Cost effective solution for effective e-Governance-e-Panchayat (Example of Exemplary Leadership and ICT Achievement of the year)

C.S.R. Prabhu[1]

ABSTRACT

There are various models and solutions of e-Governance in the World. However a cost effective solution is always preferable. An electronic knowledge based system titled ' e-Panchayat' with the active involvement of the stake holders at lowest administrative level was successfully designed developed and being implemented successfully in Andhra Pradesh. Several states such as Uttar Pradesh, North Eastern States, Rajasthan, Maharashtra, Tamilnadu etc., the same project is going to be replicated after due customisation. As the project involves e-Governance right at the grass root level i.e., village level and offers a very cost effective solution. The methodology adopted for implementing the system is novel, cost-effective and self-sustaining. To achieve high efficiency the system harnesses the state-of-the-art Information and Communication Technologies which are highly efficient.

Keywords: E-governance, Knowledge Management, local bodies Empowerment, Result Oriented Governance.

1. Introduction

The Governments all over the world are interested in enhancing the quality and quantity of services to the citizens in a cost effective manner. The total cost of ownership for all the stake-holders should be minimum during the entire period of services/ownership of the system. Another major problem the Governments facing today is to create more employment opportunities for its citizens at least cost. The system proposed shall address these issues also very effectively with a well defined strategy.

The state Governments have created several Panchayat Raj institutions to ensure grass root level development. At village level the Gram Panchayats are there, these are grass root level institutions. At the intermediate level, i.e., Tehsil/Block/Mandal level there are nodal executive authorities, they coordinate the implementation of welfare schemes and services. In the case of Andhra Pradesh, there are Mandal Parishads. Similarly at the District level the common nodal administrative authority exists, in Andhra Pradesh at district level there are Zilla Parishads. Some places there are Divisions. At the state level there is state level Administration to prepare policy guidelines and ensure the smooth functioning of the Panchayat Raj institutions.

[1] Deputy Director General, National Informatics Centre, A-Block, BRKR Bhavan, Hyderabad – 63, India (Email: ddg@ap.nic.in)

How to streamline the administrative processes and avoid delays and conserve resources in the country. Is there a feasible solution for this problem. How to implement the solution in a cost effective manner. Answer to several such questions was e-Panchayat. The main idea is if the adminstrative processes are streamlined and resources are conserved and citizens are empowered with efficient and responsive local administration at every village, then it results in development of districts, states and subsequently the entire nation. So grass root level problems were taken up for ICT application under the e-Panchayat project.

2. ePanchayat Architecture & Features

ePanchayat's architecture is web-based n-tiered. It functions like Applications Services Provider for all Panchayat level digital services to all the stake-holders. The state holders are Citizens, Elected Representatives, Grampanchayat officials, the Governmnet 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 a e-Governance services.

The ePanchayat Application Server Software has four main modules.

- Administration Module
- Management Information System Module
- Citizen Services Module
- Elected Representative Module.

The Administration Module is going to help the GP officials in executing their duties and responsibilities delegated to the Grampanchayat officials. The MIS module with a few hundred reports is envisaged to facilitate the state level Gram Panchayat, Planning, Finance and Revenue Dept officials. The Citizen module with a few hundrend applications is going to be the one-stop and non-stop provider of all the services to the citizens. The Elected representatives module is going to render services to the elected representatives. The multi-media based information dissemination software, the bio-metric based attendance monitoring software etc., are also part of this ePanchayat to facilitate empowerment through simplicity, morality, accountabilility, responsiveness and transparency (SMART) at the Panchayats.

3. ePanchayat Implementation Model

The main issue is how to ensure successful implementation of ePanchayat in all the Panchayats, in shortest possible time with least amount of resources and overheads by the Government.

The following strategy is suggested. The Commissioner Panchayat Raj & Rural Employement need to buy only the servers. At Grampanchayats, on Build Own and Operate (BOO) basis the systems can be facilitated through a self-employment generation scheme. So that in each village one or two families shall able to get their livelihood by rendering services to the Citizens and the GP officials by operating and implementing ePanchayat. For rendering the services, the service charges can be fixed. It will be the enterpreneurs responsibility to collect and feed data, and generate reports. The amount of data fed and the number or reports generated are monitored through software and accounted for making payment. The system maintenance, procurement, internet connectivity and associated logistics shall be taken care by the enterpreneur. The comparative chart of BOO model and normal model in given in Table 1.

Note: It is compulsory to have the Normal Model as a minimum requirement. BOO Model is only an additional kiosk, outside the panchayat office.

