

## **Work Performance of MGNREGS in Kerala at National Level: A Comparison**

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### **ABSTRACT**

*Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) is a revolutionary move to terminate poverty and unemployment in rural areas. The implementation of the scheme is successful in terms of large-scale employment, women empowerment, asset creation, watershed development, prevention of draught and reduction in large scale migration. The present investigation is a modest attempt to compare the work performance in Kerala with the remaining states in India. Though its scope is nationwide, there have been wide inter-state as well as inter district variations in the accomplishment of the objectives of the MGNREGA Act. Therefore, this paper focuses on the different facets of work implementation aspects in Kerala and find out other states performances in this regard using secondary data. The study confirms that the scheme has changed the rural face of the country despite the differences found in different states.*

**Keywords:** MGNREGA, asset creation, unemployment, empowerment, work performance

### **Introduction**

India has witnessed a historic legislation in 2005, when the National Rural Employment Guarantee Act (NREGA) was passed in the Parliament. With much euphoria, on February 2006, the Act came into operation in 200 most backward Districts in India. This is the largest public employment programme ever visualised in human history (Ambasta, Shanker, & Shah, 2008). Later in 2009, the Act was renamed and now be called as Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA). MGNREGA has been hailed as a fine tune illustration of Right Based Approach to employment since it guarantees employment to every rural household that is willing to do unskilled manual work for 100 days in a financial year. The Act proves to be a robust shift from a policy of welfare activity of the Government to a policy that recognises basic development needs as rights of the citizens (UNDP, 2010). The rights-

based design of the Act necessitates a paradigm shift in India's long history of self-employment and wage employment schemes.

Expansion of productive employment opportunities that ensures decent work and livelihood security is the most desirable objective in the pursuit of economic development which is sustainable (Mehrotra, Gandhi, Sahoo, & Saha, 2012; Government of India, 2009). In this sense, implementation of MGNREGS can also be considered as a measure to promote sustainable economic development. MGNREG Act specifies that creation of sustainable assets is one of the key objectives of the scheme. By providing decent work and ensuring livelihood security, the scheme has immense potential to promote sustainable development through the creation of sustainable assets in rural areas.

The greatest challenge before any country towards the path of growth and development will be to make them sustainable (Otsuka & Runge, 2011). MGNREGS in its design focuses on asset creating works that are labour intensive ought to curb the problems of poverty and unemployment and at the same time, can encourage sustainable development through capability enhancement. (Panda, 2015; Shah, 2007). Thus, MGNREGS will increase the capability of the rural people and enhance the ability of the future generations to meet their needs through the productive works taken up, especially those works which are related to natural resource management.

### **Literature Review**

Since the paper exclusively focused on the works carried out under MGNREGS, the review of literature was also done and circumscribed in accordance with the planning, implementation and outcome of different works taken up in different states of India.

The impact of soil and water conservation works under MGNREGS on rural livelihoods was studied by Kareemulla et.al (2009) in six Villages spread across three Mandals of Anantapur District in Andhra Pradesh using multi-stage random sampling. The field study indicated that most of the beneficiaries were farmers and these works have helped them to stay back at their villages than to migrate in search for better earnings. The study also reveals that the number of family members participating in MGNREGS is influenced by some independent variables such as family size, landholding, income from other sources etc. The study suggests that the soil and water conservation works need to be continued as they ensure better livelihoods for the rural poor through wage incomes and creation of productive assets.

Institute of Rural Management Anand (2010) conducted an impact assessment study of MGNREGS in creating useful and sustainable assets in Sikkim. A multipronged mixed methodology was used in this study. The analysis was done based on a survey of 175 GP Units

spread across four Districts in Sikkim and 27 BDO's. The study found out that apart from generating supplementary income to the rural poor, MGNREGS works have enhanced food security and provided the unemployed a means of sustenance. The study had identified four major types of work undertaken under the scheme i.e., water conservation, land development, plantation, afforestation and road connectivity works. The study hints an overall positive impact of the assets created under MGNREGS. The study also suggested provisions for the maintenance of the created assets for ensuring durability and sustainability of the created assets.

Shah et.al (2010) in their report on asset creation through MGNREGS synthesizes the student case studies of 40 works undertaken under the scheme in eleven Districts from nine States. The study reveals that in spite of the widespread corruption and leakages, the works created under MGNREGS created moderate or high levels of wage and non-wage benefits. The works created were also durable in nature.

Tiwari et.al (2011) in their paper on MGNREGS works has explained the outcome of a rapid scientific assessment study on the potential of MGNREGS to enhance and provide environmental services in Chitradurga District of Karnataka. The study covered the works implemented under the programme in 20 Villages during 2009. Vulnerability indices were constructed and compared to assess vulnerability reduction capacity of MGNREGS. To get accurate measurement of the services the status of environmental services before and after implementation of the activities was examined in this study. The study shows that MGNREGS has provided multiple environmental benefits and services and reduced vulnerability in agricultural production. The works carried out under the scheme has the potential to increase water storage, percolation and ground water recharge. Water conservation activities helped in reducing vulnerability of production systems and livelihoods. Environmental services such as ground water recharge, water percolation, and increased water storage in tanks, increased soil fertility, reclamation of degraded lands, carbon sequestration etc. not only enhances the natural resource base of the region but also mitigates climate change. On the contrary, the study did not make any attempt to calculate the economic return accrued from various activities. The outcomes explained in this study were purely on the grounds of scientific assessments considering both before and after situations in all the study areas.

Krishnan and Balakrishnan (2012) studied the impact of watershed works of MGNREGS on poverty alleviation in Vadivelkarai Village of Tamil Nadu. This study reveals that the water conservation works under MGNREGS have strengthened the natural resource base of the village. It has increased the area under cultivation where there persists lack of sufficient rainfall. These works directly improved the living standard of the farmers by making changes in the cropping pattern. With sufficient water for varied cultivation, the farmers can initiate the production of

new crops which in turn increases agricultural productivity. The study concludes that the scheme has provided the base for sustainable development of an agricultural economy.

