

Practitioners' Papers

e-Governance at Grassroots Level in South Asia: A Study of Citizen-centric e-Panchayats in India

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Abstract

The paper intends to underline the features of e-governance at local self-government level in rural India and examines the viability of the e-panchayats in making the local-self governance citizen-centric for efficient, responsive, cost-effective, result-oriented mechanism for faster pace of rural development. The e-panchayats also become the effective instrument of vibrant grassroots democracy by empowering people with knowledge. Theoretical tenets, application of ICT in local-level governance and outcome features have also been underlined. The focuses have also on the theoretical aspects of e-governance, followed by practical aspects, and the role of ICT in the areas of good governance and facilitating people's enhanced access to the governance, and finally on the prospects of e-governance at local level in the south Asian region.

1.0 Introduction

E-governance has become the key to good-governance in a developing country, particularly in South Asian region. The entire region is struggling with lower pace of rural development and ever growing poverty despite fast economic growth. The lopsided growth, in the areas of trade, entertainment, hotel/restaurant and luxury equipments, has deprived the rural populace of development pace. It is not that the governments of these countries are not taking care of these, but the development of soft and 'rent-seeking' nature of state has marred all the attempts^A. The money devolved on the lower levels has not been properly utilised, for state in these countries have developed four kinds of ailments- high costing, lack of cost recovery mechanism, inefficient delivery, and hostile governance with corruption.^B On the

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^A Mackintosh, Maureen. 1992. Questioning the State. In Marc Wuyts et al. (eds), *Development Policy and Public Action*. London: Oxford University Press.

^B Commonwealth Secretariat. 1995. *From Problem to Solution*. London: Commonwealth Secretariat Publications.

other hand, South Asian region has great potential to adopt and use the e-governance at the grassroots level, so is the case with India. In recent past, the Indian Government has revived the local self-governance with more powers and financial resources devolved on them (panchayati raj institutions, hereinafter PRIs) in order to make them more people-centric and effective instruments of governance at people's door steps^C. This is evident from the fact that Government of India has pondered upon to the proliferation of electronic network throughout the country for governance down at the village level shortly and has already passed Information Technology Act 2000 as well as work plan in 2003. Since then the information and communication technology (ICT) was introduced at grassroots level governance, commonly known as e-panchayats which were first adopted in Andhra Pradesh and later by other north Indian states like Rajasthan, Maharashtra and now Bihar.

2.0 Methodology

As such the present paper intends to underline the features of e-governance at local self-government level in rural India and examine the viability of the e-panchayats in making the local-self governance cost-effective, result-oriented and citizen-centric. In other words, the theory and practice of citizen-centric e-governance at grassroots level in India have been examined in this paper. The paper is based on both primary and secondary sources of data collection. The first part of the paper examines the theoretical aspects of e-governance, followed by practical aspects and finally, the role of ICT in the areas of better governance and greater people's access to governance process has been examined. The paper also endeavours to underline the conceptual as well as the functional aspects of e-Panchayats.

The e-panchayat is not a new phenomenon now. The question is – what is e-panchayat? How it is different from e-governance? Can e-panchayat be vehicle of good governance at grassroots level? For a ready reference, it can be said in short

^C At micro-level there are three tiers of local self-government for rural areas, namely Zila Parishad (District level), *Panchayat Samiti* (Block level) and *Gram Panchayat* (Village level). These are commonly known as panchayat raj institutions (PRIs) in India. These institutions have been provided with constitutional status and made more independent of state governments. These institutions have become the effective instrument of rural development. Further, there are three types of Urban Local Bodies (ULBs) for different sizes of cities. Municipal Corporation for big cities, *Nagar Panchayats* for medium and small cities and Notified area *Nagar Panchayats* in place of Notified Area Committees have been created under 74th Constitutional Amendment.

that e-panchayat is nothing but use of information and communication technology (ICT) in the local-level governance through panchayat bodies (local self-government) for administrative and development purposes. Although there are various aspects of e-panchayats like application, use, equity in accessibility, maintenance, efficiency, sustenance, etc., yet it is essential to have a conceptual framework for examining the e-governance by the grassroots-level functionaries. In this context, it becomes imperative to examine the tenets and intricacies of the concept of e-panchayat vis-à-vis e-governance.

