

Information Communication Technology (ICT) and digitalization: A Compatibility Analysis with MGNREGA

S. Sharma^{1*}, R. Upadhyay²

^{1*}Department of Economics, Ram Lal Anand College, Delhi University, New Delhi, India

²Department of Commerce, Aryabhata College, Delhi University, New Delhi, India

Corresponding Author: suneyana.sharma@gmail.com, Tel 08130282605

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Abstract- Information in the present age is considered to be a commodity and resource for national development. Information like any other precious commodity is sold purchased, exchanged stored and distributed for development activities. Revolution in Information technology in the past couple of decades had drastic and far reaching impacts on all aspects of human life, and one of the major public system that affected the most was the scheme of MGNREGA launched by the government in August 2005 and came into force from September 2005. In the initial stage it covered only 200 districts but now it covers the whole India in the last few decades. It is a huge programme geographical as well as in financial perspective so the best use of Information technology techniques to be used for the successful execution of this pilot project. This paper examines the various aspects of MGNREGA scheme and how information technology techniques and digitalization can be used for the smooth functioning of the project.

Keywords- Information Communication Technology (ICT), Digitalization, MGNREGA, Rural development

I. INTRODUCTION

The Mahatma Gandhi National Rural Employment Guarantee Act was launched in August 2005. It was implemented in three phases. In the first phase was started on February 2, 2006, it has covered 200 most backward districts of India. Further, It was acceded in another 130 districts in phase II in 2007-08 and the remaining rural districts were covered under third phase on April 1, 2008 [4]. The scheme was launched with the sole objective to enhance the livelihood of the people living in rural areas by providing them wage employment through job work, which will also help in the development of infrastructure facilities of that particular region. MGNREGA guarantees 100 days wage employment in a financial year on public works to any adult who is willing to do any unskilled manual work. Gram Panchyat has a great role to play in the working of MGNREGA as they are designated as principal authorities to look after the working of the scheme.

MGNREGA launched by the government with the aim of rural development. But due to lack of improved infrastructure and access of education in villages MGNREGA is facing many problems in their roots like updating records, maintenance of muster roll, delay in wage payments and transparency [7] Beside these problems at the village level MGNREGA's website is a well maintained and

most updated website of government of India. So keep this fact in mind, one can say that the role of communication and information technology should be tremendous to improve MGNREGA, but it has to be made according to the need and understanding of villagers. Therefore to get rid of all such problems it is essential that latest means of information technology and digitalization should reached to villages and implementing agencies like surpunches should trained for the use of this new methodology. The recent paper studied about the new techniques of Communication, digitalization, Information technology that can be use to improve the functioning of MGNREGA [1, 8, 10].

A Objective of the study:

The main objectives of this study are

- To have a knowledge about the basic concepts and performance of MGNREGA
- To have a knowledge of Information technology techniques for successful implementation of the project.
- To have an idea of the computerized payroll system for MGNREGA workers.
- To learn about future possibilities of MGNREGA and role of ICT and digitalization

B Data Set:

The paper based on secondary data obtained from MGNREGA website and different official reports, journals, articles and internet blogs. The Data from the MGNREGA website collected for the National Level Performance of MGNREGA. National level performance divided in five sections, these are, (1) National Performance, (2) Job Card Performance, (3) Progress of the programme, (4) Work taken up progress of the programme, (5) Financial Progress of the programme

C Methodology:

Data sets are presented in the form of tables. Review of some articles is used to construct a understanding for the compatibility between MGNREGA and information and communication technology with the digitalization. Suggestions and conclusions are based on the literature review. Literature is collected online from the e library of Ram lal Anand and Aryabhatta College Delhi University.

II. PERFORMANCE OF MGNREGA

The performance of MGNREGA at national level is shown in the table 1. Table shows that MGNREGA implemented in 685 districts, 6863 blocks and 262772 GPs in the nation. Total No. of Job cards issued till now is 12.54 crore, total no. of workers worked in MGNREGA is 25.22 crore. Out of total job cards issued only 6.76 crore ob cards are active which is only 53.90 percent of total job cards issued. Whereas total no. of active workers are only 41.51% of total workers registered. Percentage of SC workers against total active workers is 20.23 and percentage of ST workers against total active workers is 16.61% (table 1).