Panda (2015) flagged MGNREGS as a new initiative in the approaches to development. He opined MGNREGS as a programme which promotes sustainable development through capability enhancement. He identified the scheme as the best development practice to promote sustainable development in a developing economy. His observations were based on a field survey he has conducted in 2011, covering 400 MGNREGS workers and 400 MGNREGS non-workers spread over five Districts, ten Blocks and 40 GPs in Assam. Through this study he proved that MGNREGS has the capability to create three cardinal concepts of sustainability i.e., economic, social and environmental sustainability. Moreover, the study shows that MGNREGS increases income and food security to the poor, empowers rural women and strengthened the natural resource base in the study area. Finally, he concluded by saying that MGNREGS has the potential to bring about real decentralised sustainable development.

Abraham (2016) studied the process of asset creation under MGNREGS based on a primary survey covering four Southern States namely, Andhra Pradesh, Tamil Nadu, Karnataka and Kerala. The study examines the importance of local Government bodies in the process of asset creation under MGNREGS. The study reveals that the process of asset creation largely depends on the local, economic, political and social structure of different regions. The selection, implementation and expenditure of the works in an area clearly demonstrates bottom up planning and effective co-ordination built upon the interests of the local people. Assets created on private lands were better managed and they maintained the desired quality. But with low material components, these assets tend to be non-durable. The study concludes that it is the active local representative bodies that voice the grass roots that can engage such public programmes into transformational agents in the process of development and growth of the economy.

### **Statement of the Problem**

Creation of sustainable assets which can reinforce the livelihood resource base of rural areas is one of the prime objectives of the MGNREGS. Works under the scheme should be identified, planned, executed and maintained in a refined manner so as to enhance the capability of the people and the area it belongs to. These works are implemented with a view to create permanent durable assets so that productivity and sustainability can be ensured. But studies reveals that many works that are carried out under the scheme does not possess the quality of assets and productive. Works implementation scenario of MGNREGS in Kerala reveals that in spite of the ability of MGNREGS works to transform rural lives, the performance of these works has been not up to the desired level in the State when compared to other States. Paucity of studies which covers the work implantation under MGNREGS in Kerala are also few in number. Majority of

them belongs to the impact assessment studies covering its impact on employment, income, women empowerment and migration. Moreover, none of these studies have attempted to take up a comparative study of Kerala with all other States in India. Therefore, an attempt is made to fill this existing gap in the literature on MGNREGS through a comprehensive comparison of different aspects of works implementation in Kerala with the remaining states in India.

**Objective of the Study**

- To compare the work performance of MGNREGS in Kerala with the performance of other states in India.

**Methodological and Statistical Framework**

Secondary data was used to analyse the work performance of MGNREGS in Kerala as well as in other states and was collected from MGNREGS official website namely [www.nregs.nic.in](http://www.nregs.nic.in). Data related to the number of completed works, nature of works and amount spent for completed works were collected for a period of 7 years starting from 2011-12 to 2017-18. Though the scheme has started its implementation in 2008, its full swing operation all over India began only in 2011. Similarly, study year was restricted to 2018 because of some deficiencies and the paucity of data related to the completion of works in different states in the recent years in the online portal.

Binomial linear regression model was used to find out the trend in growth of number of works completed and amount spent during the study period at national and State level. For the purpose of comparison, the slope of the growth trend was used and its difference was measured with the help of t-test. The formula used for testing the slopes is given below.

$$t = \frac{m_2 - m_1}{\sqrt{SE_2^2 + SE_1^2}} \dots\dots\dots (1)$$

where  $m_1$  and  $m_2$  are the slopes of the trend lines and  $SE_1^2$  and  $SE_2^2$  are the corresponding standard error. The degrees of freedom (Df.) =  $(n_1-2) + (n_2-2)$

Considering the huge difference in the magnitude of number and amount of the completed works in Kerala and India, the standardized values of the number and amount are taken for the comparison of works performance under MGNREGS.

### **Data Analysis and Interpretation**

The study seeks to examine the work performance of MGNREGS in Kerala and compared with the remaining states in India. The work performance was analysed by considering the variables such as the total number of completed works, the amount spent for these works, number of works per rural population, the amount spent per rural population and the cost per work. These variables have been found relevant to give an insight into the different facets of MGNREGS works in Kerala and the rest of states in India. To facilitate comparison, the states in India were classified into six zones. Initially, the work performance was analysed for Kerala and India and the results were used to compare it with the remaining 28 states in India which are classified into six zones.

### **Comparison of work performance of MGNREGS in Kerala with other States in India**

Comparison of work performance of MGNREGS in Kerala with that of other States in India would provide an insight into the variation in the performance of different variables determining better implementation of works.

### **Comparison with North Indian States**

The works performance of Kerala is compared with North Indian States which includes seven States viz. Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab, Rajasthan, Uttar Pradesh and Uttarakhand.

**Table 1 Number of works completed under MGNREGS in different States of North India with slope of the trend curve and its comparison with that of Kerala**

States	Number	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	Total		Comparison with Kerala (slope =0.429, SE = 0.078)	
									Slope	SE	t	Sig.
Haryana	Actual	11177	13765	15185	13502	7725	9731	12327	-0.168	0.193	2.868	0.017
	Standardised	-0.287	0.719	1.271	0.617	-1.630	-0.850	0.160				
Himachal Pradesh	Actual	46205	45933	56178	43251	48478	63681	73847	0.350	0.135	0.507	0.623
	Standardised	-0.685	-0.709	0.198	-0.947	-0.484	0.863	1.764				
Jammu And Kashmir	Actual	20290	57691	61128	40162	87423	61343	55164	0.239	0.177	0.982	0.349
	Standardised	-1.668	0.143	0.309	-0.706	1.582	0.319	0.020				
Punjab	Actual	8838	8667	9402	8907	13671	21254	25225	0.411	0.096	0.146	0.887
	Standardised	-0.713	-0.738	-0.630	-0.703	-0.006	1.104	1.685				
Rajasthan	Actual	47819	136595	117840	191655	91894	179795	225713	0.343	0.139	0.540	0.601
	Standardised	-1.518	-0.081	-0.385	0.810	-0.805	0.618	1.361				
Uttar Pradesh	Actual	843545	399647	644616	437333	165217	522214	624761	-0.148	0.196	2.735	0.021

