E-Governance in Rural India

Nidhi Srivastava

Amity Institute of Information Technology, Amity University
Lucknow, India

Abstract— **In India, where a major population lives in rural area it becomes essential that e-governance is available there. ICT plays a key role in e-governance, and so it becomes essential that ICT reaches rural masses. This will lead to good governance which in turn will lead to better administration, better interaction, less corruption and more transparency in the government. This paper deals with the challenges faced in implementing e-governance in rural areas of India, various e-governance projects taken by the Government and initiatives that should be taken by the Government for successful implementation of e-governance in rural India.**

Keywords— **e-governance, NeGP, NIC, Gyandoot**

I. INTRODUCTION

E-governance is a way of managing government electronically. With the introduction of information and communication technology e-governance has grown leap and bounds. In developed countries like USA, UK, China etc. the e-governance was initiated way back and now it is very well developed. But in developing countries it is still in growing phase. E-governance is a means by which the whole way of interaction between the citizen and the government changes, thus changing the manner of governance for better. In fact the motto behind e-governance is to provide SMART (Simple, Moral, Accountable, Responsible and Transparent) government [1]. E-governance not only includes electronic interaction and exchange of information between the citizen and government but also exchange of information between the governments (i.e. government to government). The ultimate goal of any government is to provide services to citizen for better and smooth conduct of administrative operations. In fact e-governance makes government more user-centered.

According to the World Bank **:**
"E-Government refers to the use by government agencies of information technologies (such as Wide Area Networks, the Internet, and mobile computing) that have the ability to transform relations with citizens, businesses, and other arms of government. These technologies can serve a variety of different ends: better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management. The resulting benefits can be less corruption, increased transparency, greater convenience, revenue growth, and/ or cost reductions."

United Nations (AOEMA report):
"E-government is defined as utilizing the Internet and the world-wide-web for delivering government information and services to citizens."

Ravi Kant (Special Secretary, IT, Govt. of West Bengal):
"e-governance, however, is not really the use of IT in governance but as a tool to ensure good governance. E-governance does not mean proliferation of computers and accessories; it is basically a political decision which calls for discipline, attitudinal change in officers and employees, and massive government process re-engineering."

Advantages of e-governance are that it is convenient, efficient, transparent, accountable, paperless, cost saving, connects users and government and also provides easy access to users online.

II. CHALLENGES IN E-GOVERNANCE

E-governance was introduced for the better communication between citizens and government. But the government faced lots of problems in introducing it. Few of the problems or challenges faced by government are listed below [2, 3]:

1. **Illiteracy -** The government is making effort in increasing the literacy rate in rural population but still much needs to be done as it is far less than the literacy rate in urban population. Literacy rate in rural areas stand at 67.67% with rural male literacy rate 77.15% and rural female literacy rate 57.93%. Whereas literacy rate in urban areas stand at 84.11% with urban male literacy rate at 88.76% and urban female literacy at 79.11% [4].

2. **IT Illiteracy-** This is a major drawback in which the users are not technically literate to use the technology. Especially in India, where many of the schemes launched by the government like AGMARKNET, Bhoomi etc. have rural people as end users and because of lack of technical knowledge they are incapable of using the facilities provided by the government.

3. **Varied Languages -** In India we have people speaking different languages and the rural population does not know any other language than their native language. All the e-governance projects generally use English as the base language which majority of the population do not understand and thus they are unable to use these projects.

4. **Lacks Awareness -** People are unaware about the facilities provided by the government for their use. Although, Government has made initiative in certain cases by broadcasting about their projects on radio, TV and putting banners etc. for awareness among the people.

5. **Hesitation to change -** People are reluctant to change. As e-governance means change of the system from manual to computerize based, it is

generally disapproved by the employees and the general public. People generally dislike it as they need to learn new things in it for which they need to give in more time and effort.

6. **Infrastructure & Running Cost -** It is difficult to connect all rural areas through internet and at times it is difficult to lay wires at these places. In remote areas generally till now there is no basic infrastructure available like connectivity and electricity.

III. NeGP & NIC

For the success of e-governance, Government launched National e-governance plan and with the help of National Informatics Centre set up a central repository for all e-governance initiatives.

A. NeGP

National e-Governance Plan was launched with the following vision:

"Make all Public Services accessible to the common man in his locality, through common service delivery outlets and ensure efficiency, transparency and reliability of such services at affordable costs to realize the basic needs of the common man."

NeGP came up on May 18, 2006 by Department of Electronics and Information Technology (DEIT) and Department of Administrative Reforms and Public Grievances (DAR&PG). NeGP was set up with 27 Mission Mode Projects (MMPs) and 8 components. It was specially designed for rural areas and for the easy access of the services provided by NeGP State Wide Area Network (SWAN) and Common Service Centre (CSC) was set up [5].

