E. Helpman (Ed.), *General Purpose Technologies and Economic Growth*, Cambridge: MIT Press.
- Herman, E.S. and
McChesney, R.W.
2000 : The Global Media. In D. Held and A. McGrew (Eds.), *The Global Transformation Reader*, Cambridge: Polity, 216–229.
- Hirst, P. and
Norton, M.
1998 : *Electronic Government: Information Technologies and the Citizen*, United Kingdom: Parliament Parliamentary Office of Science and Technology.
Available at: <http://www.parliament.uk/post/egov.htm>.
- Joseph, K.J.
2002 : Growth of ICT and ICT for Development: Realities of the Myths of the Indian Experience, Discussion Paper No. 2002/78, United Nations University.
Available at: Helsinki. www.unu.wider.edu
- Kaufman, H.
1977 : *Red Tape: Its Origins, Uses and Abuses*, Washington, DC: Brookings Institution.
- Mansell, R. and
Wehn, U.
1998 : *Knowledge Societies: Information Technology for Sustainable Development*, London: Oxford University Press.
- Pieterse, E.
2000 : *Participatory Urban Governance: Practical Approaches, Regional Trends and UMP Experiences*, Nairobi: United Nations Centre for Human Settlements.

- Pohjola, M. : Information Technology and Economic Growth: A
2001 Cross-Country Analysis. In. M. Pohjola (Ed.), *Information Technology, Productivity, and Economic Growth: International Evidence and Implications for Economic Development*, Oxford: Oxford University Press.
- Ranerup, A. : Internet-Enabled Applications for Local Government
1999 Democratization. In R. Heeks (Ed.), *Reinventing the Government in the Information Age*, London: Routledge.
- Riley, B.T. : *Electronic Governance and Electronic Democracy: Living and
2001 Working in the Connected World*, Volume 2, Brisbane: Commonwealth Centre For Electronic Governance.
- Sreekumar, T.T. : *ICTs and Development in India: Perspectives on the Rural
2011 Network Societies*, London: Anthem Press.
- Soefftestad, L.T. and : ICT and Development: East is East and West is West and the
Sein, M.K. Twain way yet Meet. In S. Krishna and S. Madon, (Eds.). *The
2003 Digital Challenge: Information Technology in the Development Context*, Aldershot: Ashgate, 63–82.
- Tapscott, D. : The Digital Economy, New York: McGraw Hill.
1996:
- UNDP : *Human Development Report*, Oxford University Press,
1999 NewYork,
- Unnikrishnan, P .V. : Information Communication Technologies: Towards an
2001a Alternative Policy Framework for Implementation. In P. V. Unnikrishnana and E.M. Sreedharan (Eds.), *Information Communication Technologies for Human Development: Strategies for the Developing Economies*, Thiruvananthapuram: Information Kerala Mission, 15–37
- 2001b : Information Kerala Mission: Unfolding of a Silent Revolution. In P.V. Unnikrishnana and E. M Sreedharan (Eds.), *Information Communication Technologies for Human Development: Strategies for the Developing Economies*, Thiruvananthapuram: Information Kerala Mission, 37–104.
- Unnikrishnan, P.V. and : Information Kerala Mission- Evolution, Methodology, and
Sreedharan, E.M. Context, International Seminar on Democratic Decentralisation:
2000 Technopark, Thiruvananthapuram, May 23–27.
- Valentine (Dhardha), N. : E-government for Developing Countries, *The Electronic
2004 Journal on Information Systems in Developing Countries*, 18(1), 1–24.
Available at: <http://www.ejisdc.org>
- Wellenius, B., : Investment and Growth of the Information Infrastructure:
Braga, C.A.P and Summary Results of a Global Survey, *Telecommunications
Qiang, C.Z.W. Policy*, 24, 639–643.
2000