3.0 Conceptual Examinations

3.1 Components of Good Governance and ICT

Administration, government and governance are interchangeably used by people. But in the wake of changes taking place at global level, people are particular about using governance instead of administration or government. Governance has certain specific connotations which have recently acquired significance in the literature of political science and public administration with varied meanings. Generally, it has been meant as the process of decision making and the process by which decisions are implemented or not implemented. However, the governance has been defined by the UNDP (1997)^D as ‘the exercise of political, economic and administrative authority in the management of a country's affairs’. In other words, management of natural, material and human resources for the public good is governance. Now the question is how governance becomes good. Again people have perceived it in distinct ways in accordance with their respective experiences and needs, e.g. some view it as e-governance (using information technology in governance), some as maintenance of law and order, and some as downsizing the bureaucracy, some as people's participation and so on. What has been the most important issue in this context is the aspect of the role of good governance (GG) in accelerating the process of the rural development in a developing society like India. Thus the goodness of governance needs to be crystallised. The postulates of this concept have been crystallised with universal acceptance in a way that it has eight major characteristics. It is *participatory, consensus oriented, accountable, transparent, responsive, effective*

^D International Rice Research Institute. Metro Manila, Philippines. Downloaded from <www.GISdevelopment.net>

and efficient, equitable and inclusive and follows the rule of law. Thus good governance is also responsive to the present and future needs of the society.^E Further, it is guided by human rights and by the principles of the rule of law and democracy, such as equal political participation for all. Particular attention is devoted to the needs of the weaker members of society.^F It is against the authoritarian rules and bureaucracy with the ruling attitude. This is evident from the nature of governance in the countries like Chile and Indonesia.^G S K Singh paper is worth reference who has examined good governance in context of ICT comprehensively.^H

Good governance and democratic development are perceived as responsive to the interest of the poor that make the majority within the Indian context. It is ICT that could strengthen civic education, guarantee equal access to information and tie individuals and institutions to make real participatory discussion and debate across great distances.^I Mutual recognition and a workable relationship between the state and civil society promote socially accountable, participatory, inclusive and just development for the most marginalised communities. Box-1 intends to clarify the context.

Box-1: Components of Good Governance (GG) & ICT

<i>Components</i>	<i>ICT for GG</i>
✓ Accountability	To people
✓ Transparency	Information accessible to all
✓ Responsiveness	Makes governance respond
✓ Effectiveness and efficiency	People's watch
✓ Equitable and inclusive	ICT knows no socioeconomic divide
✓ Participatory	ICT empowers people to assert & exert
✓ Consensus oriented	Opportunities open to all for opinion
✓ Follows the rule of law	ICT cannot favour/disfavour any

^E Downloaded from <http://www.gtz.de/en/themen/politische-reformen/882.htm>

^F GTZ, Themes, downloaded from <<http://www.gtz.de/en/themen/politische-reformen/882.htm>> For further information please contact: Email: political-reforms@gtz.de

^G Atta El-Battahani. *Crisis, Politics and Governance in the Sudan*. University of Khartoum, Sudan as downloaded from <<http://www.ossrea.net/rw/goodgover-03.htm>>

^H Singh, S. K. 2008. *Panchayati Raj and Good Governance*. Centre for World Solidarity. Hyderabad.

^I Barber, B. R. 1984. *Strong Democracy: Participatory Politics for New Age*. Berkeley: University of California Press.

Equity has much to do with access to resources and power, which can never happen, without participation in decision making and implementation of just policies.^J

The ICT in the governance has been hailed by the experiences of poor countries not of only Asia but of Latin American and African countries too. Here it is relevant to quote Richard Heeks and scholarship on knowledge management for public purposes who posit that knowledge and ICT is power and provides voice to the poor.^K

3.2 Approaches to ‘ICT in Governance’

People have viewed the ICT for governance from the angle of meeting the respective needs that are put on priority. Thus it is high time to look for the approaches that people adopt to view use of ICT in the governance process. These approaches can be classified into following three categories.

Organisational Approach: Whenever governance is talked about, it involves organisations which aim at management of natural, material and human resources for the well being of the people and also at the optimum level. In turn, an organisation becomes an ‘information’ centric element. There are devices, in an organisation, to accrue, store, disseminate and use the information for achieving its goals. Beside, it has been firmly believed by scholars like Karl Deutsch, Talcott Parsons^L etc that an organisation entails a communication network for its functioning, may it be human networking or the mechanical networking. But here ICT is concerned to be used in an organisation (governing institutions) for efficient, responsive, simple, transparent and faster pace of governance that minimises corruption and delay.

