Case Studies on e-Governance in India – 2013-2014

ICT for Women – Creating Gender sensitive eSpaces for Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)

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About the Initiative

This publication is a part of the Capacity Building initiative under the National e-Governance Plan (NeGP) by NeGD with an aim to draw out learnings from various projects implemented in various States/UTs and sharing this knowledge, in the form of case studies, with the decision makers and implementers to benefit them, by way of knowledge creation and skill building, from these experiences during planning and implementation of various projects under NeGP.

Conceptualised and overseen by the National e-Governance Division (NeGD) of Media lab Asia/DeitY these case studies are submitted by e-Governance Practitioners from Government and Industry/Research Institutions. The cases submitted by the authors are vetted by experts from outside and within the Government for learning and reference value, relevance to future project implementers, planners and to those involved in e-governance capacity Building programs before they are recommended for publication. National Institute for Smart Government (NISG), working on behalf of this NeGD provided program management support and interacted with the authors and subject matter experts in bringing out these published case studies. It is hoped that these case studies drawn from successful and failed e-Governance projects would help practitioners to understand the real-time issues involved, typical dilemmas faced by e-Governance project implementers, and possible solutions to resolve them.

Acknowledgment

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# TABLE OF CONTENT

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract</td>
<td>5</td>
</tr>
<tr>
<td>Note to practitioners</td>
<td>6</td>
</tr>
<tr>
<td>Project context</td>
<td>6</td>
</tr>
<tr>
<td>Project overview</td>
<td>10</td>
</tr>
<tr>
<td>Challenges in implementation</td>
<td>23</td>
</tr>
<tr>
<td>Key lessons</td>
<td>24</td>
</tr>
<tr>
<td>Research methodology</td>
<td>27</td>
</tr>
<tr>
<td>References</td>
<td>27</td>
</tr>
<tr>
<td>Case fact sheet</td>
<td>30</td>
</tr>
</tbody>
</table>
Abstract

The ICT Ecosystem project for the implementation of the Mahatma Gandhi National Rural Employment Act in Rajasthan was launched in the year 2009 by OneWorld Foundation India in collaboration with the Ministry of Rural Development (Government of India), Government of Rajasthan and the United Nations Development Programme. This project was officially known as the 'Knowledge for Community Empowerment and Enhanced Livelihood Opportunities'. The primary objective of this project was to leverage ICT to improve the delivery of services under MGNREGA. The empirical reality in the villages where this project was launched was that women formed over sixty percent of the workforce. The thrust of this initiative was to empower this workforce by improving their access to information regarding their entitlements set out by the Act. An end-to-end ICT framework was created by user friendly technologies such as Soochna Seva Kendras (Information Kiosks), GPS verified attendance tracking tool, community radio and SMS job card. This ICT Ecosystem was designed and developed keeping in mind capacity of target users, primarily rural women with low levels of literacy and their contextualized incapacitation in access to information due to gendered patterns of knowledge and hierarchy in rural Rajasthan. The project was launched as a pilot in 20 villages of the districts of Bhilwara and Udaipur in Rajasthan.

This pilot proved the success of leveraging a combination of ICT tools for streamlining the implementation of MGNREGA particularly in terms of creating awareness about the Act amongst the intended beneficiaries and facilitating a transparent and accountable process of job demand, job allocation and wage payments. This ICT Enabled Ecosystem was highlighted as a successful model for upscale by the Ministry of Rural Development (MoRD), Government of India (GoI) in the National Policy Framework on biometrically enabled end-to-end ICT applications on August 20, 2010.

This case study focusses on the manner in which ICT tools such as information kiosks, internet, mobile telephony, and community radio have been leveraged to enable access to information amongst the women regarding their entitlements, thereby enhancing their ability to demand their rights and improving the delivery of the services under MGNREGA. It builds on the idea that gendered patterns of hierarchy can be overcome by creating eSpaces for rural women to improve their access to information regarding their entitlements and thus make governance responsive to their needs and priorities. This project involved a section of society that has traditionally taken a backseat in demanding their rights and ensured increased outreach of the services and managing the information and records to enhance governance transparency and accountability.

Key words: MGNREGA, public service delivery, ICT, livelihoods security, transparency, accountability, eGovernance, mobile-Governance, inclusive governance, Bhilwara, Udaipur, Rajasthan
**Note to practitioners**

This document is intended to serve as an overview of creating eSpaces for women through ICT-based ecosystem in the implementation of the Mahatma Gandhi National Rural Employment Guarantee Act in 20 villages in the Bhilwara and Udaipur districts of Rajasthan. It presents a framework to integrate various components of the ICT infrastructure being utilized in the implementation and monitoring of work under the Act in these areas and provides basic operational guidance to practitioners seeking to replicate the approach in their own states or departments.

**Project Context**

The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) was notified in September, 2005 and its first phase was implemented in 200 districts of India in 2006. Presently, MGNREGA covers the entire country except those districts that have a hundred percent urban population. The objective of the Act is:

“...to provide for the enhancement of livelihood security of the households in rural areas of the country by providing at least one hundred days of guaranteed wage employment in every financial year to every household whose adult members volunteer to do unskilled manual work and for matters connected therewith or incidental thereto”.

