Impact Assessment of E-Governance Intervention on Beneficiary services of MGNREGA in J&K

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Abstract: Enacted in 2005 Mahatma Gandhi National Employment Guarantee Scheme is considered to be one of the most significant social policy initiatives since independence in India. The main objective of the scheme is to provide enhancement of livelihood security of the households in rural areas of the country by providing at least 100 days of guaranteed wage employment to every household in unskilled manual work. This research study is intended to find out the impact of Information and Communication Technology interventions on the Mahatma Gandhi National Employment Guarantee Scheme. For the purpose of study data was collected from beneficiaries of the scheme through a questionnaire instrument. The instrument collected data for certain set of variables of thee scheme. The data was then analysed on pre and post electronic governance intervention basis. The results clearly indicate the positive influence of electronic governance on the scheme.

Index Terms – **MGNREGA, Electronic Governance, Rural Development**

I. Introduction: -

Affordable Information Technology services, aggressive increase in number of internet users and other factors lead to the making of an ecosystem wherein Electronic Governance can play a pivotal role in achieving public policy objectives (Akman et al., 2005). There has been an upward surge since last twenty years in the deployment of Electronic Governance systems with an objective of accomplishing policy objectives. Governments worldwide heavily invested in the Electronic Governance systems with encouraging results (Estevez & Janowski, 2013). Today United Nations have enlisted Electronic Governance as the key indicator for sustainable development. In India a number of initiatives were taken by the successive governments with an objective of improving the living standard of citizens. Public welfare schemes, rural development schemes and welfare programs have resulted in achieving public policy objectives to the significant extent in the country. However, growing population and limited resources posed serious challenges in terms of timeliness, transparency and deployment of the welfare programs. Inclusion of Electronic Governance for deployment and execution of welfare programs was felt as necessity. The early initiatives in this direction started to appear in the early nineties, however lack of proper infrastructure, lack of accessibility and other multiple reasons hindered in tapping the potential of Electronic Governance during early deployments.

India's quest towards the Information Technology revolution started in 1970 with the establishment of Department of Electronics (Bhatnagar, n.d.). It was later in 1977 that National Informatics Centre was established which today is responsible for deployment and execution of almost all the Electronic Governance projects across the country. In order to address the connectivity deficit for inter-governmental communication and information interchange, a satellite based connectivity platform NICNET was launched in 1987. This was followed by the establishment of District Information System of the National Informatics Centre (DICNIC) with an objective to computerise all the districts of the country. India in May 2006 approved a National Electronic Governance Plan with an objective to "Make all Government services accessible to the common man in his locality and ensure efficiency, transparency, and reliability of such services at affordable costs to realize the basic needs of the common man" (*About NeGP*, 2013). The plan consists of twenty seven mission mode projects and eight components (*National E-Governance Plan | Ministry of Electronics and Information Technology, Government of India*, n.d.). The plan was approved on May 18, 2005 with a capital outlay of 25000 crore Indian National Rupees with the objective creating a robust, effective yet efficient public service delivery mechanism.

National Informatics Centre along with Ministry of Rural Development developed a web compatible management information system i.e. NREGASoft to address the planning & monitoring needs of MGNREGA. The robust design of NREGASoft was an outcome of long expertise gained by the National Informatics Centre due to its long association & experience of automating rural development processes and schemes at various levels. The first version of NREGASoft was launched along with the launch of the scheme. NREGASoft is a local language enabled work flow based e-Governance system and is available in offline as well as online mode to capture all the activities under NREGA at Centre/State/District/Block and Panchayat level. NREGASoft has been deployed at http://www.nrega.nic.in. Each stakeholder can access relevant information through the portal. Highly customized interface is provided to each stakeholders of NREGA, for example an illiterate worker is provided with sound based, icon based, touch screen kiosk model to enter and access information on the portal to enforce the right based framework of law, the State, Districts and Gram panchayats have local language interface while the Ministry works in English language. NREGASoft facilitates e- Governance by enabling a common man using the information technology as a facilitator. It provides information to citizen in compliance with the right to information Act (RTI Act) and makes available all the documents like Muster Rolls, registration application register, job card/employment register/muster roll issue register, muster roll receipt register which are otherwise inaccessible to public. In order to make NREGASoft easy to understand, the information system has been developed into separate modules in synchronous with the flow of the scheme process. The modules vary from worker management module to grievance redressal mechanism module.