Table 1: National Level Performance of MGNREGA [5]

Sr. No	Particulars	Performance
National Performance		
1	Total No. of Districts	685
2	Total No. of Blocks	6863
3	Total No. of GPs	262772
Job Card Performance		
4	Total No of Job Cards Issued (in Cr.)	12.54
5	Total No. of Workers (in Cr.)	25.22
6	Total No. of Active Job Cards (in Cr.)	6.76
7	Total No. of Active Workers (in Cr.)	10.47
8	Percentage SC Workers against active workers (%)	20.23
9	Percentage ST workers against active workers (%)	16.61

Table 2 shows the last five year comparative performance of MGNREGA in terms of person days generated. Table shows that performance of MGNREGA is not very appreciating. The data for 2017-18 is for approximately 4 months only. In last four years there is no such improvement in the persondays generated. Table shows that approved labour budget is also decreasing, it was decreased from 258.57 crore in 2013-14 to 220.67 crore in 2015-14 then increased

239.11 crore in 2016-15 again decreased in 2017-16 and 2017-18 which is 220.92 crore and 215.5 crore respectively. Like depressed labour budget total number of person days generated is not very good in figure. It is stagnant in 2017-16 and 2016-15 which is 235.76 and 235.14 crore respectively. SC, ST and Women person days as percentage of total person days is stagnant around 20 percent, 17 percent and 50 percent respectively. Percentage of women person days shows good performance. Total number of households completed 100 days very ups and down these are 46.59 lakh in 2013-14, 24.92 lakh in 2014-15, 48.47 lakh in 2015-16, 39.87 lakh in 2016-17 and 0.74 lakh in 2017-18 (table 2)

Table 2: MGNREGA Performance in terms of persondays generated[5]

Sr. No.	Progress	FY 2017-18	FY 2016-17	FY 2015-16	FY 2014-15	FY 2013-14
1	Approved Labour Budget (in Cr.)	215.5	220.92	239.11	220.67	258.57
2	Persondays Generated so far (in Cr.)	56.83	235.76	235.14	166.21	220.37
3	Percentage of Total LB	26.37	106.72	98.34	75.32	85.23
4	SC Persondays Percentage as of total Persondays	21.17	21.27	22.29	22.4	22.81
5	ST Persondays Percentage as of total Persondays	17.76	17.61	17.8	16.97	17.52
6	Women Persondays out of total (%)	55.48	56.12	55.26	54.88	52.82
7	Average days of employment provided per household	23.18	46.04	48.85	40.17	45.97
8	Average Wage rate per day per person (Rs.)	158.68	161.67	154.08	143.92	132.7
9	Total No. of HHs completed 100 days of wage employment (in Lakhs)	0.74	39.87	48.47	24.92	46.59
10	Total Households Worked (in Cr.)	2.47	5.12	4.81	4.14	4.79
11	Total Individual Worked (in Cr.)	3.45	7.66	7.22	6.22	7.39
12	Differently abled person worked (in Lakhs)	2.45	4.69	4.59	4.13	4.86

Table 3 shows the last five year comparative performance of MGNREGA in terms of works taken up. Table shows total number of works taken up, total number of ongoing works, total number of completed works, percentage of expenses on category A works and category B works and expenses on agriculture and allied activities is increasing year by year (table 3).

Table 3: MGNREGA performance in terms of works taken up [5, 2]

Sr. No.	Works	FY 2017-18	FY 2016-17	FY 2015-16	FY 2014-15	FY 2013-14
1	Number of GPs with Nil Expenses	57,687	19,429	39,469	39,531	27,154
2	Total No. of Works taken up (New + Spill Over) (in Lakhs)	111.47	160.2	123.12	97.65	93.52
3	Number of Ongoing Works (in Lakhs)	103.16	99.2	86.94	68.21	66.1
4	Number of Completed Works (in Lakhs)	8.31	61	36.18	29.44	27.42
5	Percentage of NRM [#] Expenditure (Public + Individual)	65.49	60.22	58.71	49.2	48
6	Percentage of Category B* Works	44.1	38.52	33.8	21.4	17.6
7	Percentage of Expenditure on agriculture allied works	72.86	66.01	62.85	52.81	48.7

*Category B works: Community assets or Individual assets for vulnerable sections, # NRM: Natural Resource Management Works which comes under category A.

