

ROLE OF ICT IN RURAL DEVELOPMENT:
OPPORTUNITIES AND CHALLENGES
(A STUDY OF MGNREGS IN INDIA)

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Abstract:

The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) is a flagship Programme of Government of India. MGNREGA is enhancing the livelihood security of the people in rural areas by generating wage employment through works. This requires strong ICT systems for the effective management and implementation of the scheme. The e-governance is a strong tool for monitoring MGNREGA works, finding irregularities and areas for improvement. The ICT and e-governance makes transparency in this program, the data have been updated every day which give correct information about progress of work. It also provides information about the areas improvement. They admit that the best use of ICT is that it cutting down the cost and reducing time consumption. In this context this paper analyses the importance of ICT in Rural Development and examined the role of ICT as an effective tool in the functioning of MGNREGS.

Key Words: Information and Communication technologies (ICT), Rural Development, MGNREGA, Panchayati Raj Institutions

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Introduction:

Information and Communication technologies (ICT) have a potential for economic growth and social empowerment (Nandi, 2002). Direct or indirect application of ICT, in rural development sector has also been referred to as “Rural Informatics”. Rural economies can be benefited from ICT by focusing on social production, social consumption and social services in the rural areas (Malhotra, 2001). Sustained development using rural informatics is possible, only if ICT interventions are able to respond to the local needs and re-adjust as per the prevailing knowledge (Traditional Knowledge Systems- TKS) of the rural areas. To capture the needs and local knowledge prevalent at the grassroots, these interventions should preferably have an effective bi-directional link. The inculcation of a Citizen-to-Government (C2G) and Citizen-to-Citizen (C2C) interface would provide this link that would also lead to community participation in design and implementation of ICT interventions. This in return could promise better economic opportunities as well as social inclusion of rural people in the processes of governance. Such attributes in the social set up are essential prerequisites for good governance and rural development (Charru Malhotra, V. M. Chariar, L.K. Das, and P. V. Ilavarasan, 2008:216).

ICT means application of innovative way to facilitate information and communication technologies in the rural domain. The advancement in ICT can be utilized for providing relevant information and service to the farmers, thereby facilitating an environment for more rewarding agriculture. Farmers of rural areas can be educated with modern means of cultivation through ICT (Arijit Ghosh, 2011:2).

Concept of Rural Development

Rural development is a process which affects the well-being of rural populations including the provision of basic needs and services, i.e. access to food, health services, water supply, basic infrastructure and the development of human capital through education. Rural development is used to denote the actions and initiatives taken to improve the standard of living in non-urban neighbourhoods, countryside and remote villages. The communities primarily depend on agriculture activities and economic activities would relate to the primary sector, production of food grains and raw materials. Thus, rural development activities mostly aim at the

social and economic development of the rural communities (South African Rural Development, 1997:9).

Rural Development in India

Rural development in India has witnessed several changes over the years in its emphasis, approaches, strategies and programmes. It has assumed a new dimension and perspectives as a consequence. Rural development can be richer and more meaningful only through the participation of clientele of development. Just as implementation is the touchstone for planning, people's participation is the centre-piece in rural development. People's participation is one of the foremost pre-requisites of development process both from procedural and philosophical perspectives. For the development planners and administrators it is important to solicit the participation of different groups of rural people, to make the plans participatory.

However, various ministries in the central government are engaged directly or indirectly for implementation of many programmes and schemes for the development of rural areas like Ministries of Agriculture, Health and Family Welfare, New and Renewable Energy, Science and Technology, Women and Child Development and Tribal affairs etc. In addition, to strengthen the grass root level democracy, the Government is constantly endeavouring to empower Panchayat Raj Institutions in terms of functions, powers and finance. Grama Sabha, NGOs, Self-Help Groups and PRIs have been accorded adequate roles to make participatory democracy meaningful and effective (Gangopadhyay D., Mukhopadhyay A.K. and Pushpa Singh, 2008).