Functional Approach: The application of ICT in governance can be considered as an ‘enabling’ technology to enhance the performance of governing institutions. ICT takes part in governance in two ways – (i) for critical processes to produce goods and services for the public like information dissemination, registration and licensing

^J O’hara, Kieron and David Stevens. 2006. *Inequality.com: Poverty, Power and Digital Divide*. Oxford: Oneworld Publications.

^K (i) Heeks, Richards. Information and Communication Technologies, Poverty and Development. *Development Informatics*, <www.man.ac.uk> Institute of Development Policy and Management, Manchester. (ii) Arce, Alberto and Norman Long. The Dynamics of Knowledge. In Norman Long and Ann Long (eds). 1992. *Battlefield of Knowledge: The Interlocking of Theory and Practice in Social Research and Development*. Routledge. London and New York.

^L (i) Deutsch, Karl W. 1963. *The Nerves of Government*. The Free Press. Glencoe, Illinois. (ii) Parsons, Talcott. 1951. *The Social System*. the Free Press. Glencoe, Illinois.

process which are re-engineered and automated to its people, and (ii) for automating the internal ‘back office’ processes like payroll, planning processes etc. involved in internal working of organisation.^M Hence the use of ICT in governance aims at delivery of fast, better and efficient services to the people and internal personnel management of a public organisation.

Social Justice Approach: Another approach leans towards provision of social justice and encompassing the deprived sections of a society within the governance process. Good governance has another aspect related to fast growing information and communication technology. The emerging trends hold promise that political, social and economic priorities could be increasingly based on broad consensus in society, and that civil society and various interest groups can directly influence and participate in policy decision making, particularly with respect to allocation of development resources. The widening use of ICT can potentially evolve knowledge and power structures that enhance transparency in governance. Public access to alternative information sources through ICT also means that the public can circumvent government censorship. Where governments are ineffective and governance chaotic rather than disciplined, people find their own solutions. Other groups, e.g. NGOs and civil societies step in to take the slack and void governance. ICT is powerful tool that can engender stronger civil society networks that are better informed and brought together and empower these groups to be more effectively engaged in national development. Heeks has gone a step forward to argue that the ICT can facilitate the poor to voice their grievances as well as influence the decision-making process, not only as information receiver but also as information provider.^N It has been argued that good governance is e-governance.^O

^M Malhotra, Charru. 2000. Raising Competence of Indian Administrators. *Indian Journal of Public Administration*, (Special issue on E-Governance), Oct.-Dec.

^N See (i) Heeks, Richards. Information and Communication Technologies, Poverty and Development. *Development Informatics*, <www.man.ac.uk> Institute of Development Policy and Management, Manchester. (ii) Arce, Alberto and Norman Long. The Dynamics of Knowledge. In Norman Long and Ann Long (eds), *Battlefield of Knowledge: The Interlocking of Theory and Practice in Social Research and Development*. Routledge. London and New York. 1992. (iii) Accenture, Markle Foundation and UNDP. 2001. *Creating a Development Dynamic*. Final Report of the Digital Opportunity Initiative. <<http://www.optnit.org/framework/pages/es.html>>

^O Dey, Bata K. E-governance in India: Problems, Challenges and Opportunities – A Future’s Vision. *Indian Journal Public Administration*, Special Number on E-Governance.

The following Box-2 depicts the clear picture as to how do people view the use of ICT for governance, in short, the approaches adopted by scholars in this context.

Box-2: Approaches to Use of ICT for Governance

<i>Approaches</i>	<i>Ingredients</i>
• Organisational Approach	Information-centric organisations
• Functional Approach	ICT optimises performance
• Social Justice Approach	Empowers poor and deprived sections