This is done by creating an environment for facilitating sustainable livelihoods and strengthening the economic and social infrastructure in villages. The Act prescribes mandatory and active participation of the local community and has components that encourage women’s participation in this scheme while also securing complete transparency at all operational levels in its implementation.

The key entitlements enumerated under the Act include the following:

- The job card entitles the holder to apply for work at any time.
- A job application can be submitted to the gram panchayat or the block office.
- Employment has to be given within 15 days of applying.
- Applicants are entitled to an unemployment allowance, if employment is not provided within 15 days.
- All workers are entitled to the statutory minimum wage.
- Wages should be paid through bank or post office accounts.

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Upon the payment of wages, all related details must be entered in muster rolls.

Muster rolls should be available and maintained at the worksite.

Shade, drinking water and first-aid should be available at every worksite.

Childcare facilities should be provided at worksites.

The gender sensitive women empowering aspects of MGNREGA³ are:

- At least one third of the beneficiaries shall be women who have registered.

- Individual bank/post office accounts must be compulsorily opened in the name of all women MGNREGA workers and their wages directly credited to their own accounts for the number of days worked by them.

- To identify widowed women, deserted women and destitute women who qualify as a household under the Act, to ensure that they are provided 100 days of work.

- To ensure that pregnant women and lactating mothers (at least up to 8 months before delivery and 10 months after delivery) are given work which require less effort and are close to their houses.

- To conduct time and motion studies to formulate gender, age, level of disability, terrain and climate sensitive Schedule of Rates (SoRs) and to ensure accurate capturing of work done by women at worksites.

- To ensure that at least 50% of the worksite supervisors (mates) at all worksites are women.

- To ensure that worksite facilities such as crèches, drinking water, shade etc. are provided through convergence with Women and Child Development Schemes like ICDS.

- To encourage participation of women groups, including Self Help Groups in awareness generation, capturing demand, planning, implementation, monitoring and maintenance of works.

Seven years into its functioning, MGNREGA has come under severe scrutiny with respect to its implementation. Given the investment of extensive public funds and the involvement of a large number of beneficiaries, the implementation of the Act has become prone to several discrepancies. Questions on its efficacy have been raised the public space. It has been argued that while the Act offers a legal space to the poor to claim employment, insufficient

<http://www.rural.nic.in/sites/downloads/programmes-schemes/Empowerment%20of%20Women.pdf>
knowledge about the entitlements and low awareness level have hampered its implementation.  

A challenge is to deal with the diverse socio-cultural and demographic contexts in which workers, particularly women, work for wages as provided under MGNREGA. This is accentuated by prevailing structural hierarchies, traditional mindsets and rigid procedures, all of which dominate the participation of rural women. It is now accepted being that in many cases, this is punctuated by predominance of male members of the society. Further, poor levels of accountability in the implementation of the Act and administrative lapses also act as a major roadblocks resulting in non-compliance to the provisions of the Act such as non-issuance of receipts, non-payment of unemployment allowance, delays in providing wages and work, duplication and inaccuracies in record keeping, which were highlighted in the CAG Report on MGNREGA in 2013. Often predominant sections of the beneficiaries, in this case, rural women, lack information about their basic rights outlined under the Act, such as the right to claim a job card, unemployment allowance, and the process for registering their attendance amongst other key provisions of MGNREGA. These factors along with others have greatly resulted in the perpetuation of corruption and diversion of funds from these intended beneficiaries.

In view of addressing these challenges, United Nations Development Programme (UNDP) India initiated a pilot project named ‘Knowledge for Community Empowerment and Enhanced Livelihood Opportunities’ also known as 'ICT Enabled Ecosystem for MGNREGA' in partnership with OneWorld Foundation India and the Ministry of Rural Development, Government of India in October 2009. The project aimed to arrest the challenges faced due to a deficit of information in the implementation of MGNREGA. The role of ICTs was

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5 According to Trishna Kalita, The hostility of the panchayat functionaries and male relatives of women to their participation in MGNREGA resulted in the exclusion of names of women from job cards in many instances due to the local male resistance to women’s access to the coveted higher paid MGNREGA jobs.


8 Niehaus, Paul and Sandip Sukhtankar (2012b),“The Marginal Rate of Corruption in Public Programs: Evidence from India”, Mimeo, Dartmouth College. Also see aspects of corruption in MGNREGA discussed at http://www.ideasforindia.in/Article.aspx?article_id=1#sthash.jPIIC8hA.dpuf

envisaged keeping in view its potential to effectively plug the loopholes permeating the delivery of benefits accruing from the Act\(^\text{10}\).

The ICT Enabled Ecosystem for MGNREGA project aimed at leveraging ICT tools such as information kiosks, internet, mobile telephony and community radio for increasing the awareness of rural women about their entitlements under the Act and strengthening their ability to demand their entitlements. The project was piloted in Bhilwara and Udaipur districts covering 20 villages.

The architecture of this end-to-end ICT enabled ecosystem was based on four key components:

- **Soochna Seva Kendra (information kiosks)** were equipped with text-to-speech enabled and icon based touch screen computers, voice based gateway, and mobile technology to provide information on job cards, job availability, work status, wages accrued and received to rural citizens in real time.