	Standardised	1.504	-0.557	0.580	-0.382	-1.645	0.012	0.488				
Uttarakhand	Actual	21069	23471	36624	25582	37808	70878	114756	0.393	0.109	0.269	0.794
	Standardised	-0.762	-0.692	-0.308	-0.630	-0.273	0.692	1.973				
Total	Actual	998943	685769	940973	760392	452216	928896	1131793	0.062	0.205	1.673	0.125
	Standardised	0.688	-0.692	0.433	-0.363	-1.721	0.380	1.274				

Source: MGNREGS Official Website

The above table displays the number of works completed under MGNREGS in different States of North India during the study period with slope of the trend curve and its comparison with that of Kerala. The growth of standardized value of number of works completed under MGNREGS in the Northern States was compared with that of Kerala using t test. The analysis reveals that the slope of the trend line representing standardized value of works completed under MGNREGS of all the North Indian States are below that of Kerala (0.429). Two North Indian States are significantly lower growth rate compared to that of Kerala.

Table 2 shows the comparison of the amount spent for the works under MGNREGS. The results revealed that the growth rate of Haryana is significantly lower than that of Kerala as the significance level of t value is less than 0.05. All the other Northern States are having statistically same level of growth rate in the amount spent.

**Table 2 Amount spent (In Lakhs) for the completed works under MGNREGS in different States of North India with slope of the trend curve and its comparison with that of Kerala**

States	Amount	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	Total	Comparison with Kerala (slope =0.415, SE = 0.091)



									<b>Slope</b>	<b>SE</b>	<b>t</b>	<b>Sig.</b>
Haryana	Actual	23893.02	26775.96	28716.27	20686.24	13183.29	22142.84	23301.35	-0.19	0.189	2.889	0.016
	Standardised	0.245	0.822	1.211	-0.398	-1.901	-0.106	0.126				
Himachal Pradesh	Actual	40795.68	38409.13	56264.28	38747.98	36550.12	43819.73	45881.06	0.034	0.206	1.696	0.121
	Standardised	-0.317	-0.672	1.987	-0.622	-0.949	0.133	0.440				
Jammu And Kashmir	Actual	20793.19	52305.15	70138.66	36585.23	71421.86	70843.42	71606.98	0.332	0.144	0.493	0.633
	Standardised	-1.726	-0.192	0.677	-0.957	0.739	0.711	0.748				
Punjab	Actual	11797.07	9869.03	13435.61	19883.64	26914.46	41480.26	50778.94	0.437	0.068	0.185	0.857
	Standardised	-0.827	-0.948	-0.723	-0.316	0.129	1.049	1.636				
Rajasthan	Actual	54131.11	126663.7	107074	290632.8	244951	273108.3	321571.3	0.421	0.086	0.040	0.969

	Standardised	-1.420	-0.726	-0.913	0.842	0.405	0.674	1.138				
Uttar Pradesh	Actual	33918 1.8	12997 5.7	17055 7.9	28714 5.7	84621	32378 2.3	42721 8.9	0.16 1	0.19 4	1.190	0.262
	Standardised	0.697	-0.972	-0.648	0.282	-1.334	0.575	1.400				
Uttarakhand	Actual	19891. 31	20475. 78	35271. 52	32248. 44	50531. 95	66167. 67	77550. 77	0.44 6	0.05 5	0.282	0.784
	Standardised	-1.040	-1.014	-0.353	-0.488	0.329	1.028	1.537				
Total	Actual	51048 3.1	40447 4.4	48145 8.2	72593 0	52817 3.7	84134 4.5	10179 09	0.39 0	0.11 2	0.180	0.861
	Standardised	-0.598	-1.071	-0.727	0.365	-0.519	0.881	1.670				

Source: MGNREGS Official Website

**Table 3 Cost per work (In Lakhs) under MGNREGS in different States of North India from 2011-12 to 2017-18**

States	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	Total		Comparison with Kerala ( $\mu=0.781$ , $\sigma = 0.074$ )	
								Mean	SD	t	Sig.
Haryana	2.138	1.945	1.891	1.532	1.707	2.275	1.890	1.911	0.249	10.668	0.000
Himachal Pradesh	0.883	0.836	1.002	0.896	0.754	0.688	0.621	0.811	0.132	0.493	0.631
Jammu And Kashmir	1.025	0.907	1.147	0.911	0.817	1.155	1.298	1.037	0.171	3.370	0.006
Punjab	1.335	1.139	1.429	2.232	1.969	1.952	2.013	1.724	0.415	5.480	0.000
Rajasthan	1.132	0.927	0.909	1.516	2.666	1.519	1.425	1.442	0.599	2.683	0.020
Uttar Pradesh	0.402	0.325	0.265	0.657	0.512	0.620	0.684	0.495	0.167	3.821	0.002
Uttarakhand	0.944	0.872	0.963	1.261	1.337	0.934	0.676	0.998	0.228	2.221	0.046

Source: MGNREGS Official Website

The comparison of cost per work of North Indian States with Kerala presented Table 3 revealed that all the States except Himachal Pradesh have significantly different level of cost per work. States such as Haryana, Jammu and Kashmir, Punjab, Rajasthan and Uttarakhand showed a significantly higher cost per work compared to Kerala. The cost per work of Uttar Pradesh was significantly lower than Kerala.

**Comparison of Kerala with West Indian States**

Goa, Gujarat and Maharashtra are included in the west zone division of states. The performance of MGNREGS works in Kerala is compared and analysed with these States through the tables given below.