4.0 e-Panchayats: Some Postulates

Technically speaking, e-panchayat system is web-based and n-tiered; and functions like an *Application Service Provider* enabling panchayat level digital services for all stakeholders. The stakeholders are citizens, elected representatives, Gram Panchayat officials, the governments and the knowledge workers. But it should not be merely perceived as an ICT enabled system of governance that provides public services on demand. It promotes virtues of good governance and deepens democratic values in society. It creates an environment in which people feel empowered, establishes a system that ensures people can easily avail themselves of their fundamental rights to information, and broadens the scope of local government.^P Several state governments have also taken initiatives to set up the e-panchayats to facilitate the development process and provide easy access to information to citizens. States such as Gujarat, Andhra Pradesh, Himanchal Pradesh, Tamil Nadu, Kerala, Karnataka, Haryana and Goa have set up panchayat portals to provide information regarding development schemes such as National Rural Employment Guarantee Act,

^P (i) Upadhyay, Dinoj Kumar. *e-Panchayats: ICT for Rural Local Government in India*. Center for Science, Development and Media Studies. Noida, India. Downloaded from the website www.telecentremagazine.net. (ii) Prabhu, C. S. R. Cost Effective Solution for Effective e-Governance/e-Panchayat (Example of Exemplary Leadership and ICT Achievement of the Year). Downloaded from www.ap.nic.in

organisational/departmental set-up, developmental policies, annual reports, notification, evaluation reports of development programmes, status of development schemes, revenues etc. The common feature of the portals is that they give information in local languages like Hindi, Gujarati, Kannada, etc. and about issues concerning the local people. These portals also act as a platform for users to know whom they have to approach for the processing of their applications and resolution of grievances. These portals are generally intra-linked with other state government departments that make them more service oriented.

In the early 1990s, the Indian parliament by amending the Indian constitution has strengthened the local self-governments by devolving more functions and finances on them (73rd constitutional amendment). The three-tier PRIs have been made more people representative and functioning for the purpose of rural development. But the traditional pattern of functioning carried all maladies of 'macro-level' governance. People remained ignorant and corruption prevailed. As the Indian Government policy went for not only strengthening the intra-organisational functioning of the institutions but also making them transparent in order to empower people to apply social audit. e-Panchayats are nothing but the panchayat raj institutions equipped with ICT for all its functions. Some features of the e-panchayats in India are given below:

Intra-organisation coordination: The whole gamut of above discussion can be summed up as the use of ICT at panchayat-level governance (lowest tier of rural local government) has been to empower the villagers with knowledge and information and better service delivery on their demand. For this the internal management of resources within the organisation should be appropriate. As such e-panchayat does also require the information network for accruing, storage, analysis and dissemination of the information within the organisation. The elected executives and appointed executives are equally accessible to what ever information they require. This minimises the point of difference. In the conventional governance, people have been getting 'supply-oriented' benefits of the governance whereas in the e-panchayat they can aspire for 'demand-oriented' benefits. e-panchayat can manage its organisation for meeting the people's demand.

Information and democracy: Democratic governance requires wider people's participation which is possible only if they (people) are properly equipped with

information. As such the governmental organisation has to be, by nature, an information intensive organisation. Thus democratic governance is an 'information centric' process. The governing institutions like elected panchayat bodies are representative democratic structure which requires wider participation of all or most of the citizens which can only be assured if they are accessible to relevant information. Thus information is power but information management is political because it involves installation, maintenance, operation and dissemination which are done by the governing bodies (state government, panchayat representatives and the local bureaucracy).

Citizen's R T I: Another conceptual dimension of e-panchayat relates to function as a vehicle of ensuring citizens' right to information. The right to information empowers citizens with the right to 'demand' information and governments with the duty to 'Supply'. e-panchayat can enable the government to meet its obligation under the right to information by simplifying the delivery process. By ICT at panchayat level, local government transforms itself into transparent, less corrupt and truly decentralised in decision-making process. ICT in panchayat-level governance works as a support system for decision making of people's choice as the entire governing process is put open to citizens for social audit and accountability. It facilitates delivery of better and convergent services to citizens and improvement of internal management, capacity building and efficiency.

People as stakeholders: The concept of governance has changed a lot and citizens are now not considered as simply beneficiaries rather 'stakeholders or shareholders' of the entire development process who 'seek' several information on the functioning of the government as well as 'provide' several inputs that help policy-making process on one hand and as customers of the government 'demand' better services. As such the e-panchayat becomes 'information receiver', 'information provider', 'service provider' and 'feedback seeker'.^Q In short, it transforms a citizen from 'beneficiary' to 'stakeholder'.