- **GPS Verified Attendance Tracking Tool** facilitated the formulation of worksite muster roll.

- **Community Radio** acted as a medium of grassroots empowerment by deepening local women’s awareness about their rights based entitlement under MGNREGA in addition to facilitating skill enhancement on health, education and sustainable livelihood options.

- **SMS Job Card Retrieval** catered to easy access to job card information (number of days worked/remaining for work).

- **Digital Knowledge Repository** enabled monitoring and enhanced knowledge dissemination and exchange.

The basic design of the project was to facilitate a model of inclusive governance and development, one led by a community of informed and active citizenry. This initiative was engendered in the sense that special care was taken in creating inclusion for women and ensuring their participation in this pilot.

Project overview

OneWorld Foundation India (OWFI), in partnership with the Ministry of Rural Development (MoRD) India, Government of Rajasthan and United Nations Development Program (UNDP) introduced the project titled Knowledge for Community Empowerment and Enhanced Livelihood Opportunities in the state of Rajasthan. Launched on October 2, 2009, the project was piloted in 10 villages each in districts Bhilwara and Udaipur.

Enabled with advanced, user-friendly technologies, the pilot project aimed at measuring the scope of ICT in improving the delivery of services under MGNREGA and generating awareness amongst the beneficiaries about their entitlements.

ICT Ecosystem for MGNREGA has evolved into an innovative service delivery model facilitating the implementation of Act in terms of managing large scale operations, widening the outreach of services and the transparent management of large volumes of information. The project played an important role in harnessing ICT to improve the quality of service delivery in the region. It was based on providing free access to information and bolstering public accountability at critical points of the administration and implementation of the scheme.
Table 1: Villages of Bhilwara district of Rajasthan in which the project is operational
Source: OneWorld Foundation India, 2008

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of Panchayat</th>
<th>Villages</th>
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<td>1</td>
<td>Kanda</td>
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<td>Hasilhas</td>
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<td>Maheshpura</td>
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<td>2</td>
<td>Haled</td>
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<td></td>
<td></td>
<td>Agarpura</td>
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<td>Sabalpura</td>
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<tr>
<td>3</td>
<td>Rupahali</td>
<td>Rupahali</td>
</tr>
<tr>
<td>4</td>
<td>Suwana</td>
<td>Suwana</td>
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<td>Iras</td>
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<tr>
<th>S.No.</th>
<th>Name of Panchayat</th>
<th>Villages</th>
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<tbody>
<tr>
<td>1</td>
<td>Kuraabad</td>
<td>Kuraabad</td>
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<td>Jhud</td>
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<tr>
<td>2</td>
<td>Parmada</td>
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<td>Kasiya</td>
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<td>Nichla Chotiya</td>
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The selection of geographically smaller areas like Bhilwara and Udaipur for the implementation of the pilot phase was governed by three primary factors; firstly, to limit the impact of a new intervention as it was susceptible to failure. Secondly, the implementation
and monitoring of the programme could be managed effectively and thirdly, limited resources restricted the scope of widening the coverage of the initiative.\textsuperscript{11}

\textbf{Project Objective}

The ICT Ecosystem for MGNREGA aimed at creating a transparent and accountable mechanism of information management and dissemination for the implementation of MGNREGA. By improving access to information, the project aimed at enabling the poor, especially women, to demand their rights based entitlements and ensuring effective devolution of government responsibilities provided under the Act.

\textbf{Implementation Strategy}

The ICT Ecosystem for MGNREGA was conceptualized for a socio-economic set up that was rural and inhabited by a population with poor levels of illiteracy and unfamiliar to technology. The Rural women are further incapacitated in their access to technology and literacy keeping in view the socio-cultural realities of Rajasthan. Hence the pilot included mechanisms to ensure that this section of population could access it. Further, the delivery mechanism was designed to be simple and did not require much dependence on text. In addition, since the scheme catered to a vast section of the rural population, there was also the need develop a technology that could cater to a large target group. Hence, the prioritization of low cost technology was an important feature of the project\textsuperscript{12}.

Given the level of technological awareness of the target group, user trainings became an important starting point for the implementation agency. These trainings targeted local program operators, student volunteers and MGNREGA beneficiaries.

Technical and administrative support of the District and Block level officials played an important role in the diffusion of the technology at the local level. The head of the district, district level officials, block officials and block development officers provided expertise and insights to secure the effective adoption of the technology at the rural level.

In order to engender this initiative, efforts were made to make it easily accessible to the rural women. Keeping in view the traditional distances maintained in communication between genders, a local women was selected and trained as the kiosk manager at Suwana village to ensure a smooth inclusion of the largest beneficiary group of this scheme in Rajasthan.