During the current year (2018) the scheme has an enrolment of 113 million active workers(Fischer & Ali, 2018). Studies have shown that there has been the significant impact of the Mahatma Gandhi national Employment Scheme on various societal development indicators in rural India. The scheme has been able to indirectly uplift the minimum wages in India for the first time (Ranjan, 2015)Increased participation of the women in the scheme has led to the improved educational outcomes of the children (Dhananjaya & Prathibha, 2011).Studies have also proven that Mahatma Gandhi National Employment Guarantee scheme has also made a remarkable impact on the expenditure patterns among its beneficiaries and besides that has also improved intake of nutrients and accumulation of assets among the beneficiary households (LIU Zhenmin, 2018).

II. Research Methodology:- The research framework chosen for this purpose revolves around the approach of measuring the impact of electronic governance on the selected rural development schemes in Jammu and Kashmir on the basis of Pre and Post Electronic Governance Intervention. the influence of electronic governance on the scheme was assessed for a set of chosen beneficiary services. The questionnaires used for this study were derived from a similar study carried out by the Indian Institute of Management in Ahmedabad and funded by the Indian Ministry of Electronics and Information Technology to assess the effects of the Electronic Governance Project in several Indian states (Subhash Bhatnagar, 2008). The necessary recalibration in accordance with the targeted samples, study plans, and study region was carried out prior to distributing the questionnaires to all four respondent groups. The pilot research was conducted after that to test the validity and applicability of the newly calibrated questionnaires (Naqshbandi & Fazili, 2018).. Keeping the average literacy level of the respondents under consideration the data was collected primarily through interviews. Four hundred and eight responses were collected across the Jammu and Kashmir. The demographic data of the respondents is mentioned in **Table a**

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Table a:- Demographic Data of Respondents

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We included the "Number of person days availed by the household" to have an idea of the how actively the respondent family is participating in the scheme. It may be noted that more the 60 percent of the our respondent's household had availed more than fifty person days of work within one year. Respondents with more active participation will certainly have the clearer idea of the scheme execution in terms of pre and post electronic governance intervention.

        For the study three services were selected for measuring the impact of electronic governance on MGNREGA . These include the time taken to pay salaries, the issuance of a job card after a beneficiary made an application, and the assignment of work when a beneficiary requested it. The impact on the selected services was evaluated in for four variables which include cost, transparency, quality and timeliness. The details of the selected service along with the parameters of measurement are mentioned in **table 2.**

		Number	Percentage
Gender	Male	289	70.83%
	Female	119	29.17%
Marital Status	Single	106	25.98%
	Married	302	74.02%
Literacy level	8th std and above	45	11.02%
	Illiterate	363	88.98%
Average No of Person days availed by household	< 50	63	15.44%
	50 -70	268	65.68%
	70-100	77	18.87%

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Table 2:- Selected services of study along with the parameters of measurement

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Data from the questionnaires was coded in MS excel and statistical methods were deployed to analyse the data. The analysis included

S. No	Service	Parameters of Measurement along with the scales adopted
1	**Issuance of Job Card**	i)Time taken in availing Service (No of days taken) ii)Ease of Service. (Five-point Likert Scale) iii)Any undue cost paid (Recorded as "Yes" or "N0"
2	**Allotment of work after demanded by beneficiary**	i)Time taken in availing Service. (No of weeks taken) ii)Ease of Service. (Five-point Likert Scale) iii)Any undue cost paid. (Recorded as "Yes" of "N0")
3	**Payment of Wages.**	i)Time taken in availing Service (No of weeks taken) ii)Ease of Service. (Five-point Likert Scale) iii)Any undue cost paid. (Recorded as "Yes" or "N0")

calculation of mean, mode and percentage values across all parameters for all the selected services. The findings were also visualized through relevant infographics.