^Q This section is based on the lecture delivered by Sri Ranjit Kumar Maiti, Joint Secretary, Panchayat and Rural Development Department, Government of West Bengal, Kolkata on 'e-Governance initiatives in Panchayats and Rural Development' in the Seminar organised by *i-Government*, (an NGO) at Patna on 12th July, 2009.

5.0 e-Panchayats and Expected Outcome

The functions of e-panchayat can be categorised multi-fold. New PRIs after 73rd constitutional amendment of Indian Constitution are created with a view to providing real participatory governance at the door of the citizens in rural India but the governance by panchayat bodies could not show much promise as the people remained ill informed and less participative. The introduction of e-panchayat has shown promise in other states like Andhra Pradesh, West Bengal etc. The experiences of these states have indicated that e-panchayat is multifunctional governing institution – such as, faster and better decision-making mechanism, better intra-organisational management, better service delivery system and empowering people. e-Panchayat facilitates the development voluntary organisations.^R Introduction of electronic mode of governance (use of ICT) builds capacity both of the governing organisation and the people as well. The services provided by the e-panchayat enable public services on the ICT and provide digital support system for decision making. It empowers the citizens with information, awareness, and acquaintance with the ongoing schemes in order to make them ready to participate both as the beneficiary and the stakeholder. Most important of the functions of the e-panchayat is ‘web-based’ monitoring of the progress of schemes which is open to both the managers and citizens. Stronger watch by the people themselves can be ensured by the information network. This (e-panchayat) assures accessibility, accountability and transparency (all these are components of good governance). The most difficult part of the new panchayat institutions has been the handling funds (keeping accounts and monitoring the funds) which could be overcome by the e-panchayat. Most important part of the whole process is ‘e-readiness of the people’. e-Panchayat will provide opportunities of e-learning among the people. Once the people are accessible to the ICT at the panchayat level, they will learn to use the devices. How the postulates of e-panchayat lead to good local governance has been presented in Box-3.

It has been largely argued that the state in developing countries are prone to four major ailments – namely high costing service delivery, cost non-recovery, inefficiency and corruption. The e-panchayat tends to overcome these ailments of

^R See Drishti Foundation, Annual Report: Financial Year 2005-06. New Delhi, 2007.

public service delivery system^S. Despite financial crunch, the greater involvement of people in public affairs make people to intonate resources available at local level and accrue revenue in voluntary ways as they are aware of the things happening in the governmental echelons. They can develop devices and modes (making services chargeable for non poor) for cost recovery which are always below the market rates. It minimises corruption as the governance is completely transparent and there is little scope of doctoring and tampering the information for non-genuine favour. Viz. in the public distribution system (PDS), if information regarding the procurement, storage and distribution with beneficiary details are available, then it would be quite difficult to channel the commodities to the black market. It will not be out of place to mention that majority of the food commodities meant for distribution from the fair price outlets is sold in black market.^T

Box-3: e-Panchayat and Its Outcome

<i>Postulates</i>	<i>Outcome</i>
➤ Intra-organisation coordination	Efficient and effective management
➤ Participatory democracy	Empowers people with information
➤ Information dissemination	Ensures citizen's RTI
➤ People oriented	Makes people to participate as 'stakeholder' not as only 'beneficiary'
➤ Efficient service delivery	Avoids delay and procedures, lessens the chasm between 'centre of decision' and 'centre of action'
➤ Problem solver	Overcomes the ailments of conventional governance
➤ Assures public action	NGOs, SHGs and other such public actions facilitated

^S (i) Commonwealth Secretariat. 1995. *From Problem to Solution*. London: Commonwealth Secretariat Publications. (ii) Hood, Christopher. 1991. A Public Management for All Seasons. *Public Administration*, Vol. 69, Spring. (iii) Mackintosh, Maureen. Questioning the State. In Marc Wuyts et al. (eds), *Development Policy and Public Action*. London: Oxford University Press. 1992.

^T Mooij, J.E. 1999. *Food Policy and Indian State: The Public Distribution System in South India*. New Delhi: Oxford University Press.