**Table 4 Number of works completed under MGNREGS in different States of West India with slope of the trend curve and its comparison with that of Kerala**

States	Number	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	Total		Comparison with Kerala (slope =0.429, SE = 0.078)	
									Slope	SE	t	Sig.
Goa	Actual	17691	25	205	455	384	356	434	-0.277	0.166	3.849	0.003
	Standardised	2.267	-0.421	-0.394	-0.356	-0.367	-0.371	-0.359				
Gujarat	Actual	50692	52883	31612	58523	47860	106848	135233	0.361	0.129	0.451	0.662
	Standardised	-0.493	-0.434	-1.004	-0.283	-0.569	1.011	1.771				
Maharashtra	Actual	52096	77084	87917	161425	110381	161336	260527	0.412	0.094	0.139	0.892
	Standardised	-1.103	-0.749	-0.596	0.443	-0.279	0.441	1.843				
Total	Actual	120479	129992	119734	220403	158625	268540	396194	0.399	0.105	0.229	0.823
	Standardised	-0.796	-0.703	-0.803	0.180	-0.423	0.650	1.896				

Source: MGNREGS Official Website

Table 4 shows the number of completed under MGNREGS in different States of West India from 2011-12 to 2017-18 with slope of the trend curve and its comparison with that of Kerala. The growth of standardized value of number of works completed under MGNREGS in the Western States was compared with that of Kerala by using t test. The result revealed that there is significant

difference in the growth of number of works completed in Goa when compared to Kerala. The slope of the trend line representing the standardized value of works completed in Goa is significantly lower than that of Kerala. The slope of the trend line representing the standardized value of works completed under MGNREGS in Gujarat and Maharashtra are below than that of Kerala, but it is not statistically significant.

**Table 5 Amount spent (In Lakhs) for the completed works under MGNREGS in different States of West India with slope of the trend curve and its comparison with that of Kerala**

States	Amount	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	Total		Comparison with Kerala (slope =0.415, SE = 0.091)	
									Slope	SE	t	Sig.
Goa	Actual	401.84	49.75	217.55	422.67	262.62	328.73	417.45	0.171	0.192	1.153	0.276
	Standardised	0.749	-1.842	-0.607	0.902	-0.276	0.211	0.863				
Gujarat	Actual	42327.97	31044.72	25212.37	41199.67	36697.8	57925.76	68708.76	0.339	0.141	0.459	0.656
	Standardised	-0.064	-0.807	-1.190	-0.138	-0.435	0.962	1.672				
Maharashtra	Actual	44199.51	78027.26	44135.03	119178.4	125197.1	106074.6	111706.5	0.351	0.135	0.399	0.698
	Standardised	-1.319	-0.340	-1.321	0.851	1.025	0.471	0.634				
Total	Actual	86929.32	109121.7	69564.95	160800.8	162157.6	164329.1	180832.7	0.394	0.109	0.155	0.880
	Standardised	-1.056	-0.552	-1.451	0.623	0.654	0.703	1.079				

Source: MGNREGS Official Website

The amount spent for completed works under MGNREGS in different States of West India depicted in the above table shows that the absolute growth of amount spent for MGNREGS is the highest in Maharashtra with a value representing the slope of the trend line 0.351, followed by Gujarat with a value 0.339 and Goa with the value 0.171. The comparison of amount spent for MGNREGS in the Western States with that of Kerala indicates that all the three West Indian States have statistically the same level of growth rate in terms of amount spent for MGNREGS works.

Cost per work in West Indian States for the works completed under MGNREGS presented in Table 6 reveals that the cost per work is the highest in Goa with a value of 0.939. The lowest cost per work is found in Gujarat (0.677 lakhs). The comparison discloses that the cost per work completed under MGNREGS in West Indian States are statistically same that of Kerala.

**Table 6 Cost per work (In Lakhs) under MGNREGS in different States of West India**

States	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	Total		Comparison with Kerala ( $\mu=0.781$ , $\sigma = 0.074$ )	
								Mean	SD	t	Sig.
Goa	0.023	1.99	1.061	0.929	0.684	0.923	0.962	0.939	0.53778	0.713	0.490
Gujarat	0.835	0.587	0.798	0.704	0.767	0.542	0.508	0.677	0.12149	1.791	0.099
Maharashtra	0.848	1.012	0.502	0.738	1.134	0.657	0.429	0.76	0.23855	0.206	0.840

Source: MGNREGS Official Website

**Comparison of Kerala with South Indian States**

Apart from Kerala, Andhra Pradesh, Karnataka, Tamil Nadu, and Telangana are the other States included in the South zone division. Table 12 presents the number of works completed under MGNREGS in different States of South India during the study period. The analysis shows that among the South Indian States, the highest slope of trend line representing the number of completed works under MGNREGS is found in Kerala with the slope of 0.429. Kerala was followed by Tamil Nadu and Andhra Pradesh.

**Table 7 Number of works completed under MGNREGS in different States of South India with slope of the trend curve and its comparison with that of Kerala**

States	Number	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	Total		Comparison with Kerala (slope =0.429, SE = 0.078)	
									Slope	SE	t	Sig.
Andhra Pradesh	Actual	213759	390679	236544	598221	439296	1350974	1765180	0.401	0.103	0.217	0.833
	Standardised	-0.829	-0.535	-0.791	-0.191	-0.455	1.057	1.744				
Karnataka	Actual	128452	105242	212808	423480	313583	346976	419189	0.396	0.107	0.249	0.808
	Standardised	-1.142	-1.319	-0.500	1.103	0.267	0.521	1.071				
Kerala	Actual	148535	176983	195522	186051	201345	263202	300694	0.429	0.078	0.000	1.000
	Standardised	-1.169	-0.631	-0.280	-0.459	-0.170	1.000	1.709				
Tamil Nadu	Actual	59740	92138	169193	352830	386442	287214	451665	0.419	0.088	0.085	0.934
	Standardised	-1.298	-1.085	-0.578	0.630	0.852	0.199	1.281				
Telangana	Actual	132361	386399	245428	215136	272014	1336174	1831473	0.374	0.122	0.380	0.712
	Standardised	-0.744	-0.365	-0.575	-0.621	-0.536	1.051	1.790				
Total	Actual	682847	1151441	1059495	1775718	1612680	3584540	4768201	0.418	0.089	0.093	0.928
	Standardised	-0.933	-0.623	-0.684	-0.209	-0.317	0.990	1.775				

Source: MGNREGS Official Website

The growth of standardized value of number of works completed under MGNREGS in the Southern States was compared with that of Kerala using t test. The result revealed that a significant difference could not be observed between these States despite the slope of the trend line representing the number of completed works under MGNREGS in different States of South India is lower than that of Kerala.