III. Research Findings:- The findings for the selected services are presented in tabular as well as in infographic representation.Time taken to issue Jobcard to the beneficiary is one of the parameters of the impact and was measured in "no of days taken for availing service". The findings depict two-fold in decrease in time taken for issuing job card to the beneficiary after Electronic Governance Intervention.

Service: - Issuance of Job Card		*Parameter: - Time taken in days for availing service*		
	Average	*STDEV*	*MODE*	*MEDIAN*
Pre-E- Gov	*14.44*	*2.93*	*14*	*14*
Post E -Gov	*8.06*	*1.75*	*8*	*8*

Fig 1: - No of Days Elapsed for obtaining Job card by the Beneficiary
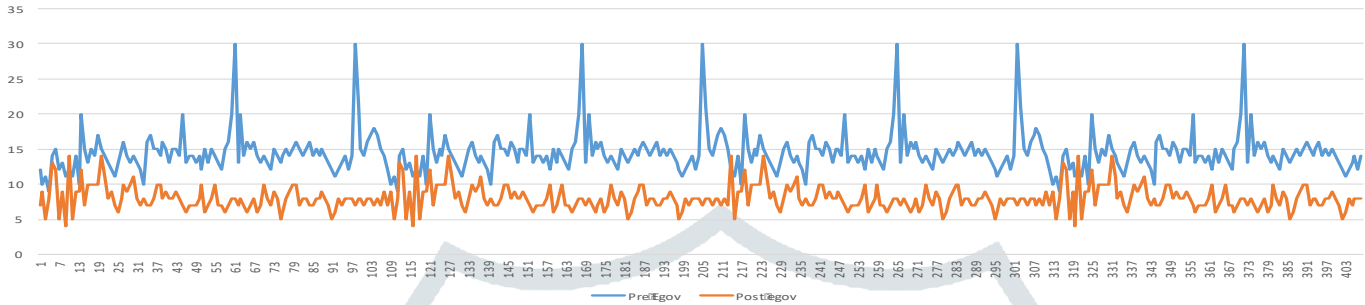
The "ease in service" post Electronic Governance intervention for issuance of job card as recorded from the sampled beneficiary's was calculated between "easy" to "neutral" at 2.49 on five-point Likert scale while as the pre-Electronic Governance period has reported majority of responses at "moderately difficult" at 3.73.

Service: - Issuance of Job Card	*Parameter: - Ease in Service*	
	Average	*MODE*
Pre-E- Gov	*3.73*	*4*
Post E -Gov	*2.49*	*2*