ICTs in rural areas

The Information and Communication Technologies (ICT) are being increasingly used by the governments to deliver its services at the locations convenient to the citizens. The rural ICT applications attempt to offer the services of central agencies (like district administration, cooperative union, and state and central government departments) to the citizens at their village door steps. These applications utilize the ICT in offering improved and affordable connectivity and processing solutions. Several Government-Citizen (G-C) e-Government pilot projects have attempted to adopt these technologies to improve the reach, enhance the base, minimize the processing costs, increase transparency, and reduce the cycle times. A large number of rural E-

Government applications, developed as pilot projects, were aimed at offering easy access to citizen services and improved processing of government-to-citizen transactions. Some of these have drawn international attention and have won prestigious awards for their innovative approaches. They have demonstrated the power of ICT in rural context and are seen as reference models for future e-government project implementations. Most of these projects have seen developments in the Internet technology and dropping costs of PCs as opportunity to reach remote locations. They used the existing telecom infrastructure and the Internet access through Internet Service Providers (ISPs) as inexpensive connectivity solution. They tried to package in all possible information services for the rural citizens as a single point access through PC based kiosks connected to Internet Service Providers (ISPs). Some projects have experimented with the wireless technology to reach the remote locations (Rama Rao T.P., 2004, ICT and e-Governance for Rural Development,

<http://www.iimahd.ernet.in/egov/documents/ict-and-egovernance-for-rural-development.pdf>).

Role of NREGA in Rural Development:

Historical Context:

Generally, the word 'right' is the legal or moral entitlement to do or refrain from doing something, or to obtain or refrain from obtaining an action, thing or recognition in civil society. Rights serve as rules of interaction between people, and, as such, they place constraints and obligations upon the action of individual from the community. The right to work is a part of Constitutional guarantees. Article 39 (A) states that "The State shall ...direct its policy towards securing the citizen; men and women equally, have the right to an adequate means of livelihood..." Article 41 states that "The State shall ... make effective provision for securing the right to work". The above articles are the corner stone's for the enactment of NREG Act (Pulla Rao.D, 2012:128-129).

Various rural employment schemes, aimed at rural development, were started by Central and State governments. Rural Man Power (RMP) (1960-61), Crash Scheme for Rural Employment (CSRE) (1971-74), Pilot Intensive Rural Employment Programme (PIREP) (1972), Small

Farmers Development Agency (SFDA) (1970-71), and Marginal Farmers & Agricultural Labour Scheme (MFAL) (1970-71) were some examples.

These experiments were translated into a full- fledged wage- employment programme in 1977 in the form of Food for Work Programme (FWP) (1977) (Ministry of Rural Development, 2007:1-2). It was followed by National Rural Employment Programme (NREP) (1980), Jawahar Rojgar Yojana (1989), The Employment Assurance Scheme (EAS)(1993), Jawahar Gram Samridhi Yojana (JGSY) (1999), Sampoorna Grameen Rozgar Yojana (SGRY) (2001-02) and National Food for Works Programme (NFFWP) (2005) (Shah V.D. and Makwana, 2012: 19).

National Rural Employment Guarantee Act, 2005:

The National Rural Employment Guarantee Act (NREGA) was enacted by the Parliament on 25th August, 2005. The Act came into force on February 2, 2006 and was implemented in a phased manner. In Phase I it was introduced in 200 of the most backward districts of the country. It was implemented in an additional 130 districts in Phase II during 2007-2008. The Act was notified in the remaining rural districts of India from April 1, 2008 in Phase III. (Ministry of Rural Development, 2013:3). The NREGA was renamed as Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) on 2 October 2009 (The Gazette of India, 2009, No.53 and The National Rural Employment Guarantee (Amendment) Act, 2009 (No. 46 of 2009).

Objective and Main Features:

The NREGA was passed by Parliament in August 2005 and received the Presidential nod on 5 Sept 2005. The objective of NREGA is to enhance the livelihood security of the people in rural areas by generating wage employment through works that develop the infrastructure of the area. The choice of works suggested addresses causes of chronic poverty like drought, deforestation, soil erosion etc. Effectively implemented, the employment generated under the Act also build up the long-term livelihood asset base of rural India. NREGA guarantees wage employment on public works to any adult who is willing to do unskilled manual work, subject to a guaranteed employment for 100 days per household per financial year. If employment cannot be provided, the applicant is entitled to daily unemployment allowance (ICTD, 2006:35).

Possible Areas of ICT intervention

An ICT intervention in the implementation of NREGA is important from the following perspective:

1. ICT ensure transparency and help in information dissemination
2. An ICT tool is required because the size of the programme is very large, not only from the geographical and financial perspective but from the perspective of the size of the target group of beneficiaries as well.
3. ICT facilitate online monitoring and evaluation of the programme. The timely feedback help in timely corrective actions.
4. An ICT tool helps in social audits whereby the local bodies and citizens may actually audit the programme at their end. ICT play a definite role in every phase of the implementation of the NREGA (ICTD, 2006:35).