Table 8 depicts the amount spent for the completed works under MGNREGS in different States of South India. The table shows that that the absolute growth of amount spent for completed works under MGNREGS is the highest in Tamil Nadu with the slope of the trend line showing the value 0.422. The comparison of growth of amount spent in the different South Indian States with Kerala discloses that all the States depict the same level of growth rate in terms of the amount spent for the completed works, as the significance level is greater than 0.05.

**Table 8 Amount spent (In Lakhs) for the completed works under MGNREGS in different States of South India with slope of the trend curve and its comparison with that of Kerala**

States	Amount	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	Total		Comparison with Kerala (slope =0.415, SE = 0.091)	
									Slope	SE	t	Sig.
Andhra Pradesh	Actual	194720.4	160175.7	103102.8	225679.1	378729	284539.7	319624.2	0.336	0.143	0.472	0.647
	Standardised	-0.453	-0.814	-1.411	-0.130	1.470	0.486	0.852				
Karnataka	Actual	123781.9	87415.74	97118.54	153379.9	153147.9	207097.5	245151.7	0.411	0.095	0.038	0.970
	Standardised	-0.500	-1.135	-0.966	0.016	0.012	0.954	1.618				



Kerala	Actual	115611	125235.5	138182.1	153866.7	143115.4	230349.2	258238.7	0.416	0.091	0.000	1.000
	Standardised	-0.919	-0.745	-0.511	-0.226	-0.421	1.159	1.664				
Tamil Nadu	Actual	271659	303653.1	422913.7	349875.7	580424.4	537254.3	587587.6	0.422	0.085	0.048	0.963
	Standardised	-1.237	-0.996	-0.100	-0.649	1.084	0.760	1.138				
Telangana	Actual	86856.71	48108.3	29717.78	139178.6	168935.4	85460.69	92126.72	0.17	0.193	1.153	0.276
	Standardised	-0.125	-0.927	-1.308	0.957	1.573	-0.154	-0.016				
Total	Actual	792629	724588.3	791034.9	1021980	1424352	1344701	1502729	0.43	0.076	0.118	0.908
	Standardised	-0.883	-1.087	-0.887	-0.193	1.018	0.778	1.254				

Source: MGNREGS Official Website

Cost per work presented in Table 9 reveals that Tamil Nadu marked the highest cost per work with an average cost per work of 2.287 lakhs. This was followed by Kerala with a cost of 0.781 lakhs and Karnataka with the cost 0.612. The comparison discloses that cost per work in Tamil Nadu is significantly higher than that of Kerala. At the same time, the cost per work in Andhra Pradesh and Telangana is significantly lower than that of Kerala, whereas, Karnataka exhibited the same cost with that of Kerala.

**Table 9 Cost per work (In Lakhs) under MGNREGS in different States of South India**

States	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	Total		Comparison with Kerala ( $\mu=0.781$ , $\sigma = 0.074$ )	
								Mean	SD	t	Sig.
Andhra Pradesh	0.911	0.41	0.436	0.377	0.862	0.211	0.181	0.484	0.270127	2.597	0.023

Karnataka	0.964	0.831	0.456	0.362	0.488	0.597	0.585	0.612	0.198217	1.957	0.074
Kerala	0.778	0.708	0.707	0.827	0.711	0.875	0.859	0.781	0.0684	0.000	1.000
Tamil Nadu	4.547	3.296	2.5	0.992	1.502	1.871	1.301	2.287	1.171663	3.142	0.008
Telangana	0.656	0.125	0.121	0.647	0.621	0.064	0.05	0.326	0.274177	3.925	0.002

Source: MGNREGS Official Website

**Comparison of Kerala with East Indian States**

The work performance of MGNREGS in Kerala is compared with the East Indian States viz Bihar, Jharkhand, Odisha and West Bengal is analysed in the below tables.

**Table 10 Number of works completed under MGNREGS in different States of East India with slope of the trend curve and its comparison with that of Kerala**

States	Number	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	Total		Comparison With Kerala (slope =0.429, SE = 0.078)	
									Slope	SE	t	Sig.
Bihar	Actual	52198	94928	120162	115106	108844	71827	93434	0.097	0.202	1.533	0.156
	Standardised	-1.700	0.047	1.078	0.872	0.616	-0.898	-0.014				

Jharkhand	Actual	53472	93074	73081	61817	69280	208575	409494	0.354	0.134	0.484	0.639
	Standardised	-0.649	-0.347	-0.500	-0.586	-0.529	0.537	2.073				
Odisha	Actual	76710	62826	72058	47876	123931	250019	424701	0.378	0.119	0.358	0.727
	Standardised	-0.536	-0.636	-0.570	-0.744	-0.196	0.712	1.971				
West Bengal	Actual	211059	245345	203593	208011	343942	542991	719962	0.399	0.105	0.229	0.823
	Standardised	-0.704	-0.535	-0.741	-0.719	-0.047	0.936	1.810				
Total	Actual	393439	496173	468894	432810	645997	1073412	1647591	0.392	0.110	0.274	0.789
	Standardised	-0.740	-0.519	-0.578	-0.656	-0.196	0.725	1.963				

Source: MGNREGS Official Website

Number of works completed under MGNREGS in different states of East India presented in Table 10 displays that the highest slope of trend line representing the number of completed works is in West Bengal with a value of 0.399. The lowest slope was noted in Bihar (0.097). The results of the comparison of growth of standardized values of number of completed works under MGNREGS in the East Indian States with that of Kerala by using the t test shows that though the slope of the trend line representing the number of completed works under MGNREGS in all the Eastern States is lower than that of Kerala, the difference in the slope of the trend line is not statistically significant. Therefore, it can be inferred that in terms of number of works completed, Kerala exhibited a similar pattern with that of East Indian States.