Fig 2: - Ease of Service Measured on five-point Likert Scale

1 = Very Easy.   2= Easy.   3 = Neutral.   4. = Moderately Difficult.   5. = Difficult
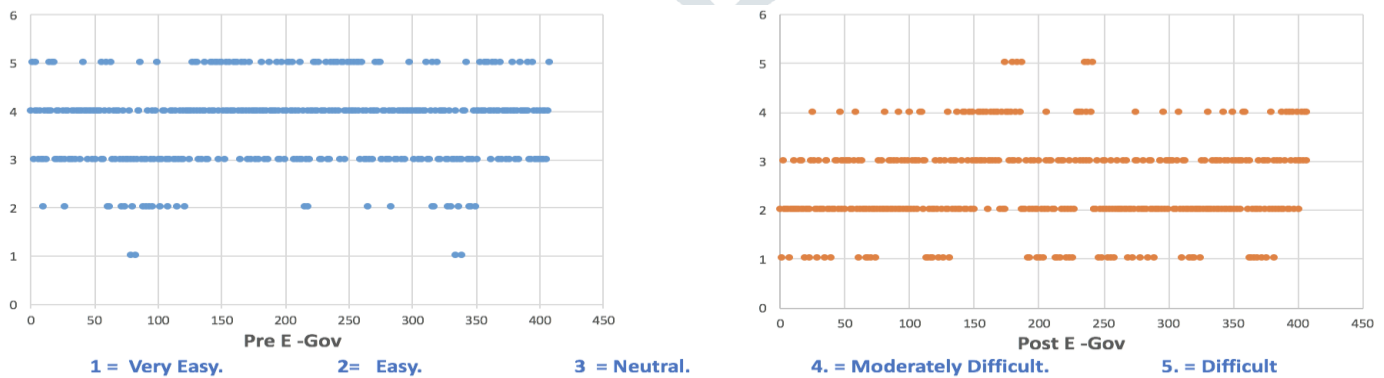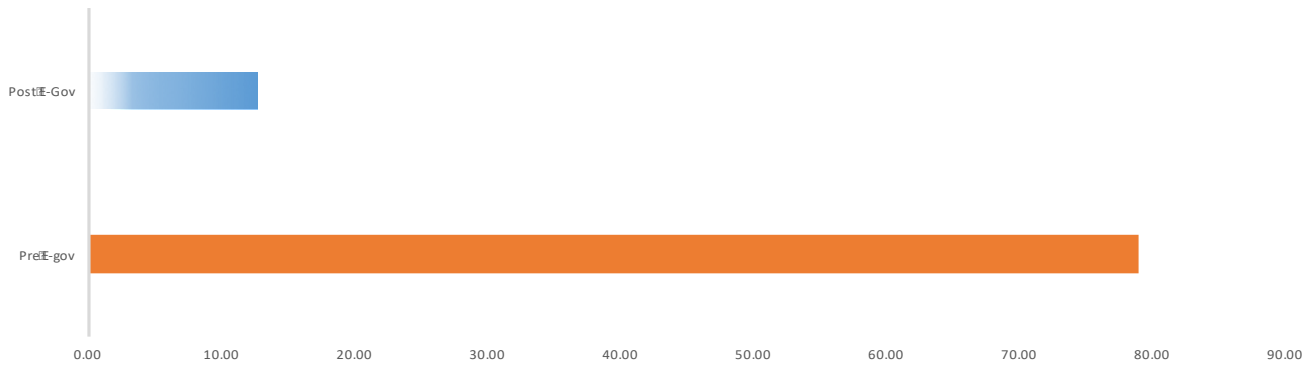
**Fig 3: - Undue Costs involved in availing Jobcard**

Allotment of work after it was demanded was taken as second service for impact measurement on MGNREGA on the basis of Pre and Post Electronic Governance intervention measurement. The service was measured on multiple parameters ranging from timeliness, ease of service and undue costs.

Time taken in allotment of work after it was demanded was calculated at an improved average of 4.33 weeks during post Electronic Governance Intervention period. While as the same parameter for the same service was recorded at an average of 7.41 weeks in the allotment of work after it was demanded.

| Service: - Allotment of Work		Parameter: - Time taken for availing service		
	Average	*STDEV*	*MODE*	*MEDIAN*
Pre-E- Gov	7.41	1.65	8	7
Post E -Gov	4.33	1.14	4	4