Table 4 shows the last five year comparative performance of MGNREGA in terms of financial progress. Table shows total center release funds, total availability of funds, total expenditure, percentage utilization, wages, material and skilled wages, material percentage is increasing on every year. On the other hand administrative expenses, liability in terms of wages is also shows a increase which is not a good indicator.

Table 4: MGNREGA performance in terms of financial progress [5]

Sr. No.	Financial Progress	FY 2017-18	FY 2016-17	FY 2015-16	FY 2014-15	FY 2013-14
1	Total Center release (in cr.)	21,504.8	47,470.73	35,974.64	32,139.1	32,746.26
2	Total availability (in Cr.)	25,783.68	56,778.82	43,380.72	37,588.03	42,103.88
3	Total Expenditure (in Cr.)	17,049.11	58,313.44	44,002.59	36,025.04	38,552.62
4	Percentage Utilization	66.12	102.7	101.43	95.84	91.56
5	Wages (in Cr.)	12,087.43	40,780.78	30,890.96	24,187.26	26,491.21
6	Material and Skilled Wages (in Cr.)	4,571.37	14,711.45	107,48.28	9421.11	9693.72
7	Material (%)	27.44	26.51	25.81	28.03	26.79
8	Total Administrative Expenditure (in Cr.)	390.31	2821.22	2363.36	2416.67	2367.68
9	Administrative Exp (%)	2.29	4.84	5.37	6.71	6.14
10	Liability (Wages) (in Cr.)	1520.61	1691.26	340.44	473.37	470.88
11	Average cost per day per person (in Rs.)	199.27	229.12	202.46	206.13	183.47
12	Percentage total exp through eFMS (Rs.in Lakhs)	98.76	93.06	91.19	77.35	37.17
13	Percentage payment generated within 15 days	86.6	42.36	36.92	26.85	50.09

III. MGNREGA AND INFORMATION COMMUNICATION TECHNOLOGY AND DIGITALIZATION

MGNREGA is first ever flagship programme of India. It was started with a promise to improve standard of living of people of rural India. But to ensure good standard of living in rural India effective implementation of scheme is necessary. The problems which MGNREGA is facing like muster roll maintenance, handling records, transparency, delay in wages can be easily handle by the use of proper techniques of information communication technology and digitalization. Information communication technology can be use in MGNREGA at very different ways in the implementation procedure. It will help in disseminating the information on time which will help in ensuring transparency. Online Monitoring and evaluation of the

programme can be done effectively with the help of information technology. Grievances of the workers will be handled at a faster pace through online grievance portal. Wages can be transferred in the accounts of workers by the use of digital mode of payments [1].

Government of India and Ministry of rural development also has taken some initiative to improve the functioning of MGNREGA by the use of ICT. With the help of technology ministry of rural development has inter linked all the gram panchayat, blocks, districts and states. Ministry of Rural Development is focusing on providing infrastructure in Bharat Nirman Rajiv Gandhi Seva Kendra to strengthen ICT at village level. The schemes like soochna seva Kendra, biometric work assessment, and biometric attendance on worksite to manage muster roll, community radio for scheme awareness and critical dialogue are ready to launch at the GPs level. Their trials are going on [9].

IV. FINDINGS OF THE STUDY

During the study many articles were reviewed and it was found that if both MGNREGA and ICT and digitalization meet with each other they can give solution for many challenges related to effective implementation of schemes. Following are some ICT and digitalization strategies have been proposed to improve the implementation of programme.

A Communication phase: The areas where information technology can be used for communication purpose by having websites of each and every gram panchyat and these websites should be used to publicize the scheme through twitters, facebook and sending mails to different people. Information kiosks have set up by the Department of Information technology in some of the villages of Haryana and Rajasthan for the successful dissemination of the information.

B Planning and Execution Phase: Job cards should be issued to the workers and muster roles should also be digitized which will include the details of hours worked, wage rate and number of persons employed in the region. Smart cards to be introduced for identification purpose. Attendance record of the workers should be uploaded on the website for successful execution of the work.

C Monitoring Phase: ICT also helps in giving a proper 100 days work wage and no worker skill is being misused because of the introduction of computerized biometric fingerprint system. Daily wages are also given to workers at proper time as daily information about the funds distributed among the workers and number of workers employed in a day are made available for public viewing on the websites of Gram Panchyat.