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Primary Stakeholders

The primary stakeholders in the implementation of the ICT Ecosystem for MGNREGA include:

- OneWorld Foundation India
- Ministry of Rural Development, Government of India
- Government of Rajasthan, India
- United Nations Development program (UNDP),
- Local leadership at District/Block and village level
- MGNREGA workers

Project Components

The ICT for MGNREGA is based on five major ICT components:

- **Soochna Seva** information kiosks
- Biometric enabled and GPS verified attendance system
- Mobile based job card retrieval
- Community radio
- Digital Knowledge Repository

![Figure 2: Key components of ICT Ecosystem for MGNREGA](image)

*Source: OneWorld Foundation India, 2012*
Soochna Seva Kendra (Information Kiosks)

The MGNREGA Information Kiosk under the ICT Enabled Ecosystem, also called the ‘Soochna Seva Kendra’, acted as a hub of information and knowledge facilitation. Three information kiosks were set up, one each at Suwana Panchayat, Kanda Panchayat and Kuraabad Panchyat. These kiosks served 20 villages in all. The kiosks aimed at securing uninterrupted and transparent flow of information between the beneficiaries (rural households in Rajasthan) and authorities (Panchayat officilas) of MGNREGA. These kiosks are equipped with an advanced ICT enabled apparatus to provide workers information and assistance on various provisions of MGNREGA and in turn promote and preserve their entitlements provided under the Act.\textsuperscript{13}

Text-to-speech enabled touch screen application

The touch screen application made available critical information on job cards, availability of jobs, work status, wages accessible in audio format to users. This innovative user-friendly device was designed keeping in view the challenge of low levels of literacy and aimed to bring information to people the way they are best equipped to receive it. The use of local language and user-friendly icons has further eased the information delivery, as a large section of the target users lack basic literacy.

![Figure 3: Screenshot of the information kiosk to indicate information available to workers under various icon heads](Source: OneWorld Foundation India, 2013)

The above mentioned screenshot of Kiosk is indicative of the information that users can access through the kiosk. The kiosk captures details like the name and photograph of the beneficiary; his/her job card number, village name and status of employment to be given within a stipulated time period under the Act.

- Act related information
- Worker entitlement
- Information related to unemployment allowance
- List of perquisites for work
- Worksite information
- Help and grievance platform
- Job receipt
- Payment slip receipt
- Worker history

**Biometric enabled and GPS verified attendance tracking tool**

Following an assessment of the outcomes of the pilot of information kiosks in Suwana and Kanda villages and based on the recommendation of the Ministry of Rural Development and panchayat secretaries, a portable computer with the biometric device was introduced to digitally generate the worksite muster rolls. This device was used by the supervisor of a particular worksite known as the mate (under the Act) to capture attendance details of the workers. Earlier muster rolls were generated manually paving way for duplications, errors and unaccountable practices. Under the new system, the biometric device was to capture a digital image of a worker’s fingerprints and create a biometric template which was stored and used for consequent examination of identity. By 2010, a biometric enabled and GPS verified attendance tracking tool - also known as Unified Handheld Device (UHD) - was added to the programme. UHD was created by Intel for rural markets in Asia and Africa. It was customized to facilitate onsite digital muster roll development, work receipt printing, GPS verification of worker location, photo capture of work progress, biometric worker identification and smart card reading.
Digital Knowledge Repository

The Digital Knowledge Repository was launched as a part of the project in the year 2009 to achieve two goals. Firstly, critical information related to the implementation of the Act was available on the portal for monitoring and assessment. All details captured in the muster rolls were sent to a technical team at OneWorld Foundation, which in turn uploaded the data on the portal. This information was displayed in the form of calendar and a Google map. Upon clicking on the map and calendar icon, one could access details about the number of workers, their names and job identity. Secondly, the knowledge portal also acted as a platform for knowledge exchange between MGNREGA policy practitioners. In addition to this, it facilitated in generation and dissemination of information resources on MGNREGA and its functioning across the country.

Mobile job card retrieval

To overcome the barriers that arose from poor infrastructure and constrained mobility in rural areas, SMS job card retrieval was introduced in January 2010. Under the system, the village workers were provided the option of sending a low cost SMS to receive job status information such as the number of days worked under MGNREGS and number of work days left on their mobile phones. The cost of the SMS varied as per the SMS rates fixed by individual mobile network providers.
Community Radio

OneWorld’s strategic ‘Communication for Development’ effort at the grassroots has always focused on the radio as a means to people’s social and economic empowerment. The project used this traditional ICT tool to reach out to the MGNREGA workers and generate awareness in the community about their rights under the Act. Content was drawn from the MGNREGA Knowledge for Action Open Archive and the MGNREGA Knowledge Portal to create messages on entitlements in local language for easy assimilation among beneficiaries. These messages were broadcasted in every three weeks. Radio was also used to empower the marginalized through active dissemination of knowledge on health, nutrition, child care and education, sustainable livelihood options, which would especially benefit the women in households.

Process Flow

Under the ICT Ecosystem for MGNREGA, the rural poor, especially women could access information through various stages. MGNREGA workers visit the ICT enabled information kiosks to register themselves. Assisted by a kiosk operator, the user was guided to create a biometric identity with a thumb impression along with his/her photograph.
An auto-enabled touch-screen interface gave workers information on the job cards, job availability, muster rolls, work status and wages. User friendly icons and local language audio assisted workers to make a demand job and print dated receipts/pay slips. Based on the workers demand and their preference, the Panchayat Secretary would use the ICT system to allocate work and generate e-muster rolls. Attendance of workers is captured through a GPS enabled hand-held device that tracked the worker’s location and matched it with the local geographic coordinates of the worksite. The online dashboard allowed officials and other stakeholders to remotely monitor the progress of the work, which was simultaneously updated through the hand-held device. By referring to the e-measurement book and the geo-tagged attendance of the workers, the Panchayat office issued payment advice to the bank or the post-office. The business correspondent thereafter visited the worksite or villages and made payments to the workers after verifying their biometric identities.