Fig 4: - No of weeks elapsed for allotment of work after it was demanded
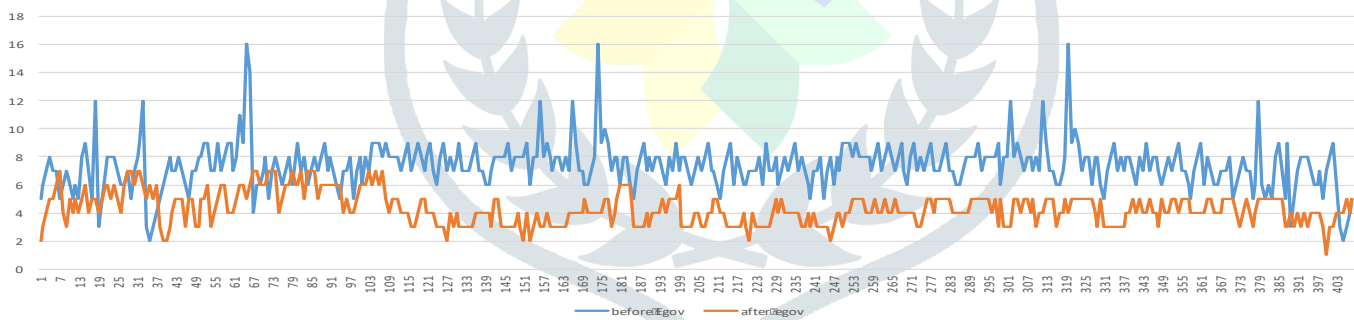
| Service: - Allotment of Work	Parameter: - Ease in Service	
	Average	*MODE*
Pre-E- Gov	3.63	4
Post E -Gov	2.33	2

Fig 5: - Ease of Service Measured on five-point Likert Scale for Allotment of work.

1 = Very Easy.   2= Easy.   3 = Neutral.   4. = Moderately Difficult.   5. = Difficult
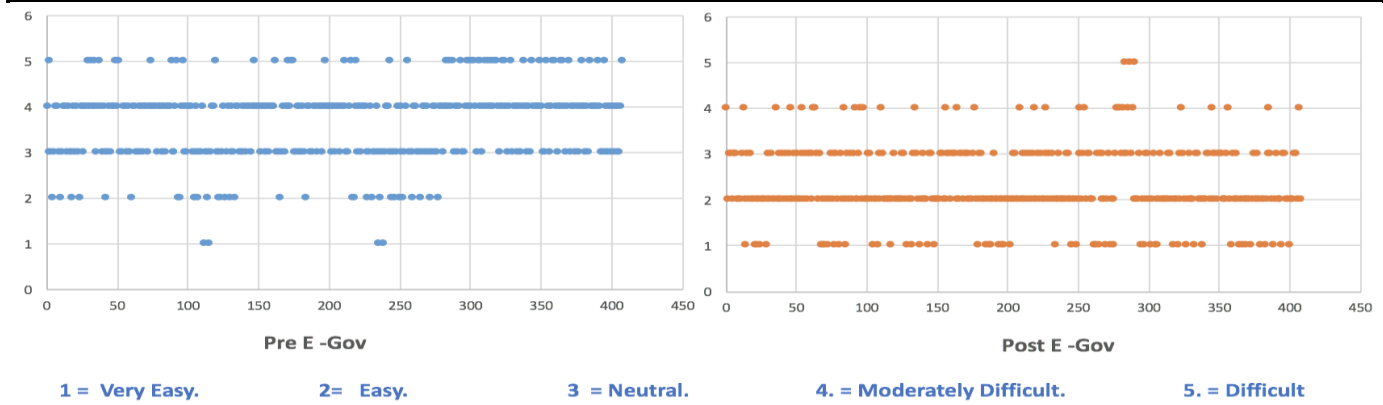
While measuring any undue costs paid by the beneficiary in getting the work allotted, a whopping 85% of the beneficiary respondents reported that they had paid any form of undue cost in getting the work allotted during the pre-Electronic Governance period. Only 13% of the beneficiary respondents reported of any undue costs for the service after the Electronic Governance Intervention. It may the noted that the parameter was measured in "Yes" or "No" option.