6.0 Functional Aspects of e-Panchayats

Significance of the e-governance at the grassroots level will also be evident from the fact that the share of human capital in the world economy is to the tune of 64 per cent (World Development Report 2002). ICT has become an effective instrument for economic growth. The access to Internet and broadband services has economic impact to the tune of \$134 billion. It has created 2.35 million jobs. So far India is concerned; \$90 billion growth in national output due to broadband deployment has been marked in the period of over last 10 years. Besides, 68 million national employments have also been generated by the broadband services in the country. The impact of the ICT has been on various sectors such as it has generated \$25 billion revenues from the broadband, along with its impact on education, health, entrepreneurship and governance.^U Not only this, it can also be judged by the fact that G8 Nations and People's Republic of China have invested over \$2 trillion to stimulate their economies.^V The economic benefits through ICT bring people closer to all affairs digitally treated including that of 'governance'. In turn, the local-level government is closer to the responsive governance that can be facilitated by the introduction of ICT.

As such the entire governance process has turned into 'people centric' irrespective of the fields like management of public affairs, sharing benefits and sharing the stake of the development process, public services and investments. People are now not only beneficiaries but they have become 'stakeholders'. The citizens as the shareholders now demand information on the functioning of a government and also may provide several inputs to the government's policy-making process while the citizens as customers do also demand better services from the governments at their nearest point (local self-governments). As discussed earlier, the panchayat bodies become – the 'information provider', 'service provider' and 'information seeker'. In turn, the use of ICT at panchayat level can be termed as 'decision-support system', tool of transparency, disseminator of information, instrument of social audit and accountability, convergent deliverer of services, support mechanism for internal management, means of capacity building and so on.

^U CII report on India's broadband economy: *Vision 2010* I-Cube 2008 IMRB report.

^V Measuring the Information Society, the ICT Development Index. ITU 2009.

7.0 Functional Areas of e-Panchayats

One major approach to view the use of ICT at governance level is of organisational approach^W that believes that any given organisation requires the adequate, ordered and useful information for both the effective internal functioning and the efficient delivery services to the people. Malhotra^X describes these two as ‘critical processes’ and ‘support processes’. Critical processes, to him, refer to service delivery whereas the support processes to internal management of the organisations. As such the functions of e-panchayats can be categorised into two folds – internal management and service delivery.

Internal management: Support processes: Since inception of new PRIs, the major problem that new panchayat bodies had to face was handling the accounts. It was a great deal of nationwide debate as how would panchayat representatives keep the account as they were not so trained to handle the funds. As such the local level bureaucracy dominated the entire development process in the name of keeping the accounts of the funds. The siphoning out of the funds occurred in connivance with the elected representatives and the local-level bureaucracy. But the e-panchayats can handle the issue of account keeping of PRIs at various levels. The ICT devices can develop fund monitoring and accounting system through appropriate software (‘module’). West Bengal (an Indian state) has developed the *Integrated Fund Monitoring and Accounting System Software (IFMAS)* which is being used by 18 Zila Parishads, 300 Panchayat Samitis and 1932 Gram *Panchayats*.^Y This can be imitated in Bihar also. The Internet and Intranet of the government organisations can be used on large scale. The accounting from bottom organisations to apex ones can be consolidated at the district level, which may be consolidated at the state level through ICT networking. This technology can generate debit/credit vouchers, cashbook, ledgers, cheque issue register, pay bills and pay slips and further it can easily analyse the cash, receipts and payments, deductions etc. Of course it would need the revision of Accounts Rules and approval of the Accountant General of the state, in the case of PRIs in view of the software technologies. This would also

^W See the above discussion in the conceptual section.

^X Malhotra, Charu. 2000. Raising Competence of Indian Administration: Role of IT Training. *Indian Journal of Public Administration*, Special Number on e-Governance No. 3, July-Sept.

^Y Maiti, Ranjit Kumar. *e-Governance initiatives in Panchayats and Rural Development*. Paper presented in the *i-Government* Seminar held on 12 August 2009 in Patna.

require creating posts of experts of computer operation in accounting like – system managers at secretariat level, district information analysts at Zila Parishad level, informatics and data entry operator at Panchayat Samiti level and Panchayat Secretaries be trained accordingly.

The monitoring of ongoing work can be done with the help of ICT like - monitoring and reporting of poverty alleviation and social security schemes, national rural employment guarantee scheme (famous NREGS) etc. The progress of work done at any specific level can also be made available to either higher echelons of administration or the people if they desire. The e-panchayats can maintain the status of BPL (people living below poverty line) list, benefit awarded to certain person, persons attending for work under NREGA in certain area or district and so on. A separate software or module can be developed according to the need of the people. Informative website can be developed to present, tabulate and interpret the data for efficient and effective internal management.