**Financial Model**

The United Nations Development Programme (UNDP) funded the pilot phase (2009-2011) of the ICT Ecosystem for MGNREGA project in Bhilwara and Udaipur districts of Rajasthan. Since the completion of the pilot in 2011, the project is being handled solely by OneWorld Foundation India. Due to paucity of funds, the pilot project at Udaipur was closed and the kiosks at Kanda and Suwana Panchayat were merged. Later in April, 2013 the kiosk in Suwana panchayat was also closed after sustaining it for one year without any financial assistance by OneWorld Foundation India. The operational costs incurred by OneWorld...
Foundation India to sustain and maintain this project is approximately INR 25,000 per month.

For the duration of the project, the users could avail all the services under this project free of cost. However, a user had to bear the costs of availing information through mobile phones. This included the charges for sending a local SMS prefixed by the concerned mobile network provider.

**Technical inputs**

OneWorld Foundation India utilised a variety of ICT tools to enable efficient implementation of MGNREGA in Rajasthan. The front end of the technology comprised of the Information Kiosk and the Unified Handheld Device. All registrations done at the Information Kiosk were stored and reverted back in real time by the National Informatics Centre (NIC).

**Project Outcomes**

**Creation of a successful model for up scaling**

The Ministry of Rural Development and the Government of India recognized the success of the pilot phase of the ICT Ecosystem for MGNREGA in Bhilwara and Udaipur district, Rajasthan and highlighted this model in its National Policy Framework on biometrically enabled end-to-end ICT application in 2010. This framework aimed at institutionalizing a mechanism to improve public accountability and transparency. The key components of the framework are;

- Biometric based identity authentication and worker registration
- Demand for work through touch screen and text-to-speech enabled computers in the information kiosks and through handheld device at worksites
- Dated acknowledgement of work demand registration with printout in information kiosks and at worksite through handheld device
- Record of workers’ attendance in real time at the worksite on wireless handheld devices with biometric and GPS validation
- Digital capture of work measurement at the worksite
- Automated payment to the worker through online pay order to the bank.

With an exception of the automated payment mechanism, all the other components of the Framework have been successfully tested by the ICT Ecosystem for MGNREGA pilot in Rajasthan.
Improving access to information through utilization of technology

The introduction of information kiosks under the ICT Ecosystem ensured that precise information related to the Act was available to the citizens at any given time. Earlier, the workers had to rely on the information provided by *gram panchayat* functionaries who acted as middlemen and to the detriment of the workers. Since information dissemination was in the control of middlemen, it was difficult to discern the authenticity and accuracy of the process, thus, leading to instances of corruption. The Information Kiosks played an important role in eliminating the dependence of workers on *gram panchayat* functionaries. The workers could seek MGNREGA related information directly through the kiosk. As per a survey conducted by OneWorld Foundation India of 100 MGNREGA workers in Suwana and Kanda villages in April, 2011 to study the operation and outcomes of the ICT Ecosystem project in Rajasthan, MNREGA workers in the region were increasingly using the kiosk to seek information. Amongst the information sought, enquiries about job demand were the most common. The graph on the right suggests that approximately 80 percent of the surveyed users preferred to seek information about job demand through the kiosk.

*Figure 7: Preferred Information Type Accessible through Info Kiosk*


**Generating awareness and enhancing participation: reaching the last mile**

Improved access to information empowered the local population to become more aware about their rights under MGNREGA. Approximately 80 per cent of the workers surveyed for OneWorld's study in 2011 asserted that enhanced knowledge and information about their entitlement to wages, unemployment allowance and other such provisions has enabled them to assert their demands and hold the duty bearers accountable in significant ways. As per the Kanda *Panchayat* Secretary, the introduction of kiosks also enabled women in the village to seek and receive information on their own. This increased their confidence levels to a significant extent. The women feel comfortable approaching the kiosks and operating the machines as earlier they had to primarily depend on men for procuring information about their rights.
Increase in beneficiary participation was apparent in the enhanced usage of the project components over time. The table 3 gives a breakdown of the category-wise usage of the Soochna Seva Kendra. In order to engender this initiative it was decided that one of the kiosk manager would be a women. In order to ensure a women’s participation in this technological innovation, a local women, who had also worked as mate in MGNREGA was selected, hired and trained both for kiosk management and community radio coordination. This smoothened the involvement of women in this pilot.

