

ROLE OF MGNREGA PROGRAMME IN DEVELOPMENT OF AGRICULTURE IN KARNATAKA: EMERGING ISSUES AND EVIDENCE

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ABSTRACT

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Agriculture is the one of the most important sectors in our economy as well as country. Most of the peoples have depended on agriculture works. Nowadays, agriculture contribution of towards GSDP has been continuously declined from 28.1 per cent in 1999-2000 to 14.7 per cent in 2014-15. The MGNREGA has become a world largest public wage employment programme. This scheme is also tool for inclusive growth and sustains agriculture. The present study explores the role of Mahatma Gandhi National Rural Employment Guarantee Programme in Development of Agriculture in Karnataka: Emerging Issues and Evidence. The study is mainly based on secondary data sources. The data has been taken from the year 2013-14 to 2018-19. In this study intended to know the agro-climatic zonal level MGNREGA towards contribution of agriculture development works and expenditure and also to know the status of agriculture productivity in terms of total area under cultivation, cropping intensity, irrigation intensity and food grain production and wage rate in Karnataka. As compared to the other years, the study found that in the year 2016-17 all category works and all zones has better performed and most of the works and utilization of fund have done in arid and coastal zone in Karnataka. As compared to the after MGNREGS implementation, on an average there has been increased total area under cultivation (124.39 in lakh, ha), cropping intensity (122.81 per cent), irrigation intensity (32.28 per cent) and food grains (117.53lakh tonnes). but drastically low in before MGNREGS implementation in Karnataka. Gender difference in agriculture field labour has been declined from 8 rupees in 2005-06 to 4 rupees in 2009-10, then it was increased from 5 rupees in 2010-11 to 44 rupees in 2014-15, it means high gender difference in agriculture wage rate. But MGNREGA it provides equal wage for male and female in rural Karnataka and India and also intervention of MGNREGS has to be hike agriculture wage rate. Therefore, the study suggests distribute equal expenditure on natural resource management works, water related and plantation works and to suitable steps towards timely work completion and convergence of MGNREGA with development programmes is should be ensured in respective all zones in Karnataka and India. To focus on productive assets and land development works for especially SCs/STs and small and marginal farmers should be given more priority and should be made to provide full 100 days employment to these households.

KEY WORDS: MGNREGA, Utilization of Fund, Agriculture, Wage rate and Employment.

1. INTRODUCTION

Agriculture is the one of the most important sectors in our economy as well as country. Most of the peoples have depended on agriculture works. Nowadays, agriculture contribution of towards GSDP has been continuously declined from 28.1 per cent in 1999-2000 to 14.7 per cent in 2014-15. In this context the centre and state government have taken number of programmes, in terms of to reduced agriculture vulnerability, climate risk, reduced in migration and

employment opportunity in agriculture off season. The most important inclusive growth scheme is known as the Mahatma Gandhi National Rural Employment Guarantee scheme has become a world largest wage employment programme. The MGNREGA scheme main objective of to enhancing the livelihood security of people in rural areas by assuring 100 days of wage-employment for every household whose adult members volunteer to do unskilled manual work in a financial year. The Act also seeks to produce durable assets to augment

land and water resources, improve rural connectivity and support the livelihood resource base of the rural poor. In this scheme (MGNREGS) works are mainly focused on land and water resources, which include: water harvesting and conservation, soil conservation and protection, irrigation providing and enhancement, renovation of traditional water bodies, land development work for (especially, SCs/STs and Small and Marginal farmers) and drought proofing. These MGNREGS works have the likely to create environmental benefits such as ground water recharge, soil, water and biodiversity conservation, sustaining food production, halting land degradation and building resilience to present climate risks such as moisture pressure, delayed rainfall, droughts and floods (Tiwari et al., 2011; MoRD, 2012). In this backdrop the present study to know the role of Mahatma Gandhi National Rural Employment Guarantee Programme through Agriculture Development in Karnataka.