D Grievance Redressal Mechanism: Grievances can be registered online and all the grievances will automatically send to the programme officer and programme coordinator with the help of networking technologies.

There are more areas where government is introducing more information technology tools for the successful execution of the pilot project. These areas are:

E SMS based fund transfer: For speedy transfer of funds government has introduced SMS fund transfer with the help of mobile banking technology. In this mechanism the site engineer sends the details of the muster rolls by SMS and this SMS is being received by the village payment agent. This agent makes payment to the workers working under the scheme with the help of muster roll received through SMS, and then another SMS will be send to the Panchayat Department Banker, and on receiving this SMS the banker will transfer funds in the Agents bank account.

F Rural ATM: This ATM is being developed by Vortex technologies and this can be implemented successfully if bank account transfer mechanism is there. This kind of ATM accepts both old and new currency and does not require any air conditioning facility [3, 6].

V. FUTURE POSSIBILITIES OF MGNREGA AND ROLE OF ICT AND DIGITALIZATION

MGNREGA has tremendous potential to speed up rural economy of India. There are many possibilities to improve rural economy like creating community assets in villages, improve irrigation facilities for small and marginal farmers, develop and promote farming and manage ground water. Government of India and Ministry of Rural Development has divided all these works which can take up under MGNREGA has been divided in four categories. These categories are as under:

Table 5: Division of MGNREGA works taken up under different categories [2]

Category A Works:	Category B Works:	Category C Works:	Category D Works:
Public Works relating to Natural resource Management	Community assets or Individual assets for vulnerable sections	Common Infrastructure including for NRLM compliant Self Help groups	Rural Infrastructure
1. Water Conservation 2. Watershed management	1. Improving productivity of land 2. Improving livelihood	1. Works for agricultural productivity	1. Rural sanitation 2. All-weather rural road connectivity

3. Micro and minor irrigation works	through horticulture, sericulture plantation and farm forestry	3. Play fields
4. Renovation of traditional water bodies	3. Unskilled wage component in construction of houses	4. Disaster preparedness or restoration
5. Afforestation and Land Development	4. Infrastructure for promotion of livestock	5. Construction of buildings
	5. Infrastructure for promotion of fisheries	

In the view of above table one can say, there is no doubt that MGNREGA can play a big role in the development of rural India and second green revolution also. This green revolution could be wider than the first green revolution if programme succeed.

The frequent complaints of corruption, misuse of funds and ghost workers are the major impediments in fulfilling the all dreams. But as present study suggested above the use of ICT in MGNREGA implementation should be seen as the solution of all these problems. The strategies like biometric work records, biometric attendance on work site and digital transfer of funds have potential to stop the corruption in the scheme. Link of aadhar number with the bank accounts of workers make payment more transparent. Thus ICT and digitalization can reduce the problems associated with human infrastructure and delays.

VI. CONCLUSION

MNREGA was the most important and a pilot project started by the UPA government for rural and poor households. This project gives employment to unskilled manual workers and also helps in minimizing poverty in rural areas. In the initial stage it covered only 200 districts but now it covers the whole India in the last few decades. It is a huge programme geographical as well as in financial perspective so the best use of Information technology techniques to be used for the successful execution of this pilot project. Proper computerized management information system will bring transparency and credibility in this programme. Thus there will a hope to get the desired results from MGNREGA with the help of ICT and digitalization.

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AUTHORS' PROFILE

Dr Suneyana Sharma: M.A., M. Phil., Ph.D. and UGC NET in Economics

Suneyana Sharma is currently working as Assistant Professor in Ram Lal Anand College in Department of Economics at University of Delhi. She is having 9 years of teaching experience and has published many books and journals with national and international publisher. She has done MA Economics, M.Phil. and Ph.D. from Maharshi Dayanand University of Rohtak and also cleared NET exam twice in economics.



Dr. Ruchi Upadhyay, M.com, MBA, C.S., Net, PhD.

She is currently working as Assistant professor in Aryabhata College in commerce department. She is having 8 years of teaching experience. She has published many books and journals with national and international publishers. She has done MCOM from Bundelkhand University, MBA from IGNOU and C.S from ICSI.