The devices for the better internal management can be developed through Community Service Centres (CSCs), which would be loaded with the required information and knowledge. Besides, the introduction of public private partnership (PPP) may also be facilitated through the CSCs. The CSCs once installed by government may be left to the people and private parties for its maintenance on the basis of cost recovery (accruing revenue by chargeable use of the CSCs) mechanism. The example of CSC established by a voluntary organisation at Panapur (a remote village of Vaishali District of Bihar) is maintained by the locals with the help of the NGO and the revenue collected from the users for various services including e-railway ticketing.^Z Another example can be cited of the Delhi-based NGO (Drishti Foundation) which has established ICT kiosks in rural areas of districts of Bhojpur of Bihar and two districts of Jharkhand. The kiosks have earned, in the year 2005-06, over rupees six lakh.^{AA} These two examples reveal the financial efficiency of the non-governmental organisations, which are successfully running the e-service delivery system. The creation of State Wide Area Network (SWAN) would be the

^Z The Kolkata based voluntary organisation SREI Sahaj e-Village Limited has been operating the CSC at Panapur. Facts were revealed by Sri Basant Sinha, Chief Operating Officer of the organisation in a talk at Patna on 12 August 2009.

^{AA} Drishti Foundation. *Annual Report Financial Year 2005-06*. Office of the Drishti Foundation. New Delhi.

prerequisite for introducing the ICT in CSCs or such centres at the offices of two-lower layers of the PRIs (at local level governing bodies).

Box-4: Functions of e-Panchayats

<i>Components of e-panchayats</i>	<i>Areas of functions</i>	<i>Specific functions</i>
<ul style="list-style-type: none"> ▪ Use of ICT through CSCs and etworking (right from Gram Panchayat to Zila Parishad level) 	The support process making internal management effective	<ul style="list-style-type: none"> • Providing adequate and analysed data • Handling funds • Keeping accounts of the PRIs • Monitoring and reporting • Facilitating PPP
<ul style="list-style-type: none"> ▪ Effective and efficient governance 	The critical process making efficient service delivery	<ul style="list-style-type: none"> • Faster pace of certification • Efficient delivery of services (health, education etc.) • Efficient implementation of welfare and development schemes • Diminishing corruption
<ul style="list-style-type: none"> ▪ Empowering people for participation 	Providing opportunities of e-learning among people	<ul style="list-style-type: none"> • Making people enthused to use ICT • Facilitating e-learning • Empowering people with knowledge • Poor people made both information ‘receiver and provider’
<ul style="list-style-type: none"> ▪ Open for local private entrepreneur to handle self-supported ICT kiosks/CSCs 	Locals are given responsibility of operation and maintenance	<ul style="list-style-type: none"> • Cost-affectivity and cost-recovery mechanism • Enthusiastic BOO mechanism

7.1 Service Delivery Functions

The people are always at trouble when they have to get the certificates (related to caste, income, domicile etc.) from the government organisations and even the panchayat bodies. The e-panchayats are able to generate computerised certificates like trade licences, caste certificate, income certificate, domicile certificate etc. on one click without taking the services of agents as the information would be stored in

the ICT network from anywhere through the Internet and Intranet provisions. The information about one's placement in the BPL list, list of beneficiaries of various schemes including social security schemes can easily be get from the CSCs or ICT kiosks of panchayat bodies.

People in general are also ignorant and unaware of the welfare and development programmes and their position. e-Procurement of the data related to development work in the locality like Sam Vikas, Pradhan Mantri Gramin Sadak Yojana etc. becomes easy.

The most useful service in the favour of the poor is the public distribution system (PDS) through which the people are always cheated. It is reported that most of the PDS commodities, especially the food commodities are sold in the black market in Indian states. It is true in the case of both north and south Indian states.^{BB} But the e-panchayat would be much helpful in displaying the stock available to the fair price shops dealers and beneficiaries taking off the rationed food commodities. In this way siphoning out of the rationed food commodities will be checked and the identification of real beneficiaries can be done.