B. NIC

NIC is a part of the Indian Ministry of Communications and Information Technology's Department of Electronics & Information Technology and came up in 1976. It is a website designed for all the e-governance initiatives taken by government at one place. This includes blocks, districts, state government and central government. The ICT network of NIC is called NICNET [6].

IV. E-GOVERNANCE PROJECTS UNDER TAKEN BY GOVERNMENT FOR RURAL INDIA

Government has undertaken many projects for the benefit of rural India. Many of these projects have been successful. Still more initiatives can be taken and the one which are currently working can be improved further keeping in mind the problems being face by the people in accessing these projects. Some of these projects are discussed below:

A. Gyandoot

Gyandoot is a government to citizen intranet based project launched in Thar district of Madhya Pradesh on 1st January 2000. It made use of IT for benefit of rural areas where people do not have the facilities as those in cities. For this 21 soochnalayas were set up which had computers. Each of these soochnalayas/kiosks catered to about 20,000-30,000 villagers. For running these soochnalayas, a local youth from the village was selected as soochaks. The soochak was not given any salary. In fact they operated the kiosks and charged for the services they provided. They charged Rs.5/- for providing information about the agricultural produce. A fee of Rs. 15/- per extract is charged for providing documents related to farmer's land which is considered valid by banks. Rs. 10/- is charged for submitting applications for obtaining certificates as and when required by the villagers. A charge of Rs. 10/- is taken for lodging any complaint like mid day meal etc. Auction facility is also provided. For a charge of Rs. 25/- for 3 months anyone can put the commodity on sale. Further, Rs. 10/- is charged for viewing all the salable commodity. Of the total earning the soochak pays 10% of income as commission to the zila panchayat. So, the scheme is self-sustainable [7].

Gyandoot was given the 'Stockholm Challenge IT Award' in 2000 in the 'Public service and democracy' category. Initially this was considered very successful but with passing of time in long run it did not prove to be too good. Only the use of ICT does not help the backend working and processes needs to be changed for any project to be successful.

B. Bhoomi

"Land record forms the base for all land reforms and therefore regular online updating of land records is essential. BHOOMI has done it."

Bhoomi is an initiative of Karnataka government to computerize land records. Records of 6.7 million farmers dealing with 20 million records in Karnataka state have been computerized. Revenue department of the Government of Karnataka along with NIC implemented this computerization of land records. A farmer requires his official land records for many purposes like for getting loan on crop from any financial institution or any legal dispute, etc. Problems with the earlier manual systems like the registers of land record not properly maintained, or not very legible lead to its computerization. Any farmer can now readily get their land record from land record kiosks available. Also, farmers get an acknowledgement number if they submit a request for mutation on land records. So, now farmers can track the process of mutation on the touch screen kiosk available and in case of any delay can report to higher officials also. Thus, this leads to transparency. Seeing the success of Bhoomi other states like Andhra Pradesh, Haryana, Madhya Pradesh has also implemented a similar system.[8,1]

C. E-choupal

E-choupal is an initiative of ITC Ltd. This project is a success and has benefited the farmers a lot. In this a trained villager called Sanchalak was appointed to run the ITC internet kiosk. E-choupal contains information about the latest farming techniques, weather forecasts, crop insurance, etc. through which the farmers remain well informed. This initiative of ITC removed the intermediaries who used to take away a larger portion of profit from the farmers. The farmers could now directly negotiate the prices with ITC

limited for their produce and earn a good profit. Further the daily mandi price of the various commodities is also available online. The productivity of the crops increased as now the farmers could purchase good seeds and fertilizers, which in turn yielded profit to the farmers. ITC's e-choupals serve 40,000 villages and 4 million farmers, making it the world's largest rural digital infrastructure created by a private enterprise [9].

D. E-post

"Send mail from anywhere in the globe." Internet and email are a main part of e-governance. E-post service was launched by the secretary of the Department of Posts on 30th January 2004. But in rural areas these facilities are not available. Keeping this in mind, the Department of posts introduced the facility of e-post. It is a very simple service where people can send the messages anywhere in India. In this a person who has to send the message simply approaches the post office, where the person scans the handwritten or printed document and sends it via email to the nearest destination post office. There the printout of the document is taken out, sealed in an envelope and delivered at the destination address. The document can be in any language. A fee of Rs. 10/- per A4 page is charged. For encouragement to the corporate customers post office gives them special e-post rates and other value additions. For Corporate customer e-post costs Rs. 6 per page of A4 size & for bulk it costs Rs. 5/ - per page. This service tries to bridge the digital divide [10].

