Impact of ICT and E-Governance in Rural Development Program (A study of MGNREGA in State of Rajasthan)

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INTRODUCTION
The Mahatama Gandhi National Rural Employment Guarantee Act (MGNREGA) was passed by Parliament in August 2005 and received the Presidential nod on 5 Sept 2005. The objective of MGNREGA 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 will also build up the long-term livelihood asset base of rural India. MGNREGA 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. Panchayats will play a very important role as MGNREGA has designated them as the principal authorities for planning and implementation of schemes under the Act. The Act came into force in 200 of the country’s poorest districts and then it covers the whole country by April 2008.

This will require strong ICT systems for the effective management and implementation of the schemes. For successful implementation, potential beneficiaries need to be aware of their work entitlements and the essential elements of the Schemes. Besides their roles and responsibilities the implementing agencies also need to be aware of the legal implications, as employment has been guaranteed as a right. Productive assets have to be created so that the livelihood base of rural communities is built up to ensure long-term sustainability.

2.SCOPE AND OBJECTIVE OF THE STUDY
The present research work is to study the impact of ICT and e-governance in Rajasthan (special focus on tribal areas of Rajasthan) with compare to other states

1) To analyze the e-initiatives undertaken and initiated by the Central government.
2) To study the attempts made by the State of Rajasthan with regard to e-governance.
3) To analyze and understand the effectiveness and countable measures related to the implementation.
4) To collect and elaborate the perception and comments of the workers and administration people of MGNREGA on ICT and e-governance.
3. RESEARCH METHODOLOGY

To attain the objectives of the study, the following research methodology has been followed.

Preliminary investigation about the ICT and e-governance of the state has been checked and the views of the administrative people and workers towards the effectiveness of e-governance in MGNREGA have been analyzed and understood by the Questionnaire and Schedule interview on the e-governance of MGNREGA

4. ICT (Information and Communication Technology) and E-GOVERNANCE

The government of India recognizes that some good e- Initiatives like e-Governances provides an excellent opportunity for improving governance. It is a trigger for introducing various administrative reforms. This could not only go a long way in improving the quality of life of various sections of society, but could actually provide them more equitable access to economic opportunities ever before. In this context, the Government of India views e-Initiative as a strategic tool for transforming Governance and improving the quality of services provided by the government to its people. The experience in e-Governance/ ICT initiatives has demonstrated significant success in improving accessibility, cutting down costs, reducing corruption, extending help and increased access to un-served groups.

E-Governance is in essence, the application of Information and Communications Technology to government functioning in order to create ‘Simple, Moral, Accountable, Responsive and Transparent’ (SMART) governance. The types of services possible through e-Governance can be broadly classified into three categories (1) providing information (2) improving processing efficiency and (3) facilitating transactions.

MGNREGA is an enormous size of the programme, so it is necessary to make best use of ICT latest Information and Communication Technologies (ICT). This will not only help in ensuring effective implementation and proper management of the Programme but will also bring transparency and thereby credibility. The timely feedback will help in timely corrective actions. E-Governance will facilitate online monitoring and evaluation of the programme Developments in ICT makes the governance of MGNREGA less expensive, qualitatively responsive, and truly encompassing.

To strengthening The Mahatama Gandhi National Rural Employment Guarantee Act (MGNREGA), through e-governance National Informatics Centre (NIC), along with Ministry of Rural Development (MoRD) and other stakeholders, conceptualized web enabled management information system (i.e., NREGASoft) to address the planning and monitoring needs of scheme. Long association and experience of NIC with rural development processes and engagement with computerization of rural development schemes at various levels proved to be valuable factor in designing MGNREGASoft. The first version of MGNREGASoft was launched along with the launch of the scheme.

MGNREGAsoft is a work flow; local language enabled e-Governance system and is available in offline as well as online mode to capture all the activities under MGNREGA at Center/State/District/Block and Panchayat level. MGNREGAsoft has been prepared and deployed at the portal www.nrega.nic.in, by NIC in collaboration with Ministry of Rural Development. Each stakeholder can access relevant information through the portal. MGNREGAsoft captures Registration of workers, work demanded, number of days of employment for whole family, funds transferred/utilised and number of works undertaken. Under the scheme various stakeholders of the project are:

1. GP, BP and ZP (Gram Panchayats, Block Panchayats Zilla Panchayats)
2. Workers
3. Programme Officers
4. District Programme Coordinators
5. Implementing Agencies other then Pancayati Raj Institutions
6. State Rural Development Departments
7. MoRD (Ministry of Rural Development) and Administrators in Government of India

5. ICT PROCESS OF MGNREGA WORK IN RAJASTHAN

1) 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 MGNREGA.
- Information kiosks that have been set up in some villages

2) Planning of Work

- 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.
- ICT will play a definite role in every phase of the implementation of the MGNREGA. The following could be the major areas for interventions.