The following are the major areas for interventions.

a) Communication & Mobilization:

- Some of the ICT interventions that can be possibly used for communication & mobilization include community radio, television, public address systems, panchayat websites and the Internet to publicize the NREGA.
- Information kiosks that have been set up in some villages and the 100,000 Common Service Centers being implemented by the Department of IT can be used as focal points to disseminate information on the scheme.

b) Planning Phase:

- Creation of a database of durable, productive, labour-intensive works at Panchayat level. Mapping out socially productive and durable assets/infrastructure which can be created in the respective zones/clusters.
- Issuing of job cards, digitization of muster rolls, persons employed, their output, wage rates, working hours etc can also be available for verification by the Panchayats, peers and the community through the use of ICTs.
- The use of Smart Cards/Biometric cards can be introduced to identify and track every beneficiary in the region.

c) Execution of Works

- Works Management System with authentic records of the attendance at the worksites with simultaneous updating of the employment records is necessary. Works identified in a particular block to be taken up under the scheme must be available for viewing and measurement by all Panchayats within that block.
- Work Flow Automation System is introduced since the approval of works, allocation of works to an implementing agency etc. must be sanctioned by the Programme Officer or such local authority (including the Panchayats at the district, intermediate or village level).
- Disbursement of wages and unemployment allowance.

d) Monitoring

- ICTs provide for ensuring that the members of the designated rural household are only availing the guarantee of 100 days of employment and their wage employment rights are not being misused by others. Biometric systems like fingerprint recognition is used as potential solutions to address this issue. A fingerprint recognition based time and attendance system at the frontend backed by a comprehensive computerized MIS at the back-end may be able to address the issue.
- The NREG Act makes it compulsory for the daily wages to be disbursed within a specified time limit. It therefore becomes necessary that this information is captured and available for public viewing through the MIS.
- Information such as data pertaining to households, number of days of employment provided, reports on the assets created, financial information like allotment of funds by Ministry of Rural Development (MoRD) to the States and eventually to the implementing agencies, tracking wages paid to the workers and all other aspects of implementation must be captured and made available to view for people in the hierarchy and the public at-large. This is also required by the Right to Information Act.
- Geographical Information System – The use of GIS can greatly enhance the monitoring of the NREGS. Digital maps can be made available for viewing to show the assets that have been created under the scheme and provide for the assessment of the quality of assets created.

e) Grievance Redressal System:

- Citizens can register grievances at all Panchayat Levels and in offices of the Programme Officer and the District Programme Coordinator. This information must be made available online.
- Citizens must be able to track their grievances online. The list of issues above is indicative and not exhaustive in nature. Other issues require policy, legislative or administrative initiatives.
- Number of households demanding jobs are far higher than the number of households who have been issued job cards. In some cases the difference is as high as 1000 percent (ICTD, 2006:35-36).

ICT Solutions being tried out Software for Project Implementation:

The Government of Andhra Pradesh (AP) is a forerunner in deploying ICT in the implementation of NREGA. In collaboration with TCS (Tata Consultancy Services) a software package has been developed which integrates various processes like: enrolment of wage seeker, monitoring of work execution, management of wage and material payments, etc. into a single framework:

Computers with this software are installed in all the 656 mandals across 13 districts of AP. Under the eight categories of works permitted in the Act, 62 types of works have been identified. Simplified input data sheets which are filled by a non technical person are designed for all these types of works. Estimates are generated by the computer immediately after information in the input data sheet is fed. Thus this process demystifies the conventional estimate preparation and enables any common person to understand the process of estimate preparation.

The website <www.nrega.ap.gov.in> enables any user to view the following:

- Job cards issued relating to any panchayat ☐
- The shelf of works ☐
- Progress of works ☐
- Estimates of the works in progress ☐
- Wages paid to the workers ☐
- Paid muster rolls

To supplement the efforts of various states another software has been developed by NIC (National Informatics Centre) which is being used in different States. The web site has seven sections: (a) For Citizen, (b) For Panchayats (at all three levels) (c) For workers (d) For Other Implementing Agencies (e) For Programme Officer/District Project Coordinator (f) For States (g) For Ministry of Rural Development. More details can be obtained at the site <http://nrega.nic.in/>

Many other solutions have been proposed by various agencies but have not yet reached the implementation stage. Some of them are:

SMS based fund transfer:

To enable speeding up the process of fund transfers an innovative solution using mobile phones has been suggested. It works as follows:

1. Site Asst. Engineer sends the day's muster roll of NREGS beneficiaries by SMS
2. Village Payment Agent receives the SMS
3. Village Payment Agent makes payment to NREGS beneficiaries based on muster roll received
4. A second SMS about payments made is sent to Panchayati Raj Department's Banker
5. On receiving the SMS the Panchayati Raj Department's Banker transfers funds to Village Payment Agent's bank account.
6. SMS database will be integrated with NREGS web portal to generate weekly payment details.