*Fig 6: - Undue costs paid by the percentage of respondents for allotment of work.*
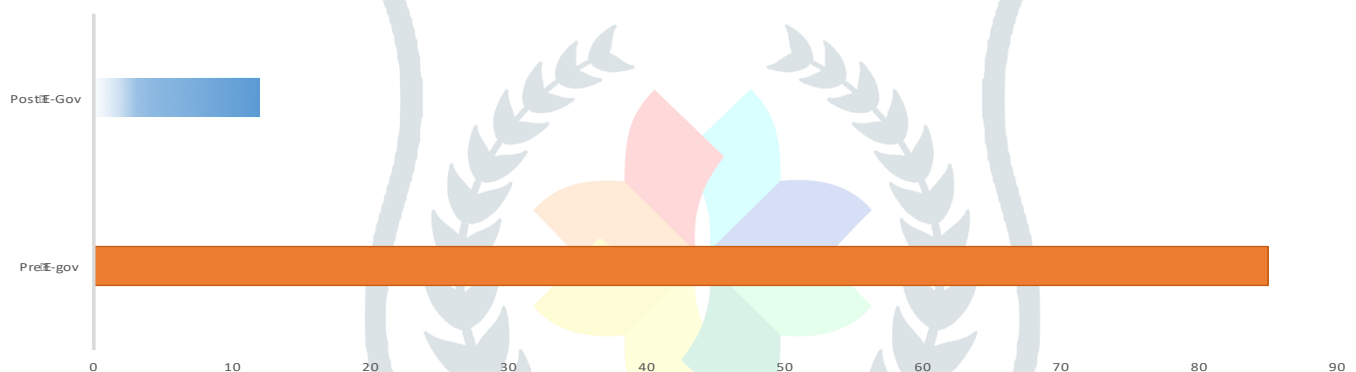
Payment of wages was selected as the third service in ascertaining the impact of Electronic Governance on MGNREGA with reference to beneficiary services. It is pertinent to mention here that the advent of Electronic Governance has brought innovate and transparent modes of payments to beneficiaries including Direct Benefit transfer, Biometric ATM's etc. The impact on payment of wages in the scheme was measured on the multiple parameters with reference to pre and post Electronic Governance intervention.

There has been an enormous improvement in time taken for payment of wages to the beneficiaries in the scheme. While the pre-Electronic Governance period recorded an average of 6.98 weeks for the beneficiary to get his due payment, post Electronic Governance period has recorded an only 2.93 weeks of time for payment of wages. Other statistical figures also indicate clear improvement in time taken for payment of wages to the beneficiary.

Service: - Payment of Wages		*Parameter: - Time taken in weeks for Service.*		
	Average	*STDEV*	*MODE*	*MEDIAN*
Pre E- Gov	*6.98*	*1.14*	*7*	*7*
Post E -Gov	*2.93*	*1.17*	*2*	*3*