3) 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 may be 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.

4) Monitoring of Works

- 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. Attendance system at the frontend backed by a comprehensive computerized MIS at the back-end may be able to address the issue.
- The MGNREG 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 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 will also be required by the Right to Information Act.
- Geographical Information System – The use of GIS can greatly enhance the monitoring of the MGNREGS. 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.

5) 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. Some examples such as:

- 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.

### 6. FINDINGS & ANALYSIS

**Table-6.1**

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Hypothesis</th>
<th>Workers' perception on e-governance of MGNREGA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>People are aware of about online data of MGNREGA work, their registration and payments</td>
<td>Yes: 10%  No: 90%</td>
</tr>
<tr>
<td>2</td>
<td>Did you get 100 days employment in one financial year</td>
<td>Yes: 15%  No: 85%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Hypothesis</th>
<th>Administrators Perception on e-governance of MGNREGA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Impact of ICT on MGNREGA</td>
<td>Yes: 70%  No: 30%</td>
</tr>
<tr>
<td>2</td>
<td>Are you aware about the latest ICT equipment using by other states</td>
<td>Yes: 20%  No: 80%</td>
</tr>
<tr>
<td>3</td>
<td>E-governance is effective in MGNREGA scheme</td>
<td>Yes: 90%  No: 10%</td>
</tr>
</tbody>
</table>

**Source-field data**

Here the above table shows the workers and administrators perception about e-governance:

**Workers perception**

The figure represents the findings of labours’ response regarding awareness about TCT and e-governance and 100 days employment in a financial year in MGNREGA work in both Tribal tehsils of Udaipur District. More than 90% labours are not aware about ICT (information and communication technology) and e-governance. They don’t know how they check their registration, working days and payments. So govt needs to organize some induction programs for tribal people to educate them about use of ICT and e-governance, its benefits and their rights for job. On an average, only 15% of the labours in villages reported that they got complete 100 days employment in a financial year. 85% labours said that didn’t got total 100 days employment in a
financial year. The program guarantees 100 days of employment in a financial year so the Govt must provide them with complete 100 days employment to make it success.

Administration people’s Perception

![Figure- 6.1.2](image)

Administration people’s Perception

They said that the ICT and e-governance makes transparency in this program, the data have been updating every day which give correct information about progress of work. It also provides information about the areas of improvement. They admit that the best use of e-governance is that it cutting down the cost and reducing time consumption NREGAsoft captures Registration of workers, work demanded, number of days of employment for whole family, funds transferred, utilised and number of works undertaken and it gives effectiveness to the MGNREGA More than 60% people are not aware about the use of latest equipment of ICT like smart card, handheld devices using by other states. Some administration people said that they need more training of MGNREGAsoft.

**Table-6.2**

<table>
<thead>
<tr>
<th>Serial No.</th>
<th>Tehsil</th>
<th>Job Card Issued</th>
<th>100 Days Completed</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sarada</td>
<td>51,865</td>
<td>2963</td>
<td>5.71</td>
</tr>
<tr>
<td>2</td>
<td>Sukmber</td>
<td>43,987</td>
<td>1,400</td>
<td>3.18</td>
</tr>
<tr>
<td>3</td>
<td>Jhadol</td>
<td>43,850</td>
<td>5,304</td>
<td>12.10</td>
</tr>
<tr>
<td>4</td>
<td>Gogunda</td>
<td>42,296</td>
<td>1,192</td>
<td>2.82</td>
</tr>
<tr>
<td>5</td>
<td>Kherwara</td>
<td>173,120</td>
<td>3,053</td>
<td>1.76</td>
</tr>
<tr>
<td>6</td>
<td>Mavli</td>
<td>35,792</td>
<td>280</td>
<td>0.78</td>
</tr>
<tr>
<td>7</td>
<td>Lasadha</td>
<td>20,144</td>
<td>52</td>
<td>0.26</td>
</tr>
<tr>
<td>8</td>
<td>Kotra</td>
<td>41,509</td>
<td>967</td>
<td>2.33</td>
</tr>
<tr>
<td>9</td>
<td>Bhinder</td>
<td>43,676</td>
<td>417</td>
<td>0.95</td>
</tr>
<tr>
<td>10</td>
<td>Girva</td>
<td>22,442</td>
<td>603</td>
<td>2.69</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>518,681</td>
<td>16,231</td>
<td>3.13</td>
</tr>
</tbody>
</table>