Using Rural ATMs:

The low-cost rural ATM (Gramateller), being developed by Vortex Technologies can be implemented if the bank account transfer mechanism is put in place. The ATM works with both used and new notes and has a fingerprint based authentication system. It works on very low power with a built-in battery back-up and does not require air conditioning.

Using Biometrics:

An interesting pilot in using biometrics for authentication of workers was carried out on April 27, 2006, at Jakulla Kutha Palli (JK Palli, a remote hamlet of about 200 families, under the

Amaduguru Mandal, about 95 kms from Ananthpur District Headquarters) Reportedly the biometric tracking was 100 percent successful, with no failures, using a standalone biometric device and a 12 volt car battery, as there was no power supply for the whole day in the entire Mandal.

The bio-metric authentication, was not without its own attendant problems, as some of the women, came directly from work, with cement/lime mortar coating on their fingers. Some fingers were very rough and a second finger print registration had to be taken. But 100 percent success rate was achieved, out of which, 80 percent in the very first attempt and 20 percent in the second attempt. Around 50 percent of the beneficiaries are women. The minutes of the meeting of the local committee for payment disbursement in JK Palli elaborates the details of biometric tracking and payment (ICTD, 2006:37-38).

The Ministry of Rural Development, Government of India (MoRD) on 20th August, 2010 unveiled their strategy for nationwide rollout of biometric enabled ICT applications for improving delivery of services under the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), at a national workshop titled “Mahatma Gandhi NREGA - making ICT an instrument for people’s entitlement: A step towards Governance Reform and Transparency” (OneWorld South Asia, 2010).

MGNREGA is a landmark social security legislation that epitomizes the right to employment on demand. Independent studies by reputed institutions have indicated that since its inception in 2006, the act has provided nearly 800 crore persondays of employment with 50% of share for women and more than 50% for SC/ST, and Rs.66976.91 crore as wages. It has resulted in enhanced wage rates and bargaining power of labourers, increased purchasing power resulting in increased spending on food, health and education, reduced distress migration, and augmented productivity through green jobs. The large scale of operations and the need to handle large volumes of information in a transparent manner necessitated the use of ICTs in programme delivery.

In the year 2009, pilot initiatives were undertaken in Andhra Pradesh, Kerala, Orissa, Uttar Pradesh, Rajasthan and Tamil Nadu. Lessons from this pilot, executed in partnership with the

Ministry of Rural Development, Government of India, and the UNDP, did demonstrate considerable potential for expanding, extending and scaling this effort – to reach out to NREGS beneficiaries – preferably on voice mode to mitigate the constraint of literacy, and riding on all-encompassing reach of mobile and hand-held technologies.

Starting 2nd October 2009, OneWorld Foundation India, had attempted to imbibe transparency and public accountability in MGNREGA by e-enabling all the processes right from bio-metric based registration, demand for work, issue of dated receipt, allocation of work, recording of attendance with GPS coordinates and work measurement using hand-held devices. A digital repository facilitating access to NREGA related knowledge for practitioners, and a community radio initiative complete the cycle of knowledge facilitating the transition of rural poor from wage employment to sustainable livelihood (OneWorld South Asia, 2010).

Conclusion:

MGNREGA is a flagship program of UPA Government for poor rural households. It provides employment for unskilled manual labour in rural areas. It is a significant tool to reduce poverty. It is a big program so the best use of latest Information and Communication Technologies (ICT) help in ensuring effective implementation and proper management of the Program and also bring transparency and thereby credibility. Integration into the comprehensive MGNREGA database on real-time basis is eliminate fraud, duplication and delays in work measurements and payments. The data generated can be linked with the unique identification numbers of citizens 'Aadhar'. It can also be used by banks, post offices for the purpose of servicing MGNREGA accounts through the Business Correspondent Model.

Undoubtedly MGNREGA is a good effort to reduce poverty in rural areas. But proper implementation and transparency will make it more successful. The e-governance is a strong tool for monitoring MGNREGA works, finding irregularities and areas for improvement. Most of the beneficiaries have very low awareness of MGNREGA processes, it is suggested that communication channels should be made effective to make rural people understand the processes and features. Government should organize some induction program for rural people to educate them about the use of ICT.

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