Table 1: Comparative chart of BOO model and normal model

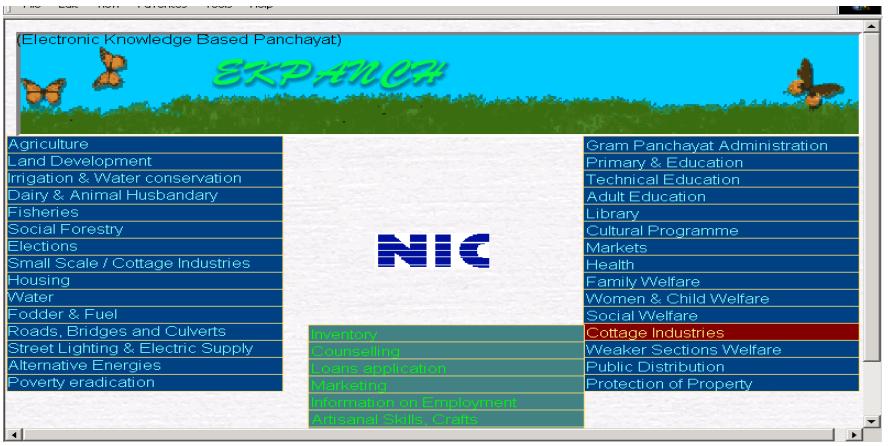
SN	Normal Model	BOO Model
1	Govt. has to procure the systems.	Govt. need not buy systems. It is enterpreneurs responsibility. Govt recommends a soft loan through Bank or through Govt's economic upliftment welfare schemes.
2.	Govt/Panchayat has to prepare site.	Govt need not prepare site.
3.	Govt has to arrange for internet connectivity.	Govt need not arrange for internet connectivity.
4.	Maintenance is Govt's responsibility.	The village level enterprenur's takes care of the system, as it is the means of livelihood for him/her.
5.	Citizens may or may not get prompt response.	Citizens get prompt response, as every transaction is chargeable, at the rates fixed by G.P.
6.	May get requests from non-serious users.	Non-serious users are eliminated.
7.	Systems may fail frequently, as sense of responsibility is low. Thus whole system may come to a standstill.	Systems failure rate is less, as a person is there to take care of it 24 hrs.
8.	The Gram Panchayat secretary or other officials may have to feed the reports to the central server. The existing staff may not be willing to operate and feed the data, as they may have to attend to other duties. Even if a person is posted, he may be on leave, or may learn and resign or may not respond properly, perhaps due to lack of motivation or may render services to selected persons only, who have power.	The data will be collected and fed by entrepreneur, as for each report entered and sent, he gets a fixed amount of revenue. So from villages reports come to Govt. Entrepreneur has to do business with every one and has to keep everyone happy. So he will serve all sections of society. Based on the size of panchayat, the GP may decide about the number of self-employed entrepreneurs to be given licenses to operate e-Panchayat in the village.
9.	GP has to bear the overheads of system maintenance and communication and stationery and consumables charges. It will be difficult to monitor the expenditure on consumables.	GP need'nt bother about the recurring expenditure and need not keep track of the associated expenditure.
10.	Operations may be slow, timely reporting may not take place.	Operations shall be faster, as GP can remove slow and non-responsive enterpreneurs. Or if load is more, may issue license to additional enterprenuers and thus create competition.
11.	Difficult to encourage and create competition.	Prompt services results in quick revenues and thus speed and promptness are encouraged. And Scope exists for creating a healty competition for operating and utilising the ePanchayat system.
12.	Gram Panchayat has to incur expenditure.	GP may also may get a share of revenue.
13.	Revenues may not go up as all payments may not be accounted.	Revenues go up as all accounts are recorded, even otherwise, people shall demand a receipt from a powerless businessmen for the amount paid rather than a powerful Govt servant.
14.	Takes time to implement in all the villages, due to overheads.	Implementation can take place simultaneusly in all villages, as overheads are almost nil for the Govt.
15.	Difficult to sustain the model.	Easy to sustain the model, so runs for longer time.
16.	The Govt shall be under pressure to ensure successful implementation, as overheads are more and expenditure is involved.	Govt shall not have any pressure, as there is no expenditure for the project implementation in the field from the Dept. The pressure is distributed to all the village level enterprenuers. So problem is getting divided and solved.

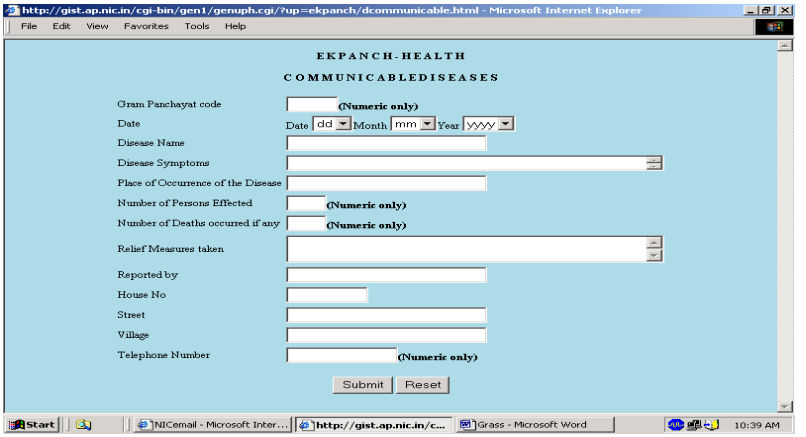
A model in the similar lines is successfully functional in West Godavari District. The software is developed by NIC and the central server infrastructure is created by the State Government and the field level resources are facilitated on lines similar to the BOO model.