The data on the amount spent for completed works under MGNREGS in different States of East India during the study period is presented in the below Table 11. The analysis revealed that that all the States show a statistically same level of growth with that of

Kerala in terms of the amount spent for completed works under MGNREGS as the significance level of t test is greater than 0.05 for all States.

**Table 11 Amount spent (In Lakhs) for the completed works under MGNREGS in different States of East India from 2011-12 to 2017-18 with slope of the trend curve and its comparison with that of Kerala**

States	Amount	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	Total		Comparison with Kerala (slope =0.415, SE = 0.091)	
									Slope	SE	t	Sig.
Bihar	Actual	66311.23	90531.11	97323.47	79000.5	114489	94590.45	90892.1	0.235	0.178	0.905	0.387
	Standardised	-1.605	0.006	0.457	-0.761	1.599	0.276	0.030				
Jharkhand	Actual	39635.91	72003.89	56516.95	95501.2	122953.4	146802.6	167445.6	0.45	0.049	0.329	0.749
	Standardised	-1.270	-0.591	-0.916	-0.097	0.479	0.980	1.414				
Odisha	Actual	103363.6	47602.37	130768.3	96097.34	166567.7	125166.1	136346.9	0.275	0.166	0.745	0.474
	Standardised	-0.313	-1.794	0.415	-0.506	1.366	0.267	0.564				
West Bengal	Actual	256384.1	329265	242802.5	385361.5	433913.6	464190.3	506008.1	0.424	0.083	0.065	0.949
	Standardised	-1.154	-0.439	-1.287	0.112	0.588	0.885	1.295				
Total	Actual	465694.8	539402.4	527411.2	655960.6	837923.6	830749.4	900692.7	0.446	0.055	0.282	0.784

	Standardised	-1.216	-0.797	-0.865	-0.135	0.899	0.858	1.255				
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Source: MGNREGS Official Website

Cost per work completed under MGNREGS in different States of East India presented in Table 12 shows that the highest cost per work is found in West Bengal. The average cost per work of the State is 1.203 lakh followed by Odisha with a cost of 1.156 and Bihar with a cost of 1.009. Comparison of cost per work with Kerala discloses that that the cost per work completed under MGNREGS is significantly higher in Bihar and West Bengal when compared to Kerala (significance level of t test are 0.028 and 0.012 respectively) whereas Jharkhand and Odisha depict almost the same cost as in Kerala (significance level of t test are 0.367 and 0.154 respectively).

**Table 12 Cost per work (In Lakhs) under MGNREGS in different States of East India with slope of the trend curve and its comparison with that of Kerala**

States	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	Total		Comparison with Kerala ( $\mu=0.781$ , $\sigma = 0.074$ )	
								Mean	SD	t	Sig.
Bihar	1.27	0.954	0.81	0.686	1.052	1.317	0.973	1.009	0.211486	2.493	0.028
Jharkhand	0.741	0.774	0.773	1.545	1.775	0.704	0.409	0.96	0.461846	0.937	0.367
Odisha	1.347	0.758	1.815	2.007	1.344	0.501	0.321	1.156	0.5994	1.521	0.154
West Bengal	1.215	1.342	1.193	1.853	1.262	0.855	0.703	1.203	0.341561	2.958	0.012

Source: MGNREGS Official Website

**Comparison of Kerala with Central Indian States**

Chhattisgarh and Madhya Pradesh are the only two States are included in the central zone division. The result of the comparison of MGNREGS works in Kerala with respect to these States is presented through the tables given below.

Table 13 shows the number of works completed under MGNREGS in different States of Central India and its comparison with Kerala. The analysis revealed that both the States exhibited a similar pattern in terms of works completed as the significance level of t test is greater than that of 0.05.

**Table 13 Number of works completed under MGNREGS in different States of Central India with slope of the trend curve and its comparison with that of Kerala**

States	Number	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	Total		Comparison with Kerala (slope =0.429, SE = 0.078)	
									Slope	SE	t	Sig.
Chhattisgarh	Actual	287844	120553	85205	80162	70572	206145	429890	0.154	0.195	1.309	0.220
	Standardised	0.778	-0.462	-0.724	-0.762	-0.833	0.172	1.831				
Madhya Pradesh	Actual	160085	304694	325793	395879	228183	312905	513004	0.308	0.155	0.697	0.501
	Standardised	-1.409	-0.136	0.050	0.668	-0.809	-0.063	1.699				
Total	Actual	447929	425247	410998	476041	298755	519050	942894	0.271	0.168	0.853	0.414

	Standardised	-0.268	-0.378	-0.447	-0.131	-0.993	0.078	2.139				
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Source: MGNREGS Official Website

The comparison of amount spent under MGNREGS in Kerala and the Central Indian States presented in Table 14 reveals that that both the States in Central India depicts the same growth in the amount spent, as the significance level is greater than 0.05.

**Table 14 Amount spent (In Lakhs) for the completed works under MGNREGS in different States of Central India with slope of the trend curve and its comparison with that of Kerala**

States	Amount	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	Slope	SE	Comparison with Kerala (slope =0.415, SE = 0.091)	
											t	Sig.
Chhattisgarh	Actual	321384.8	130049.8	72247.28	162613.2	108734.2	202382.3	259506.1	-0.002	0.207	1.849	0.094
	Standardised	1.615	-0.564	-1.222	-0.193	-0.806	0.260	0.910				
Madhya Pradesh	Actual	86047.63	162513	140884.8	254159.1	198977.2	231967.5	270890.1	0.404	0.101	0.088	0.931
	Standardised	-1.599	-0.447	-0.773	0.933	0.102	0.599	1.185				
Total	Actual	407432.5	292562.8	213132.1	416772.3	307711.4	434349.8	530396.2	0.251	0.174	0.840	0.420
	Standardised	0.335	-0.744	-1.491	0.423	-0.602	0.588	1.491				

Source: MGNREGS Official Website

Comparison of cost per work under MGNREGS in Chhattisgarh and Madhya Pradesh presented in Table 15 reveals that the cost per work under MGNREGS is significantly low in Madhya Pradesh and it is almost the same in Chhattisgarh when compared to Kerala, as the significance level of t test is greater than 0.05.