**Effective delivery of services by government officials**

Under MGNREGA, the village *panchayat* was the agency responsible for implementing the scheme. The local officials were required to undertake all aspects of administration of the Act’s implementation at the village level. This included providing information, registering beneficiaries, preparing muster rolls, monitoring worksites, and ensuring payments. Timely handling of requests often became difficult because of staff shortage. With the introduction of the information kiosks, the time taken to process a request was greatly reduced. The figures below provide a comparative illustration of the stages of processing a request before and after the initiation of the information kiosk. These diagrams reflect that the number of visits that workers had to make for receiving work under MGNREGA has been reduced from...
about five visits to just one visit. This saved time for both workers and panchayat officials who now had ready information to process job requests in a quick manner. Panchayat officials could direct rural citizens to the kiosk for any information regarding their entitlements under the MGNREGA. This enabled officials to focus on the monitoring aspects of the Act.

Enhancing efficiency and transparency in government operations

94 per cent of the users surveyed by OneWorld in April, 2011 agreed that the ICT Ecosystem has led to reduction in corrupt practices. Majority of the surveyed users pointed towards instances of corruption and misappropriation being predominant, especially in cases related to job allocation and wage payments prior to the setting up of the ICT Ecosystem for MGNREGA. According to these workers, political pressures and elites interests often
governed the allocation of jobs earlier. With job demand being channelized through the information kiosks under the ICT Ecosystem, the occurrence of such instances has been regulated. The biometric system has ensured that only actual numbers of work days of a beneficiary is recorded so that data manipulation eventually leading to misdirection of funds is no longer possible.

There is increasing clarity amongst MGNREGA workers in the ICT enabled ecosystem project areas about their legal entitlements under the Act, as a result they are able to hold the local governance accountable. In the case of grievances, the process of seeking redressal is quick and easy because submission of grievances under the system is digital and details are stored and published online for government official perusal.

**Challenges in implementation**

According to the technical team at OneWorld Foundation India, the most beneficial component of the ICT Ecosystem for MGNREGA has been the use of information kiosks. It has been one of the most important components that attracted the women beneficiaries enabling them to overcome the barriers in access to information. However, one of the major roadblocks in widening the scope and impact of this ICT enabled service delivery mechanism in the state of Rajasthan was the **absence of adequate number of kiosks.** While the project started with three kiosks, finally only one kiosk was operational at Suwana *panchayat* in Bhilwara district. Limited capacity of the implementing agency to expand the project in terms of finances and human resources could be attributed as the primary factor behind its inability to support and sustain the expansion of the project in the region beyond the pilot stage.

It is important to note here that the project was launched on a pilot basis and was exclusively funded by United Nations Development Programme (UNDP) and implemented by the Government of Rajasthan. Planning for scaling up of the project could not be taken up for lack of budgetary support.

The survey undertaken by OneWorld Foundation revealed that only approximately thirty percent of the total workers in Suwana and Kanda districts had visited the information kiosks. The figures were indicative of the fact that the majority of rural population has been unable to utilize this service offered by the project. This could be attributed to the **inaccessibility of information kiosks for many members of the rural communities.** Poor roads and lack of adequate public transport facilities restricted the mobility in rural areas in significant ways. The **lack of basic infrastructural development** surfaced as a major roadblock to efforts at expanding the outreach of the project.
Although the essence of ICT Ecosystem for MGNREGA lies in awareness generation and ensuring accountability, a deeper understanding about its purpose and methodology continues to remain very low in rural areas. Reaching out to people at the grassroots level and making them understand the nuances of the project remained a major challenge that needs to be addressed.

The SMS job card retrieval component that provided easy access to job card information was not received well by the rural beneficiaries. The survey undertaken by OneWorld Foundation India suggested that low level of usage was on account of the SMS costs charged by the service providers.

Effective implementation of any initiative not only depends upon the demand side sensitization but at the same time the capacity building of public officials to strengthen the supply side adequately. The service delivery mechanism is yet to be institutionalized into the government processes adopted for implementation of the Act. Government officials have to be included and trained in the process of implementing and up scaling the ICT Ecosystem model because they will play a key role in the successful working of the model.

**Key lessons**

**Streamlining delivery of services through ICT**

By leveraging ICT, the project has enabled a mechanism that has been able to streamline the delivery of services under MGNREGA. Ridden with several challenges, predominantly that of middlemen, the ICT system has simplified information management and dissemination and has enabled to effectively link the key levels of service delivery from the issuance of job cards, work allocation, wages, work evaluation and monitoring. Since majority of beneficiaries of MGNREGS were women, this streamlining created spaces where the access of information were easily achieved and did not have to follow gendered patterns.

**Capitalizing on the benefits of transparent information dissemination**

ICT Ecosystem for MGNREGA was premised on the goal of enabling a citizenry, which was informed about its rights and entitlements. Transparent flow of information could play an important role in securing a degree of accountability in the delivery of services. This ensured that citizens are not only aware about their entitlements but at the same time that of the responsibilities of the decision makers. Enabling mechanisms of service delivery along these lines could play an important role in improving the efficiency and effectiveness of the governance apparatus.

**Enhancing the participation of government to ensure project sustainability**

The project had played an important role in altering the implementation of MGNREGA in significant ways. However, the impact of the ICT Ecosystem remained restricted as it is yet
to be integrated with the government mechanism. The extent to which it could contribute to the holistic transformation of the implementation of the Act depended on the active participation of the government in widening the scope of the initiative. The institutionalization of the project as a government process could secure the initiative the support it requires in terms of finances, technology, infrastructure and, most importantly, the complete integration of the model with the local governance apparatus. However, since this kind of support to the pilot is still awaiting the completion of Aadhaar enrolment in the state, after which there is a hope that the pilot will get up-scaled to be implemented in the entire state.