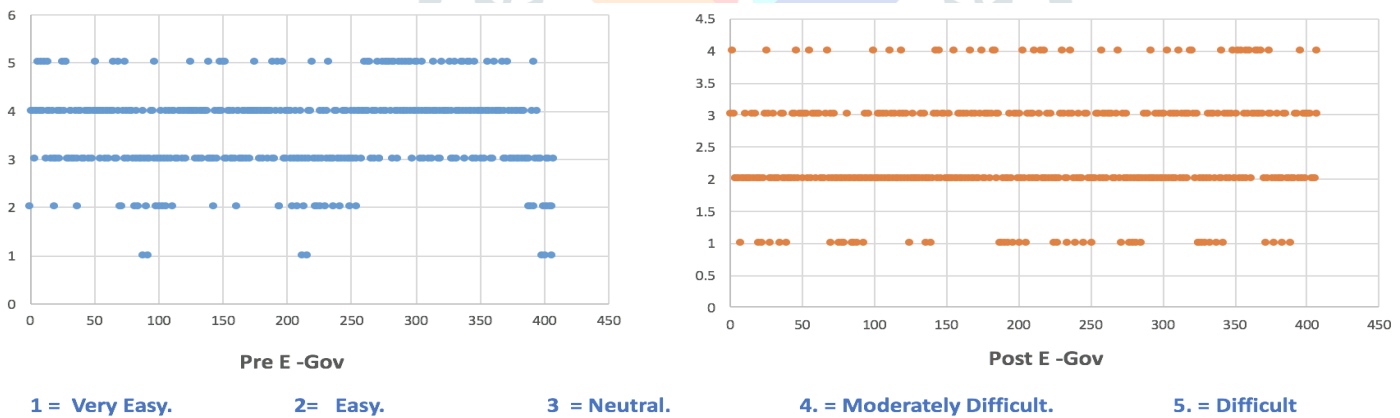*Fig 7: - Time taken in weeks for payment of wages.*
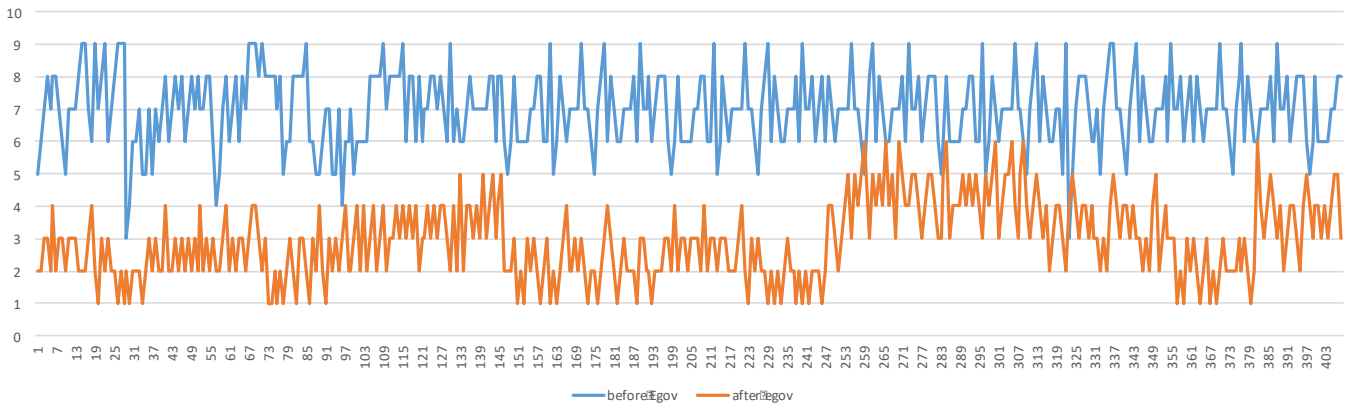
While measuring the impact on ease in services for availing the payments by the beneficiary, post Electronic Governance intervention period recorded majority of responses as good on the five point Likert scale. It is pertinent here to mention that the ease in service for payment of wages was measured on five-point Likert scale with 1 as very easy and 5 as difficult. The average value on the scale for ease of service in payment of wages was measured at 2.40 for the post Electronic governance period and 3.59 for pre-Electronic-Gov intervention period.

### Service: - Payment of wages   Parameter: - Ease of Service

	Average	MODE
Pre E- Gov	3.59	4
Post E -Gov	2.40	2

Fig 8: - Ease of service in payment of wages.

Pre E -Gov	Post E -Gov

| 1 = Very Easy. | 2= Easy. | 3 = Neutral. | 4. = Moderately Difficult. | 5. = Difficult |

When asked about any undue costs paid for payment of wages a enormous percentage of around seventy-eight number of beneficiary respondents reported to have paid any form of undue cost in getting their payments paid during pre-Electronic Governance intervention period. The percentage has significantly reduced to 13.5 percent after the Electronic Governance intervention in the scheme.

