



A Survey of e-Government & M-Government Projects in India for Agricultural Development

Dr. S. Y. Amdani, E. M. Choudhari
Computer Science & Engineering
Amravati University
Pusad India

Abstract— Agriculture is the Backbone of Indian Economy. India has an expanding population of one billion to feed and over 70 percent of its national workforce is directly or indirectly dependent on agriculture. The objective of this project is to develop a system which will help the farmers in taking decisions. The information given by the farmers for any commodity will be analyzed and compared with the standards by program so that once he accesses the portal with his credentials he will be able to take decision on how to plant a crop to get a maximum yield

Keywords— Agriculture, Agriculture Economy, E-government, M-government, IT-solution for agriculture.

I. INTRODUCTION

Agriculture is the Backbone of Indian Economy. India has an expanding population of one billion to feed and over 70 percent of its national workforce is directly or indirectly dependent on agriculture.[1],[2],[3]. Following are the diagrams which will help us in understanding present farming system:



Fig1. Various processes in farming system.

Following diagram shows that cost required at decision stage is very high.

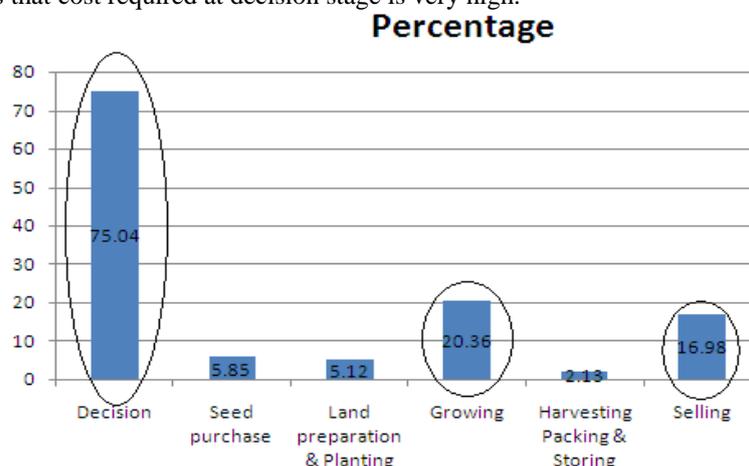


Fig2. Cost required at various stage in farming system.

A. E-Governance:

E-Governance or “electronic governance” is defined as the delivery of Government services and information to the public, using the electronic means including the dissemination of information to the people and the agencies. In India the concept ‘e-governance’ began with National Informatics Center’s efforts to connect all district headquarters through computers in 1980s. In 2002 it further proposed the setting up an Indian portal for public access to information on various aspects of government functioning. e-governance promotes the efficiency, enforces accountability, brings transparency in the working of the government system and reduces time delays.[4]

B. M-Government:

Mobile government, sometimes referred to as m-Government, is the extension of e-Government to mobile platforms, as well as the strategic use of government services and applications which are only possible using cellular/mobile telephones, laptop computers, personal digital assistants (PDAs) and wireless internet infrastructure. In addition, m-government is a better option compared to e-Government in delivering services and public information to citizens due to its nature of being available anywhere, anytime and from any internet enabled device. Mobile Government addresses the mobility of Government itself. m-Government is not meant to be a replacement for e-government but a complement to e-government. m-Governance can be defined as ‘a strategy for the implementation of Governance and its implementation involves the utilization of all kinds of wireless and mobile technologies, services, applications, and devices. It improves upon the benefits for those involved in e-governance, including citizens, businesses, and all government units.[5]

II. LITERATURE REVIEW

A. E-governance evolution: History and Present Status

Global shifts towards increased deployment of IT by governments emerged in the nineties, with the advent of the World Wide Web. The technology as well as e-governance initiatives have come a long way since then. With the increase in Internet and mobile connections, the citizens are learning to exploit their new mode of access in wide ranging ways. They have started expecting more and more information and services online from governments and corporate organizations to further their civic, professional and personal lives, thus creating abundant evidence that the new “e-citizenship” is taking hold. [6] The concept of e-governance has its origins in India during the seventies with a focus on development of in-house government applications in the areas of defence, economic monitoring, planning and the deployment of IT to manage data intensive functions related to elections, census, tax administration etc. The efforts of the National Informatics Centre (NIC) to connect all the district headquarters during the eighties was a very significant development. From the early nineties, IT technologies were supplemented by ICT technologies to extend its use for wider sector applications with policy emphasis on reaching out to rural areas and taking in greater inputs from NGOs and private sector as well. There has been an increasing involvement of international donor agencies under the framework of e-governance for development to catalyse the development of e-governance laws and technologies in developing countries.

Following are some of the recent e-governance projects implemented by various state governments: [7], [8].