Source- dainik bhasker, nrega.nic.in

Irregularities Found Through E-Governance

The above table represents the findings of 100 days Job guarantee of MGNREGA work in a financial year. These data found on MGNREGAsoft. On an average, less than 10% of the
MGNREGA workers got 100 days employment. This is a flagship program of UPA govt. but somewhere the govt. machinery is failure in proper implementation of MGNREGA. This information is available for everyone on MGNREGAsoft. The e-governance gives information about all the work in progress, delays and completion. An IT tool is used for social audits whereby the local bodies and citizens can audit and easily caught irregularities Here the below graph represents picture of Udaipur where 518,581 job cards were issued in a financial year but only 6,231 MGNREGA workers got 100 days employment. It shows that only one tehsil of Udaipur jhadol reach 12% figure and the have very poor performance. The figure gives the picture that there is some problems in providing 100 days employment in one financial year and the Government machinery needs to improve it so that every household who demaned for work got the work under MGNREGA.

![Tehsil wise Percentage of Employment](image)

**Figure- 6.2**

7. OTHER E-INITIATIVES

There are other projects like Common Service Centres, e-Panchayats, etc., which are planned to be implemented in whole state in the the coming months and years. The use of ICT in MGNREGA implementation should be seen in synergy and complementary to all these initiatives that are contemplated or in progress. Then only can the full potential of ICT be harnessed for empowering the common citizen. The team at NIC Headquarter has been engaged in preparation of MGNREGAsoft package and in deployment (training on domain issues, offline/online package and handholding) of the application, in active collaboration with NIC-State/ District Units across the country. Training methodology included face-to-face training at state and district level and utilization of Video-Conferencing and e-Learning technologies.

U.S. President Barack Obama have the first taste of technological advancement of a nondescript Indian village when he interacted with inhabitants of Kanpura in Ajmer district through video-conferencing using optical fibre cable (OFC) technology from Mumbai. The Tech-savvy villagers are all set for this rare interface.
Kanpura in Srinagar Panchayati Samiti, located 40 km away from Ajmer, is one of ten villages in the district connected with OFC technology as part of a pilot project facilitated by the Union Ministry of Information Technology.

![Source picture-NDTV November 2010](image)

The IT-enabled village has been selected in view of its successful operation of an advanced system that has provided the rural populace access to health, development and education-related information and ensures a transparent functioning of the Mahatma Gandhi National Rural Employment Guarantee Scheme. For Mr. Obama – who has often expressed concern over the U.S. firms outsourcing their operations – the transformation of a remote Indian village through e-governance that has made an impact at the grassroots may come as a pleasant surprise.

**8. SOME GOOD E-INITIATIVES BY OTHER STATES**

Many states have started use of smart cards and hand held devices for the wage disbursement like: Tamil Nadu, Karnataka, Andhra Pradesh, Bihar, Orissa, UP, Kerala, etc.

**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:

- **t. E n g i n e e r** sends the day’s muster roll of NREGS beneficiaries by SMS
- **V i l l a g e P a y m e n t Agent** receives the SMS
- Village Payment Agent makes payment to NREGS beneficiaries based on muster roll received
- A second SMS about payments made is sent to Panchayati Raj Department’s Banker
- On receiving the SMS the Panchayati Raj Department’s Banker transfers funds to Village Payment Agent’s bank account.
- 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.

Source picture-nrega.nic.in

**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 bio-metric tracking was 100 percent successful, with no failures, using a stand alone biometric device and a 12 volt car battery, as there was no power supply for the whole day in the entire Mandal.

Source picture-nrega.nic.in

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.

9. **CONCLUSIONS**
MGNREGA is a flagship program of UPA Govt. for poor rural households. It gives them unskilled manual employment to reduce poverty in rural areas. It covers all states of country
within few years. It is a big program so the best use of latest Information and Communication Technologies (ICT) will help in ensuring effective implementation and proper management of the Program and also bring transparency and thereby credibility. The timely feedback will help in timely corrective actions.

1. The experience in e-Governance/ ICT initiatives has demonstrated significant success in improving accessibility, cutting down costs, reducing corruption, extending help and increased access to un-served groups.