**Customizing the technology to accommodate local context**

One of the pressing challenges that have surfaced in the implementation of the ICT Ecosystem for MGNREGA is the problem of connectivity. Given the limited number of kiosks, accessibility to its services has remained limited to those residing within its close proximity. Owing to the lack of infrastructure and absence of adequate transportation options, a predominant section of the rural population could not be targeted under the project. A key lesson learnt in this particular case was the need to support any form of technological development with a simultaneous strengthening of the socio-economic context. It is important to effectively capacitate rural areas to access the benefits of ICT. Further, since the access to technology also has gendered difference there is a need to take measures that engender the initiatives and allow for an equitable involvement of women, especially in the rural areas.

**Employing user-friendly technology garners widespread support**

The simple and user friendly nature of information kiosks played an important role in ensuring its effective functioning in rural areas. High illiteracy levels and lack of adequate technological awareness act as a major obstacle in ensuring the effective capitalization of ICT technology specifically in rural areas. The ICT Ecosystem for MGNREGA has been designed in view of these limitations. It adopts a technological architecture that is easy to use and does not require extensive knowledge or training. Further, care has been taken to involve women in this endeavor by bringing the technology to their doorstep and by ensuring that their access to it is not hampered by appointing a local woman as a kiosk manager and radio program coordinator.

**The Way Forward**

As per the discussions with the technical team at OneWorld Foundation India, proposals have been made to integrate Unique Identification Number or Aadhaar Identity Cards as a key component of the project. This is in view of enhancing the authenticity of claims for job cards. This will also act as an additional component to eliminate any scope for duplication and errors in authentication process. The scope that this initiative has shown in streamlining
the implementation of the MGNREGS reasserts that such process-reengineering initiatives can enhance the effectiveness of service delivery and also achieve inclusion of women in the process.
List of Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>BPL</td>
<td>Below Poverty Line</td>
</tr>
<tr>
<td>GPS</td>
<td>Global Positioning System</td>
</tr>
<tr>
<td>ICT</td>
<td>Information, Communication and Technology</td>
</tr>
<tr>
<td>INR</td>
<td>Indian National Rupees</td>
</tr>
<tr>
<td>MGNREGA</td>
<td>Mahatma Gandhi National Rural Employment Guarantee Act</td>
</tr>
<tr>
<td>MoRD</td>
<td>Ministry of Rural Development</td>
</tr>
<tr>
<td>OWFI</td>
<td>OneWorld Foundation India</td>
</tr>
<tr>
<td>SMS</td>
<td>Short Messaging Service</td>
</tr>
<tr>
<td>UHD</td>
<td>Unified Handheld Device</td>
</tr>
<tr>
<td>UNDP</td>
<td>United Nations Development Programme</td>
</tr>
<tr>
<td>USD</td>
<td>United States Dollars</td>
</tr>
</tbody>
</table>

Research methodology

In order to document the processes involved in the operationalization of ICT facilitated MGNREGA in Rajasthan, the OneWorld research team conducted thorough secondary research on the Act’s provisions and implementation to identify the nuances of the scheme. The key resources for the study included the Ministry of Rural Development’s website, OneWorld Foundation’s case study on the ICT Ecosystem for MGNREGA, results of a survey held by OneWorld in Suwana village in April, 2011 and the proposals submitted to the UNDP India in 2008. Based on this information, a set of questions were identified to cover the gaps in the available information through primary research. Interviews based on a semi-structured questionnaire were conducted with the erstwhile Director of OneWorld Foundation India, erstwhile Head of Knowledge Services and Innovations Delivery at OneWorld and Senior Manager, Community Radio and Media at OneWorld Foundation India.

References


• Niehaus, Paul and Sandip Sukhtankar (2012b),"The Marginal Rate of Corruption in Public Programs: Evidence from India", Mimeo, Dartmouth College. Also see aspects of corruption in MGNREGA discussed at : http://www.ideasforindia.in/Article.aspx?article_id=1#sthash.jPlIG8hA.dpuf

Case fact sheet

I. **Demographic information:**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Rajasthan</th>
<th>India</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Population</td>
<td>68,621,012</td>
<td>1,201,193,422</td>
</tr>
<tr>
<td>Male</td>
<td>35,620,086</td>
<td>623,724,248</td>
</tr>
<tr>
<td>Female</td>
<td>33,000,926</td>
<td>586,469,174</td>
</tr>
<tr>
<td>Decadal growth in population</td>
<td>21.44%</td>
<td>17.6%</td>
</tr>
<tr>
<td>Sex ratio</td>
<td>926</td>
<td>940</td>
</tr>
<tr>
<td>Density of population</td>
<td>201</td>
<td>382</td>
</tr>
<tr>
<td>Literacy rate</td>
<td>67.07</td>
<td>74.04</td>
</tr>
<tr>
<td>Male</td>
<td>80.51</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>52.66</td>
<td></td>
</tr>
<tr>
<td>Rural population</td>
<td>51,540,236</td>
<td>83.3 crore</td>
</tr>
<tr>
<td>Urban population</td>
<td>17,080,776</td>
<td>37.7 crore</td>
</tr>
<tr>
<td>Population living below poverty line</td>
<td>15.28%</td>
<td>26.10%</td>
</tr>
<tr>
<td>Scheduled Caste population</td>
<td>9.69 million</td>
<td>166.64 million</td>
</tr>
<tr>
<td>Schedule Tribe population</td>
<td>7.10 million</td>
<td>84.33 million</td>
</tr>
</tbody>
</table>