- *Andhra Pradesh:* e-Seva, CARD, VOICE, MPHS, FAST, e-Cops, AP online—One-stop-shop on the Internet, Saukaryam, Online Transaction processing.
- *Bihar:* Sales Tax Administration Management Information.
- *Chhattisgarh:* Chhattisgarh InfoTech Promotion Society, Treasury office, e-linking project.
- *Delhi:* Automatic Vehicle Tracking System, Computerization of website of RCS office, Electronic Clearance System, Management Information System for Education etc.
- *Goa:* Dharani Project
- *Gujarat:* Mahiti Shakti, request for Government documents online, Form book online, G R book online, census online, tender notice.
- *Haryana:* Nai Disha.
- *Himachal Pradesh:* Lok Mitra.
- *Karnataka:* Bhoomi, Khajane, Kaveri.
- *Kerala:* e-Srinkhala, RDNet, Fast, Reliable, Instant, Efficient Network for the Disbursement of Services (FRIENDS)
- *Madhya Pradesh:* Gyandoot, Gram Sampark, Smart Card in Transport Department, Computerization MP State Agricultural Marketing Board (Mandi Board) etc
- *Maharashtra:* SETU, Online Complaint Management System—Mumbai
- *Rajasthan:* Jan Mitra, RajSWIFT, Lokmitra, RajNIDHI
- *Tamil Nadu:* Rasi Maiyams—Kanchipuram; Application forms related to public utility, tender notices and display

North-Eastern States

- *Arunachal Pradesh:* Community Information Center. Forms available on
- *Manipur, Meghalaya:* the Meghalaya website under schemes related to
- *Mizoram & Nagaland:* social welfare, food civil supplies and consumer affairs, housing transport etc.

B. M-governance evolution: History and Present Status

Mobile government (M government) is the extension of e-Government to mobile platforms, as well as the strategic use of government services and applications which are only possible using cellular/mobile telephones, laptop computers, personal digital assistants (PDAs) and wireless internet infrastructure.

The world's first m-Government studies initiated by Professor I. Kushchu in Japan at the m GovLab - now grown into Mobile Government Consortium Int (mGCI) www.mgovernment.org - setting the stage for the transformation from e-Government to m-Government. Proponents of m-Government argue it can help make public information and government services available "anytime, anywhere" and that the ubiquity of these devices mandates their employment in government functions. An example of such beneficial use of mobile technologies would be the sending of a mass alert to registered citizens via short message service, or SMS, in the event of an emergency.[9]

To quote m-Government theorist and proponent Ibrahim Kuchshu, "As e-business evolves towards m-business, e-Government seems to follow the trend with a few but significant mobile government (m-Government) applications."

M-Government is now evolving on four dimensions - transforming e-Government services directly to the mobile platform, providing access to mobile technologies and application for the field workers of the public sector, enabling smart / flex working and providing citizen services anytime, anywhere.

1) SMS based Alerts Pushed Down (Examples of Projects):

- *Bhoomi, Karnataka, 2007:* Landowners register with Bhoomi by paying a fee. Will get an SMS whenever there is a transaction on the land.
- *PDS, Chhattisgarh, 2008:* Register phone and Fair Price Shop (FPS). Access to information on availability and supply of food grains, and about times and truck numbers that will deliver supplies to a FPS in order to involve the public in enforcing accountability
- *Reuters, Maharashtra, 2007:* Register and receive weather forecasts and commodity prices.
- *Western Railways, 2008:* Subscribed service for general updates such as mega blocks affecting train services, new services, ticketing facilities, etc., free of charge.
- *SMSONE, Maharashtra, 2005:* "A Local SMS Community Newsletter" service provided to different communities, each comprising of 1000 registered users. Users are empowered with localized, specific and useful information anytime, anywhere via a SMS. The community is served with messages that are relevant to them, practically covering all aspects of their daily life from health camps to be held, non supply of water or electricity, and traffic congestion to reminders of bill payments.

2) SMS based Two Way Information Exchange (Examples of Projects):

- *Toll Free Agricultural HelpLine, Haryana, 2007:* Users send SMSs to a mobile number, and experts/officials telephonically respond to the questions within 48 hours.
- *Jan Seva Kendra, Gandhi Nagar, Gujarat, 2006:* Barcode assigned to a service application is used for tracking the application, sending reminders to officers, and for any inquiry on pending cases. People can enquire the status of their application.
- *m-Sampark, Chandigarh, 2005:* SMS "SMENU" to 58888. A menu of services available will be sent back to user via an SMS, from where he/she can get the required information.
- *Mysore City Corporation, Karnataka, 2008:* Citizens message their problem related to civic services to a pre-assigned number through SMS. An acknowledgment number is sent back with the concerned officer's name and contact number.
- *Railway Enquiries:* Railway information on train schedule/time table/PNR status/train Search /seat availability can be accessed.