2. Use of print, electronics and digitization of muster rolls makes the governance of MGNREGA less expensive, qualitatively responsive, and truly encompassing.

3. The Data base of registered households, proffered works etc. on the nrega.nic facilitate online monitoring and evaluation of the programme. founds irregularities in programs. In Udaipur district less than 10% of MGNREGA workers got 100 day employment. Here 518,581 job cards were issued in a financial year but only 6,231 MGNREGA workers got 100 days employment. The online monitoring enables us to found the irregularities and faults.

4. The software has a strong analysis system for the following:
   - Programme implementation status like locations with no registration, no demand for work, no allocation of work, no work in shelf, no on-going work etc.
   - Fund transferred and availability of fund at each level, Work Approval time analysis,
   - Gender, caste, wage earned on work analysis
   - Work execution level analysis
   - Labour, material ratio analysis
   - Expenditure on work
   - Households getting more than 100 days and less than 14 days employment.

5. A worker can check his employment details, unemployment allowance, lodge complaint and can trace the subsequent response.

6. It has a provision of payment of wages through bank/post office thereby ensuring the correct payment to a worker.

7. More than 90% workers (labors) are not aware about ICT (information and communication technology) and e-governance. They don’t know how they check their registration, working days and payments.
9. The administrators said that 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 provide information about the areas improvement. They admit that the best use of e-governance is that it cutting down the cost and reducing time consumption.

10. More than 60% administrators are not aware about the use of latest equipment of ICT like smart card, handheld devices using by other stats. Some administration people said that they need more training on MGNREGAsoft.

11. The Common Services Centers Scheme is also a part of the National e-Governance Plan. The CSCs would provide high quality and cost-effective video, voice and data content and services, in the areas of e-governance, education, health, telemedicine, entertainment as well as other private services. The performance of state of rajasthan in implementation Common Services Centers scheme (CSCs) is only 50-70%.

10. SUGGESTIONS

Undoubtedly MGNREGA is a good effort to reduce poverty in rural areas by UPA Govt. 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.

1. It is worth mentioning here that most of the beneficiaries have very low awareness of MGNREGA processes.

2. Communication channels should be made effective to make rural people understand the processes and features. Govt. should organize some induction program for rural people to educate them about the use of ICT.
3. Television may be a media which could very easily communicate to these people. Since this is a National Programme made under an Act, the telecast may be made compulsory by all the private/entertainment channels at no cost.

4. Through media participation, Gram Sabha meetings may be very much useful in deciding the villages’ infrastructure requirements.

5. The Central and State Governments should provide the needed support structure for the effectiveness of Panchayat and Block level functions.

6. To identify and track every beneficiary in the region, the use of Smart Cards/Biometric cards needs to be introduced like other states.

7. States have often complained of delays in release of funds from the centre hitting their NREGS implementation. So the rural development ministry is set to introduce a state of art Management Information System (MIS) software, the states' can submit proposals under the scheme online, saving time spent in postal delivery. Delays brought about by slow movement of paper proposals during scrutiny at different levels can also be avoided. The state govt. should make the best use of Management Information System software to speed up the process of funds approval for MGNREGA. The software will generate performance reports and alerts to enable timely flow of funds.

8. State of Rajasthan should follow Kerela (Kerala institute of Local Administration). The institute has been operating a Phone-In service for the past six years to clarify doubts and provide information on decentralization to local government functionaries and citizens. The service has received very positive responses from the public.

9. To track beneficiaries of the MGNREGA the state govt. should Use the Biometric Device. The process involved recording fingerprints of beneficiaries through a simple device. This procedure ensures that there are minimal chances of duplication once the recording has been done, thus muster role maintenance and wage payment can be carried out in a foolproof way.

10. U.S. President Barack Obama will have the first taste of technological advancement of a nondescript Indian village when he interacts with inhabitants of Kanpura in Ajmer district through video-conferencing using optical fibre cable (OFC) technology from Mumbai. The Tech-savvy villagers are all set for this rare interface. The IT-enabled village has been selected in view of its successful operation of an advanced system that has provided
the rural populace access to health, development and education-related information and ensures a transparent functioning of the Mahatma Gandhi National Rural Employment Guarantee Scheme. For Mr. Obama – who has often expressed concern over the U.S. firms outsourcing their operations – the transformation of a remote Indian village through e-governance that has made an impact at the grassroots may come as a pleasant surprise. So the state govt should implement this technology throught the state for technical advancement of MGNREGA

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