**Table 15 Cost per work (In Lakhs) under MGNREGS in different States of Central India**

States	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	Total		Comparison with Kerala ( $\mu=0.781$ , $\sigma = 0.074$ )	
								Mean	SD	t	Sig.
Chhattisgarh	1.117	1.079	0.848	2.029	1.541	0.982	0.604	1.171	0.438501	2.148	0.053
Madhya Pradesh	0.538	0.533	0.432	0.642	0.872	0.741	0.528	0.612	0.139547	2.621	0.022

Source: MGNREGS Official Website

**Comparison of Kerala with Northeast Indian States**

Eight States are included in the Northeast Indian zone. This zone covers the largest number of States than other five divisions. The comparison of work performance of Kerala with North-eastern States is explained through the tables given below.

Number of works depicted in Table 16 shows that Arunachal Pradesh and Sikkim recorded the highest slope of the trend line for number of works completed and the lowest growth rate was recorded in Tripura. The comparison of growth of standardized value of number of works completed under MGNREGS in the North-eastern States revealed that there is no significant difference in the slope



of the trend line representing standardized value of works completed under MGNREGS in the North-eastern States with that of Kerala, as the significance level of the t test in all the States is greater than 0.05.

**Table 16 Number of works completed under MGNREGS in different States of Northeast India with slope of the trend curve and its comparison with that of Kerala**

States	Number	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	Comparison with Kerala (slope =0.429, SE = 0.078)			
									Slope	SE	t	Sig.
Arunachal Pradesh	Actual	84	112	216	969	2323	5029	6594	0.427	0.080	0.018	0.986
	Standardised	-0.800	-0.789	-0.749	-0.463	0.051	1.078	1.672				
Assam	Actual	15100	27208	28901	19532	15988	20810	52752	0.240	0.177	0.977	0.352
	Standardised	-0.820	0.112	0.242	-0.479	-0.752	-0.381	2.078				
Manipur	Actual	6456	8356	2607	4677	8780	9506	9803	0.244	0.176	0.961	0.359
	Standardised	-0.264	0.439	-1.686	-0.921	0.595	0.864	0.973				
Meghalaya	Actual	10373	6010	4713	7033	9563	16072	21522	0.346	0.138	0.524	0.612
	Standardised	-0.063	-0.786	-1.001	-0.617	-0.197	0.881	1.784				
Mizoram	Actual	4146	5158	6007	7042	7759	7594	15129	0.393	0.109	0.269	0.794
	Standardised	-0.947	-0.665	-0.429	-0.141	0.059	0.013	2.110				
Nagaland	Actual	3384	6657	3299	4979	13764	13777	14884	0.403	0.102	0.202	0.844

	Standardised	-1.009	-0.385	-1.025	-0.705	0.970	0.972	1.183				
Sikkim	Actual	1559	1803	1975	2042	3094	2636	3386	0.427	0.080	0.018	0.986
	Standardised	-1.153	-0.800	-0.552	-0.455	1.067	0.404	1.489				
Tripura	Actual	68482	84898	110755	111404	140910	95287	101183	0.233	0.179	1.004	0.339
	Standardised	-1.458	-0.741	0.389	0.418	1.707	-0.287	-0.029				
Total	Actual	109584	140202	158473	157678	202181	170711	225253	0.421	0.086	0.069	0.946
	Standardised	-1.480	-0.681	-0.204	-0.225	0.936	0.115	1.538				

Source: MGNREGS Official Website

The amount spent for completed works under MGNREGS in different States of Northeast India shown in Table 17 revealed that the absolute growth of amount spent for completed works was the highest in Sikkim, because it has the highest slope of the trend curve (0.458). The lowest growth in the amount spent is found in Mizoram with a negative slope of -0.034. The result of the comparison of growth of amount spent for completed works under MGNREGS in the North-eastern States with Kerala revealed that all the States have statistically same level of growth rate in the amount spent, as the significance level of t test in all the States are greater than 0.05.

**Table 17 Amount spent (In Lakhs) for the completed works under MGNREGS in different States of Northeast India with slope of the trend curve and its comparison with that of Kerala**

Number	Amount	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	Total		Comparison with Kerala (slope =0.415, SE = 0.091)	
									Slope	SE	t	Sig.

Arunachal Pradesh	Actual	191.11	267.92	441.54	2999.8	5415	11089.48	17383.12	0.424	0.083	0.065	0.949
	Standardised	-0.791	-0.780	-0.753	-0.365	0.003	0.865	1.821				
Assam	Actual	22552.52	30688.79	30188.32	41573.27	42734.76	65677.41	78703.03	0.439	0.066	0.205	0.842
	Standardised	-1.078	-0.680	-0.704	-0.147	-0.091	1.032	1.669				
Manipur	Actual	20142.88	36982.87	11603.52	24552.28	20894.05	28849.38	29979.81	0.098	0.202	1.435	0.182
	Standardised	-0.558	1.497	-1.600	-0.020	-0.466	0.505	0.643				
Meghalaya	Actual	31598.99	16226.98	16387.19	28918.52	24536.16	69156.12	91100.34	0.361	0.129	0.348	0.735
	Standardised	-0.280	-0.812	-0.806	-0.373	-0.525	1.019	1.778				
Mizoram	Actual	16472.5	17138.31	26757.69	11467.51	28976.62	12014.13	17018.18	-0.034	0.206	1.998	0.074
	Standardised	-0.305	-0.207	1.207	-1.041	1.533	-0.961	-0.225				
Nagaland	Actual	14371.4	29591.51	13406.26	15258.35	18526.81	59374.58	81366.85	0.354	0.133	0.385	0.708
	Standardised	-0.701	-0.132	-0.737	-0.667	-0.545	0.980	1.802				
Sikkim	Actual	2582.98	2688.04	4767.79	7560.17	9275.2	10882.58	12931.18	0.458	0.03	0.438	0.670
	Standardised	-1.150	-1.124	-0.611	0.079	0.502	0.899	1.405				
Tripura	Actual	68282.91	89368.39	96525.12	77384.56	118938.4	94730.58	88429.29	0.209	0.185	1.004	0.339
	Standardised	-1.391	-0.072	0.375	-0.822	1.777	0.263	-0.131				
Total	Actual	176195.3	222952.8	200077.4	209714.5	269297	351774.3	416911.8	0.421	0.086	0.040	0.969
	Standardised	-0.985	-0.459	-0.716	-0.608	0.061	0.988	1.720				