E. E-panchayats

Panchayats are a local village based self government. As majority of the population of India lives in villages the panchayats play a major role. Government thus felt the need to improve it and transform it, and so e-panchayat was introduced. In fact e-panchayat was identified as the Mission Mode Project (MMP). In this 2,50,000 panchayati raj institiutions at the gram panchayat, block and zila parishads were identified which were to be joined with ICT [18]. NIC developed e-panchayat for Hyderabad, Andhra Pradesh. All the information of the gram panchyats was collected and based on that the e-panchayat was initiated. The e-panchayat comprised of 30 modules with about 150 sub-modules. These modules were based on providing the information to the villagers on various products like agriculture, irrigation, fisheries etc. and also on other problems relating to loans from industries, housing, water etc. It also dealt with various other services like property tax, registration and issuance of death and birth certificates, disbursement of old age / widow and disabled pensions, building approvals for residential purpose etc. An important module in this was the grievance redressal where any grievance could be registered and also later on monitored for solution. Thus the project caters to all aspects of panchayat's functioning including planning, monitoring, implementation, budgeting, accounting, social audit and delivery of citizen services [11,1].

V. SUGGESTIONS FOR IMPROVING E-GOVERNANCE

1. **The Literacy rate needs to be increased** – Literacy is considered an important factor in economic development. Government initiated many programs for increasing the literacy rate. In fact Government has set up many primary schools in various areas. But this has not been successful as most of the schools are not functioning properly and students studying in these schools are still unable to read or write. So, more emphasis is to be given on the improvement of these schools. Reasons cited for so is lack of proper infrastructure and basic needs in schools like no drinking water, lack of proper toilet facility, teachers absent from school etc. which discourage students from attending school [12,13].

2. **ICT Development** – Twelfth five year plan has proposed "Removing barriers of cost, language and accessibility and provide equitable access to Internet and its benefits to all. Formulate and implement a national digitization plan and a digital information literacy campaign for enabling the common man to use ICT optimally." This move of Government will also help in reducing the digital divide.
   According to RRN Prasad, a member of the Telecom Regulatory Authority of India (TRAI): "In the Indian context, bridging the digital divide essentially means bridging the teledensity divide between rural and urban areas." [14]

3. **Cloud Computing -** Today, cloud computing plays an important role in IT field. Cloud computing is beneficial for all those areas where technological infrastructure is not proper. Cloud computing can also help in internet proliferation.
   According to Vikram Kumar Mallavarapu, Vice President – Sales, Public Sector, CiscoIndia & SAARC: "Cloud computing can contribute in a variety of ways to deliver citizen services efficiently and enable IT resources to be provided on demand, at scale in a multi-tenant, yet secured environment." [15]

4. **More projects like Speech-Based Automated Commodity Prices Helpline for needs to be developed -** All the e-governance projects initially initiated used English as the medium of communication. But in rural areas where the people are not at all educated and cannot read and write their native language dealing in English is definitely a problem. This is also a cause of failure of many e-governance projects. A very good initiative has been taken by consortium of seven institutions (IIT-M, IIT-K, IIT-B, IIT-G, IIIT-Hyd, TIFR & CDAC-Kol) and coordinated by IIT-Madras. A speech based automated commodity prices helpline for AGMARKNET has been introduced in six different Indian languages. In this they have developed an automated system from which the farmers can inquire about the latest price of agricultural commodities in their own native

language. Thus the farmers are benefitted from this initiative. More such types of initiatives should be started by the Government so that more and more rural population can interactively interact with the e-governance projects [16].

5. **Business Process Re-engineering –** Although e-governance emphasizes on ICT, it is not the only factor in its success. For good e-governance re-engineering is essential. The processes, procedures need to be restructured so that there is a great leap in the performance of the e-governance. For this Strategy, Processes, Technology, Organization and Culture the five components of the business need to be changed [19].

6. **Setting up of more CSCs** – For the benefit of villagers more CSCs should be set up, so that they have easy access to the facilities provided. Nearer the CSC more a person will use it.

VI. CONCLUSIONS

E-governance is a key to success for good governance. It gives the facility to the citizens to benefit from the services provided by the Government. There has been a considerable increase in the percentage of individuals using the Internet in India. The Internet usage has increased from 0.53% in 2000 to 15.10% in 2013 [17].

Although the Government faced a lot of challenges but still the move towards e-governance in India has been successful. In this paper we dealt with the challenges faced by the Government in implementing e-governance in rural India. Also a description of some of the projects has been given which has been introduced by the Government for the benefit of citizens. Further, the paper lists down the solutions for a more effective and efficient e-governance program.

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