7.2 Architecture of Service Delivery by e-Panchayats

All these functions of e-panchayats are to be done through an IT mechanism which can be termed here as the architecture of e-panchayats. The electronic architecture of panchayat functioning is web-based n-tiered. It functions like Applications Services Provider for all panchayat level digital services to all the stakeholders. The stakeholders are citizens, elected representatives (right from village ward members to Zila Parishad members), Gram Panchayat officials (right from gramsewak to district collector), the government and the knowledge workers. At panchayat level an ordinary client with Internet access is sufficient to implement e-panchayat. Most of the computation is done locally; the reporting and association communication takes place through available network for a very brief period of time. Thus field level units can conserve a lot of communication cost and at the same time ensure the uniformity and quality of services through e-governance. All the functions of the e-panchayats

^{BB} See Mooij, Jos E., Public Food Distribution and the Black Box of the State: Studying the Politics of Food Distribution, in B. Harriss White (ed), *The Visible Hand*, Macmillan, and also see *Food Policy and the Indian State*, Oxford University Press, Delhi, 1999.

can be applied through following four kinds of server software, such as i) Administrative Module, ii) Management of Information System Module, iii) Citizen's Service Module, and iv) Module for panchayat representatives. These modules have been developed by NIC.^{CC}

The first module helps the officials of responsible for the lowest village level *panchayat* bodies (gram Panhacyat) known as Village Level Workers or *Gramsewaks* in rural India. The MIS (management of information system) module with a few hundred reports is envisaged to facilitate the state-level officials related to panchayati raj system, Planning, Finance and Revenue Departments. The Citizen module with a few hundred applications proves to be the one-stop and non-stop provider of all the services to the citizens. The Elected representative's module is meant to render services to the elected representatives. The multi-media based information dissemination software, the biometric based attendance monitoring software etc., are also part of this e-panchayat to facilitate empowerment through simplicity, morality, accountability, responsiveness and transparency (SMART) at the panchayats.^{DD}

8.0 Conclusion

Creating simply the software and modules cannot work. It is people, not the goods that make things go. Thus it is imperative to ensure the successful implementation of the network in the shortest period with optimum efficiency and cost-effectiveness. It is generally alleged that the hurdles come in the way to deliver good for the people by a government organisation. The first and foremost among them is lack of infrastructure, IT infrastructure and e-readiness of the people to use the ICT at panchayat level. Other challenges are- non-availability of centralised database, lack of connectivity among officers of various departments, lack of departmental coordination, lack of skilled hands and the non-standard procedure and practices. The cost-effectiveness can only be assured if it is maintained and operated by the people themselves. The government at the state level requires providing the server in the beginning. At the ground level, the panchayat bodies particularly, the Gram Panchayats and local people should go for a system of 'build own and operate

^{CC} Prabhu, C. S. R. Cost Effective Solution for Effective e-Governance/e-Panchayat (Example of Exemplary Leadership and ICT Achievement of the Year). Downloaded from www.ap.nic.in

^{DD} Ibid

(BOO)' through a self-employment generation scheme. So that in each village one or two families would be able to get their livelihood by rendering services to the citizens and the GP officials by operating and implementing e-panchayat. For rendering the services, the service charges can be fixed. It will be the entrepreneurs' responsibility to collect and feed data, and generate reports. The amount of data fed and the number of reports generated are monitored through software and accounted for making payment. The system maintenance, procurement, internet connectivity and associated logistics shall be cared by the entrepreneurs. As such the government or panchayat bodies need not bother about the recurring expenditure or associated expenditure. In case of need of initial investments, government can play role of catalyst by recommending banks to issue soft loans to such entrepreneurs or voluntary bodies formed for the purpose. They would take better care as they will be dependent on it for sustenance. They would also be responsive, as every transaction will be chargeable and buyers of the service will find it cheaper than market prices. Non-serious users will be eliminated. The revenue accrued of it will be recorded, and people may demand a receipt from these powerless entrepreneurs rather than from a powerful government servant who would seek rent.

To cap it all, on the basis of the above discussions on experiments in India, e-panchayats are the need of the hour as people in rural areas in South Asian nations are still deprived of basic facilities for a decent life. Common wisdom says that poverty and deprivation exist not only due to lack of resources but also persist because of inefficient and malfunctioning institutions. In the emerging knowledge society and information revolution, panchayats should not be left in isolation. They should be provided with adequate technological resources in order to be able to play a meaningful role in the course of development in these countries.

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