The central server model with Government's own efforts and the kiosk within the Panchayat Office with an Operator paid by the Panchayat is operational now in many Districts such as Nalgonda District.

4. Features of ePanchayat Software

The main features of the various software modules of ePanchayat - (Electronic Knowledge Based Panchayat) are :

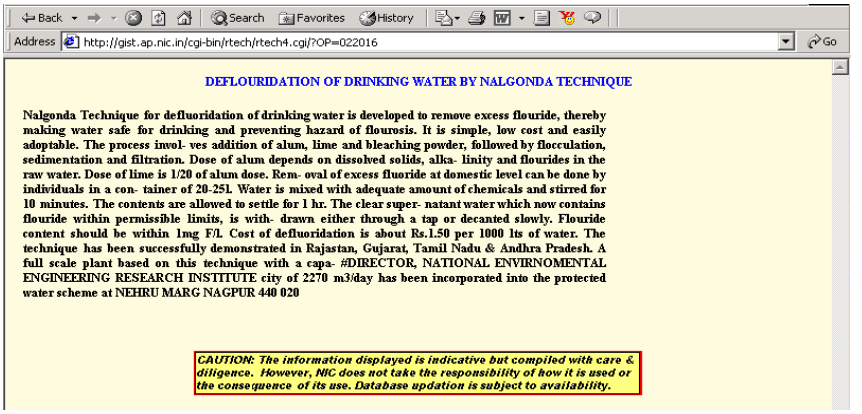




- Bio-metric attendance Monitoring
- Below Poverty Line - Enumeration
- Village Level Planning
- Meetings Management
- Self Help Groups related information management
- Monitoring Attendance in GP Meetings
- Managing Information related to the Meetings at Mandal/District Officials
- Managing Information related to the assignments of the Superior Officers related to the Village.
- Managing the information related to the GP Property.
- Managing Information related to the Weaker section Housing Program
- Encroachments related information Maintenance.
- Managing Information related to the Atrocities against Women & Children (if any)

- Gram Panchayat Registers Computerisation
- Communicable Diseases related information management.
- Tax demands, receipts generation, revenue accounting.
- Anti Malarial Spraying related information management.
- Crops related information management.
- Anganwadies, Balwadies related information management.
- Generation of Certificates for citizens.
- Tree Plantation & Protection related information management.
- Maintain Sanitation related information.
- Maintaining information related to the atrocities against SC, ST (if any)
- Planning & Implementation related information management.
- VTDA related information maintenance.
- Relief & Rehabilitation related information management.
- Untouchability Eradication Programmes related information maintenance.
- Assistance to AP TRANSCO related information maintenance.
- Enrolment related information management.
- Minimum Wages Act voilation related information maintenance.
- Maintaining information for organizing Literacy Classes
- Birth - Death Registration related information management.
- Crop Coverage Information management.
- Marriage Registration information management.
- Extension Information management for dissemination.
- Grama Sabha - Beneficiaries Information management.
- Managing land Information for Azmoish of Crops
- Property Details information maitenance.
- Maintainance of Agriculture Statistics
- Managing Information for Serving Legal Notices (as and when required)
- Maintaining information to ensure up-keep of Display boards & Assets
- Managing information related to village level events to Inform Public.
- Maintaining information related to Black Marketing of Inputs for reporting.
- Managing information to assist in Loan Recovery.
- Maintaining Weavers Information for reporting.
- Maintaining information related to Panchanamas conducted.
- Managing information for generating and issuing Dependancy Certificate to Weavers
- Managing information to ensure safety of Govt Attached Property.
- Managing information to ensure better Co-ordination among various Agencies operating in the village.
- Managing information for performing Election Duties
- Managing information related to Govt. Programs for public participation.
- Maintaining information to inform Police about unlawful incidents.
- Managing the information related to village Teachers for better laisoining.
- Managing Information to Organize Meetings for Community work
- System to Report Accidents immediately to higherups.
- System to ensure Co-ordination among all Departments right from hamlet level to the state level.
- Manage Information related to the Old age Pension Scheme.
- Maintanance of information to ensure Clean and Green
- System to report Epidemics Out break in time.