Fig 9: - Undue costs paid by percentage of respondents for payment of wages.
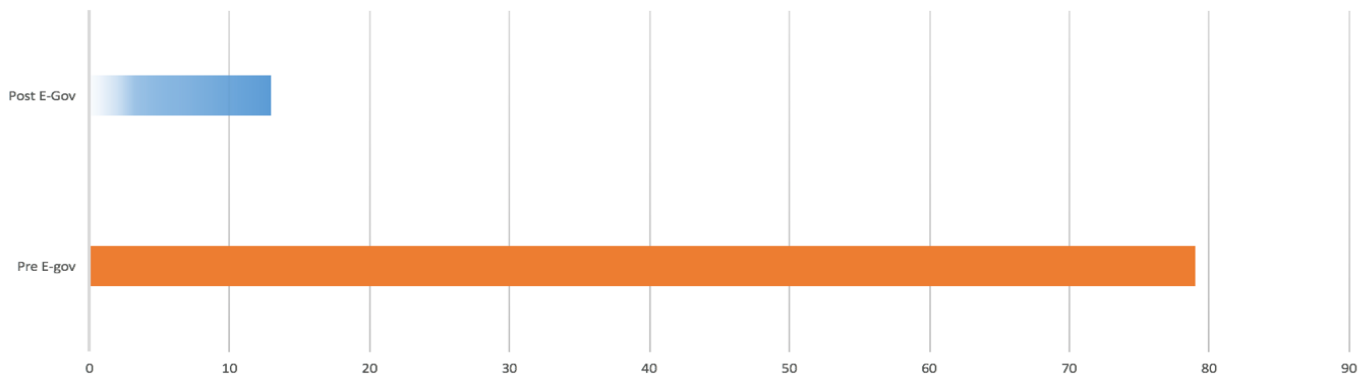
IV Conclusion and Suggestions: - Rural development schemes in India are relishing improved operationalization and efficiency since the deployment of Electronic Governance Systems. Adoption of best practices, improvised infrastructure and other factors are enabling administrators to tap the potential of Information and communication technology day by day. There are number of studies conducted by Ministry of Rural Development, Indian Institute of Management's and other independent researchers which endorse and advocate the positive impact of Electronic Governance on Rural Development Schemes in India in terms of operationalization, efficiency, effectiveness, timeliness and expected outcomes.

Findings from this study when compared to other national level surveys clearly indicate slight ineffectiveness of Electronic Governance deployments for rural developments schemes in Jammu and Kashmir. A major research gap remains to ascertain the reasons of lacuna of Electronic Governance Systems in Jammu and Kashmir when compared to the national level scenario. There are few research studies which have indicated few factors like lack of infrastructure, lack of skilled manpower, administrative hurdles and bureaucratic inertia as the problems faced in deploying and operating Electronic Governance Systems in Jammu and Kashmir. Electronic Governance systems without any doubt have made a positive impact on both schemes in Jammu and Kashmir, however the impact seems not at par with the national average. This gap or lacuna can be taken as the research problem and may act as the gateway towards the future directions of the study.

The Electronic Governance Systems of Mahatma Gandhi National Rural Employment Guarantee Scheme seems to be heavily suffering from updating of information on real time basis. There are a number of case studies which show the upside-down improvement in efficiency of Electronic Governance systems since the advent of real-time updating of information. Present Electronic Governance system of Mahatma Gandhi National Rural Employment Guarantee scheme requires information to be updated manually in the system as there is no scope or provision of automated update of information. Mismatch of figures in the system with the actual information impacts meeting of deadlines as well as proper planning of the scheme. The lacuna can be eliminated by integration of real-time information updating systems with Electronic Governance systems of the scheme. Furthermore, Electronic Governance system of Mahatma Gandhi National Rural Employment Guarantee scheme has been deployed with the sole objective of making available the information to the stakeholders at the click of the button. The Electronic Governance System of the scheme has little to do with the planning of scheme, accountability, optimization etc.

Electronic Governance has lot to offer to the policy makers in achieving public policy objectives in the growing economy like India. This will however require collective effort of all the stakeholders from citizens to administrators.

V. References

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