II. **Sector to which the project belongs:** Public service delivery

III. **Stakeholders and beneficiaries:**

i. **Stakeholders** – OneWorld Foundation India, Ministry of Rural Development (Government of India), Government of Rajasthan, United Nations Development Programme (UNDP, India)
ii. **Beneficiaries** – Citizens of Udaipur and Bhilwara districts, Rajasthan

### IV. Technology employed

<table>
<thead>
<tr>
<th>Name of Software</th>
<th>Type of Software</th>
<th>Use of Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hand-held Device</td>
<td>Microsoft.NET framework 2.0 using ASP.NET and C#</td>
<td>Freeware</td>
</tr>
<tr>
<td>MySQL 5.1</td>
<td>Open source</td>
<td>To develop backend maintenance of biometric worker profile and to keep track of the attendance</td>
</tr>
<tr>
<td>GPS</td>
<td>Garmin GPS 60</td>
<td>Proprietary</td>
</tr>
<tr>
<td>Info Kiosks</td>
<td>Microsoft.NET framework using 2.0 using ASP.NET and C#</td>
<td>Freeware</td>
</tr>
<tr>
<td>MySQL 5.1</td>
<td>Open source</td>
<td>To develop backend maintenance of biometric worker profile</td>
</tr>
<tr>
<td>SQL Server 2005 Express Edition</td>
<td>Open Source</td>
<td>To access workers profile in offline mode</td>
</tr>
<tr>
<td>Biometric Device</td>
<td>SecuGen FDx SDK Pro for Windows</td>
<td>Open Source</td>
</tr>
<tr>
<td>Mobile</td>
<td>Microsoft.NET framework 2.0 using ASP.NET and C#</td>
<td>Freeware</td>
</tr>
<tr>
<td>MySQL 5.1</td>
<td>Open Source</td>
<td>To develop backend</td>
</tr>
</tbody>
</table>

*ICT infrastructure utilized for the MGNREGA implementation under the project*

*Source: OneWorld Foundation India, 2011*
V. Calendar of major events:

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formulation of the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)</td>
<td>2005</td>
</tr>
<tr>
<td>Pilot of MGNREGA implemented in 200 districts in India</td>
<td>2006</td>
</tr>
<tr>
<td>Implementation in the whole country</td>
<td>2008</td>
</tr>
<tr>
<td>ICT Ecosystem for MGNREGA launched in Bhilwara and Udaipur by OneWorld Foundation India</td>
<td>2 October, 2009</td>
</tr>
<tr>
<td>Ministry of Rural Development announced National Policy Framework on biometrically enabled end-to-end ICT application</td>
<td>20 August, 2010</td>
</tr>
</tbody>
</table>
VI. **Financial sources:**

<table>
<thead>
<tr>
<th>Category of Expenditure</th>
<th>Total (INR)</th>
<th>Amount in USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tech Infrastructure (H/W)</td>
<td>4,46,000</td>
<td>9,911</td>
</tr>
<tr>
<td>ICT Innovation (S/W)</td>
<td>6,15,000</td>
<td>13,667</td>
</tr>
<tr>
<td>Personnel Expenses (15 months)</td>
<td>6,01,200</td>
<td>13,360</td>
</tr>
<tr>
<td>Kiosk Operating Expenses</td>
<td>3,54,000</td>
<td>7,866</td>
</tr>
<tr>
<td>ICT Training and Capacity Building at Grassroots</td>
<td>2,20,000</td>
<td>4,889</td>
</tr>
<tr>
<td>Right Based Advocacy at Grassroots</td>
<td>4,82,500</td>
<td>10,722</td>
</tr>
<tr>
<td>Monitoring, Quality Assurance, Documentation &amp; Reporting</td>
<td>1,90,482</td>
<td>4,232</td>
</tr>
<tr>
<td>Administrative Expenses</td>
<td>1,26,988</td>
<td>2,821</td>
</tr>
<tr>
<td><strong>Total expenditure</strong></td>
<td><strong>30,36,170</strong></td>
<td><strong>67,468</strong></td>
</tr>
</tbody>
</table>

*Annual Budget for Info Kiosks and Radio Project (September 2009 – December 2011)*

*Source: OneWorld Foundation India, 2008*

The project was funded by the United Nations Development Programme (UNDP) India, and implemented by the Government of Rajasthan, India.

VII. **Major services offered:** The project addresses each process involved in helping rural poor claim their right to work under the MGNREGA through four major project components:

- Soochna Seva Kendra
- Biometric enabled GPS verified attendance tracking tool
- Community radio for awareness generation
- SMS job card retrieval