3) WAP based Transactional Services (Examples of Projects):

- *Zero Mass Foundation (ZMF), Andhra Pradesh:* Agents, working on behalf of partnering banks, use special mobile phones and accessories to provide frontend full featured transactional services (opening of accounts, deposits and withdrawal of cash) for financial inclusion of the rural poor.

Government of India is planning to take the e-Governance program a step forward by launching a village level mobile governance system for speedy delivery of services to the rural people.

The National Informatics Centre (NIC) will launch mobile governance (m-Governance) in the State very soon. This was informed by acting Director General of NIC, CSR Prabhu to Chief Secretary JK Mohapatra.

Meanwhile, the Department of Electronics and the Information Technology in the Ministry of Communications and Information Technology has prepared a framework for m-Governance to ensure inclusive delivery of public services in a time-bound manner.

Websites of all Government departments and agencies will be made mobile compliant, using the 'one web' approach. Open standards will be adopted for mobile applications for ensuring the inter-operability of applications across various operating systems and devices as per the Government policy on open standards for e-Governance, official sources said.

Uniform or single pre-designated numbers (long and short codes) will be used for mobile-based services to ensure convenience. Government departments and agencies are required to develop and deploy mobile applications for providing their public services through mobile devices to the extent feasible on the mobile platform, the sources said.

Food Supplies and Consumer Welfare department has already started monitoring paddy procurement, rice transfer and delivery through m-Governance. [10]

III. CONCLUSIONS

As Agriculture is important from economic point of view in India. Various state government applied E-Government and M-Government projects in different area. In agriculture, the productivity will be increases with the support of IT solution, which will collect all information related to land, crop, crop loans, subsidy, water and all resources required for best agriculture practices.

ACKNOWLEDGMENT

I would like to express my very great appreciation to Dr S. Y. Amdani for his valuable and constructive suggestions during writing this research paper. His willingness to give his time so generously has been very much appreciated.

REFERENCES

- [1] <http://www.mahaagri.gov.in/>
- [2] www.dacnet.nic.in/
- [3] <http://en.wikipedia.org/wiki/Governance>
- [4] <http://en.wikipedia.org/wiki/E-Government>
- [5] <http://en.wikipedia.org/wiki/M-government>
- [6] Bhatnagar Subhash, *E-government from vision to implementation*, Sage, New Delhi, 2004.
- [7] M.P. Gupta, *Towards E- Government Management Challenges*, Tata McGraw-Hill, New Delhi, 2004.
- [8] C.S.R. Prabhu, *E-Governance – Concepts and Case Studies*, Second Edition, Pentice Hall India, 2012.
- [9] Subhash Bhatnagar (PhD), “Exploring Conditions for Delivery of Successful M Government Services to the Bottom of the Pyramid (BOP) in India”, Adjunct Professor, IIM, Ahmedabad, India
- [10] Article on “M-Governance” in the Kerala State IT Mission Official Website. *The article can seen online at http://itmission.kerala.gov.in/index.php?option=com_content&view=article&id=434&Itemid=67*
- [11] Department of Agriculture and Cooperation Ministry of Agriculture Government in Maharashtra, *A Farmer friendly handbook for Government Schemes and Programmes*, August 2012.
- [12] Sanjay Vijay Kumar, Sabarish K, Gokul Krishnan, “*Innovation and M-Governance: The Kerala Mobile Governance Experience and Road-Map for a Comprehensive M-Governance Strategy*”
- [13] Department of Information Technology, Government of India (2008). Impact assessment of e-governance projects. Retrieved April 11, 2009 from: <http://www.mit.gov.in/download/ImpactAssessmentReportDraft.pdf>
- [14] Indiastat.com (n.d.). State wise number of inhabited and habited villages in India (Census 2001). Retrieved August 29, 2008 from <http://www.indiastat.com/>
- [15] I. Kushchu (2007). *Mobile Government: An emerging direction in e-Government*. USA: IGI Publishing.
- [16] S. Gandhi, S. Mittal, and G. Tripathi (2009, January). The impact of mobiles on agricultural productivity. The Vodafone Public Policy Paper Series, Number 9. Available: <http://www.vodafone.com/publicpolicyseries>
- [17] DgCommunities (2008, February 5). M Government: The new frontier in transforming public services. Available: <http://topics.developmentgateway.org/egovernment/discussion/default/showDiscussion.do?id=5303>
- [18] Vnl (n.d.). The opportunity for mobile operators. Available: <http://www.vnl.in/solutions/theopportunity/>
- [19] A. L. Hammond (2008, June). Mobiles Telecoms in rural areas. I4d (Information for development) Magazine, VI (6). Available: <http://www.i4donline.net>
- [20] LIRNEasia (2009, February 10). India’s rural millions: Connected? Available: http://lirneasia.net/wpcontent/uploads/2009/04/coai-tabop3-mumbai-10feb09_final2.pdf