- System to provide Marketing Services
- Managing information related to the Community Welfare & Development
- Other information, Counselling, Transaction Processing (including payment),certification, authentication, grievance redressal etc., services are included in ePanchayat.



5. Modules in ePanchayat (Phase I)

The citizen services modules in ePanchayat are:

a. Birth & Death Registration and Certification
b. House Tax
c. Old Age and Other Pensions
d. Works Monitoring
e. Financial Accounting & Book Keeping
f. MIS

Additional Modules in Phase II will be:

g. Water Connection and Water Tax
h. Assets Accounting
i. Grievance Redressal
j. Building and Layout Permissions
k. Land Records Access

8. Concluding Remarks

For sustainable socio-economic development at the grass root level, a wide involvement of the communities and businesses would need to be ensured. This would automatically warrant forging of sound business relationships based on transparency, mutual good will and benefit. NIC's e-Panchayat offers a unique opportunity for establishing inter as well as intra stakeholders partnerships at the grass root level.

Realising this fact the government of Andhra Pradesh has decided to implement the e-Panchayat system in all the major Gram Panchayats in the Andhra Pradesh. It went one step ahead and to ensure e-readiness of the Panchayats, training, procurement of hardware etc., resources were allocated. To ensure sustainability, an Operator was also recruited in each e-Panchayat. The e-Panchayat implementation initiates the process of building partnerships systematically at every panchayat. The extent of success of e-Panchayat in a village panchayat depends on the E-needs of the potential partners as well as their e-readiness to an extent of connectivity available to them, penetration of digital culture as well access to the internet by village level members of these organizations. The Government has to act as a catalyst for creating a cooperative and friendly e-climate for achieving and sustaining the success, rather than a purchaser of hardware / outsourcing agency.

Currently the Govt. of Andhra Pradesh (Department of Panchayat Raj and Rural Employment) has rolled out NIC's e-Panchayat in 475 Major Panchayats in Phase I to expand to all 1300 Major Panchayats in subsequent phases. All aspects of site preparation, computer system installation, operator recruitment, training are all being completed and many e-Panchayats have already been made operational (Pochampally, Choutuppal are the nearest e-Panchayats easily accessible to Hyderabad city). The e-Panchayat project demonstrates the feasibility of grass root level implementation of ICT in e-governance at village level. The NeGP (National e-Governance Plan) has a Mission Mode Project for Panchayats which is being realized through e-Panchayat in Andhra Pradesh. Due to the successful demonstration of e-Panchayat implementation at the field level, several awards such as Oracle e-Governance Excellence Award and Skoch Challenger Award were given in 2006 to e-Panchayat as a Project of National Importance. Therefore, the model of e-Panchayat in Andhra Pradesh can be replicated at the national level in other states and also in other countries with due adaptation and localization.

References

1. Naveen Prakash, " Moving From Virtual To Real Benefits in Local Development: *Reflections In An e-Workspace*", UNCRD 2002
2. Harman, C (2001) " Knowlwdge, E-Governance and The Citizen ", *Knowledge Management Review*, Vol. 4, No. 3, pp 3-18 July 2001
3. Thomas B.R. (2001), "Electronic Governance and Electronic Democracy: Living and Working in the Connected World", *Australia, Riley Information Services Inc*., pp 38-44
4. Galliers, R. D. & Land F. F. (1987), Choosing appropriate information systems research methodologies, *Communications of the ACM*, 30(11), ppp 900-902.
5. Dey, Bata k., (2000) E-Governance in India: Problems Challenges and Opportunities – a future vision, *Indian Journal of Public Administration No. 3*, July – Sept, pp 300-310.

About the Author

Chivukula Sree Rama Prabhu, Deputy Director General (Scientist "G"), National Informatics Centre (NIC), Hyderabad (Ministry of Communications and Information Technology) obtained his Masters Degree in Electrical Engineering with specialization in Computer Science from the Indian Institute of Technology, Bombay in 1978 after a Bachelors Degree in Electronics and Communication Engineering from Jawaharlal Nehru Technological University, Hyderabad in 1976. He has worked in various capacities at Tata Consultancy Services, CMC, TES and TELCO before joining NIC. He also has teaching and research experience at the University of Central Florida, Orlando, Florida. He has guided a large number of student research projects at masters level and has several papers to his credit. He has authored six text books in frontier areas in Computer Science: He was also the Editor of the Proceedings of the 9th International Conference on Management of Data (COMAD 98). He was awarded the Oracle eGovernance Excellence Awards for "Innovation with IT" and "e-Panchayat" in January, 2006. He was also awarded the "Skoch Challenger Awards" for "e-Panchayat" and "Rural e-Seva" in March, 2006. Presently he is the Head of NIC's Disaster Recovery (DR) Centre at Hyderabad and is involved in designing and implementing an e-governance grid for India, covering all the States and District Centres over the NICNET.