Source: MGNREGS Official Website

Cost per work under MGNREGS in North-eastern States presented in the Table 18 depicts that Nagaland, Manipur and Meghalaya are having the highest level of cost per work, the average cost per work of these States is 3.849, 3.674 and 3.491 lakhs respectively. The lowest cost per work is recorded in Tripura, with a cost of 0.904 lakhs. The comparison of cost per work of North-eastern States with Kerala revealed that all the States have significantly higher cost per work when compared to Kerala as the significance level of t test computed in all these States are less than 0.05.

**Table 18 Cost per work (In Lakhs) under MGNREGS in different States of Northeast India**

States	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	Total		Comparison with Kerala ( $\mu=0.781$ , $\sigma = 0.074$ )	
								Mean	SD	t	Sig.
Arunachal Pradesh	2.275	2.392	2.044	3.096	2.331	2.205	2.636	2.426	0.32088	12.236	0.000
Assam	1.494	1.128	1.045	2.128	2.673	3.156	1.492	1.874	0.744554	3.578	0.004
Manipur	3.12	4.426	4.451	5.25	2.38	3.035	3.058	3.674	0.957835	7.376	0.000
Meghalaya	3.046	2.7	3.477	4.112	2.566	4.303	4.233	3.491	0.684009	9.648	0.000
Mizoram	3.973	3.323	4.454	1.628	3.735	1.582	1.125	2.831	1.248726	4.014	0.002
Nagaland	4.247	4.445	4.064	3.065	1.346	4.31	5.467	3.849	1.211254	6.193	0.000
Sikkim	1.657	1.491	2.414	3.702	2.998	4.128	3.819	2.887	0.983485	5.230	0.000
Tripura	0.997	1.053	0.872	0.695	0.844	0.994	0.874	0.904	0.112221	2.241	0.045

Source: MGNREGS Official Website

**Interpretations**

The deliberations on the comparison of number of works completed, amount spent, and cost per work under MGNREGS in Kerala with other States in India exposed that growth in the number of works completed depicted a homogenous pattern with that of Kerala in majority of the States

(26 States) in India. Similarly, the amount spent for works also shows high levels of homogeneity (28 states) with that of Kerala. In contradiction to the study by Shah & Jose (2009) which mentioned that there is no inverse relationship between number of completed works and average cost per work the present analysis of cost per work in the states indicates that there is no direct relationship between growth in the number of completed works and cost per work under MGNREGS. The experience of Kerala itself confirms the above argument. It is worth mentioning that the cost per work in more than 50 percent of Indian States is higher than that of Kerala. From the above analysis, it can be concluded that there is significant variation across States in implementation of MGNREGS works.

In order to determine the works performance of MGNREGS in Kerala, three aspects of performance were taken and compared with 28 States in India. The comparison was mainly made on 84 points representing 28 States in three aspects. Table 22 presents the distribution of other States by their level of performance compared to Kerala.

**Table 32 Distribution of other States by their level of performance compared to Kerala**

Aspects of performance	Level of performance of other States compared to Kerala			Total
	Greater	Equal	Less	
Number of works	0	25	3	28
Amount spent	0	27	1	28
Cost per work	16	8	4	28
Total	16	60	8	140
Percentage	17.14	59.29	23.57	100.00
	42.10526		57.89474	
Z	1.191			
Sig.	0.234			

Source: MGNREGS Official Website

Above table confirms that out of 28 States, the performances of 25 States in number of completed works were equal with Kerala and three of the States have lesser performance in this regard. Similarly, in the case of amount spent, no one is greater than Kerala but 27 equals and

one lesser in this respect. As far as cost per work is concerned, the performance of 16 States is greater and 8 of them equal and 4 of them have lesser performance. From the result it can be concluded that Kerala equals with 59.29 percent of the States and 17.14 percent of States have greater performance and 23.57 percent States have lesser performance. The equality of States having greater performance and lesser performance were tested with Z statistics. The analysis using Z test revealed that the performance of Kerala is not significantly better than other States in India.

### **Conclusion**

The discussions in this paper seek to ascertain the performance of MGNREGS in Kerala with respect to work implementation. The analysis revealed that significant variation subsists between the performance of Kerala and other States both in works performance and in the nature of works taken up under the scheme. Despite the favourable factors for better performance, it was found out that the performance of MGNREGS in Kerala was not better than other States in India. The analysis of nature of works exposed that Kerala has given less priority in undertaking more asset-oriented works when compared to other States. Therefore, the current pattern of work implementation under MGNREGS in Kerala should be carefully altered in tune with the aim of utilizing the scheme to its core so that the poor and the unemployed in the rural Kerala can gain from it and management of natural resources through productive works is possible. The regional variations noted in MGNREGS works performance indicates that the advantages of the scheme are not properly divided between all the regions in Kerala. Hence, a revisit into the process of work execution is to be made by the implementing authorities in accordance with the variations noted in different regions of the State.

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