2. REVIEW OF LITERATURE

Kareemulla et.al (2009) the study examines the rural livelihood and nature of soil and water conservation works under MGNREGS in Andhra Pradesh and India. the study finds out that in Andhra Pradesh most of the works are related to the around 80 per cent of soil and water related. The scheme has brought down the migration levels from about 27 per cent to only 7 per cent in the study villages. The MGNREGS earnings are being used mainly for food, education and health security. In the study area two thirds of the beneficiaries are farmers. The study has observed that soil and water conservation work in agricultural lands, especially in the rain fed areas need to be continued. Still, some works need structural changes for a better impact. **University of Agricultural Sciences, Bangalore (2009)**, in the study in four districts of Chitradurga, Davanagere, Shivamogga and Hassan of Karnataka has noted improvement in groundwater recharge to the tune of 1500 GPH to 2500 GPH and improvement in water table by 50 to 100 ft in all districts. Practice of double cropping has also been undertaken in all districts. **Harisha et.al (2011)**, this study has evaluated the impact of MGNREGA on income generation and labour supply in agriculture in one of the districts in central dry zone of Karnataka. Results have shown that the number of days worked in a year with the implementation of MGNREGA programme has significantly increased to 201 days, reflecting 16 per cent increase. Regression analysis has revealed that gender, education and family size of the workers are the significant factors influencing the worker's employment under the Program. The increase in income is to the tune of 9.04 per cent due to additional employment generated from MGNREGA. In the total income, the contribution of agriculture is the highest (63%), followed by non-agricultural income (29%) and MGNREGA income (8%). Implementation of MGNREGA works has led to labour scarcity to the tune of 53 per cent and 30 per cent for agriculture operations like weeding and sowing, respectively. There has been a decline in area for labour-intensive crops like tomato and ragi to the extent of 30 per cent due to MGNREGA implementation. A study conducted by the **Indian Institute of Science Bangalore (2013)** in Chitradurga district, Karnataka has found reduction in water vulnerability index, agriculture vulnerability, livelihood vulnerability index. There has been an increase in groundwater level, water percolation and improvement in soil fertility. These in turn have led in improvement of land productivity.

3. OBJECTIVES OF THE STUDY

1. To Know the Employment Generation and Wage Earned in Different Category Wise Works under MGNREGS in Karnataka.
2. To Analyze The Agro-Climatic Zonal Wise Expenditure on Agriculture and Allied Sector under MGNREGS in Karnataka
3. To Examine the Impact of MGNREGS on Agriculture Productivity and Wage Rate in Karnataka.
4. To Offer Policy Suggestion to Sustainable Development Agriculture Under MGNREGA Programme.

4. METHODOLOGY OF THE STUDY

The present study is based on secondary data collected from various sources like www.mgnrega.nic.in and Directorate of Economics and statistics Govt of Karnataka 2013-14 to 2018-19. The districts are classified based on agro-climatic zones like Arid, semi-arid, Coastal and Irrigated. The MGNREGA activities are classified into three type like, Natural Resource Management (NRM) works, Water Related works and Plantation works. The simple statistical tools used like, Percentage, Average and Ratio. The study to know the Agro-climatic zonal wise performance of MGNREGS towards agriculture development works and expenditure and also in this study classified two sub period like, before and after MGNREGA implementation to understand the status of agriculture wage rate and productivity, in terms of cropping intensity, irrigation intensity, total cultivated area and food grain production in Karnataka.

5. RESULT AND DISCUSSION

5.1. Employment Generation and Total Wage Earned in Different Category Wise Works Under MGNREGS in Karnataka (2013-14 and 2017-18)

The MGNREGA programme has provision for land development works, irrigation facilities to SCs/STs/IAY/LR, water conservation, Irrigation canals, renovation of traditional water bodies, flood control and rural connectivity. These are main works for the development of agriculture and livelihood security of who have socially deprived class and also small and marginal farmers. The table-1 shows that the percentage of employment generation and total wage earned from different works under MGNREGA in Karnataka during 2013-14 and 2017-18. In the year 2013-14 Irrigation facility to SCs/STs/IAY/LR works has respectively, 12.27 per cent of household has worked, 10.57 per cent of person days generated and 7.82 per cent of wage earned, but then it was increased in the year 2017-18 respectively, 36.02 per cent of household has worked, 37.53 per cent of person days generated and 37.68 per cent of wage earned. Similarly, in the year 2013-14 the rural drinking water works has registered highest household worked (13.24 per cent), man day's generated (7.18 per cent), but least total wage earned (6.33 per cent), then it was declined to household worked (0.25 per cent), man day's generated (0.16 per cent) and total wage earned (0.15 per cent) has continuously decreased. The study found that most of the household, generated person days and total wage earned from related agriculture works, like, Rural Connectivity, Irrigation Facilities to SC/ST/IAY/LR, Water Conservation and Renovation of Traditional Water Bodies etc. Flood Control, Land development, Drought Proofing, Water, Irrigation Canals, Fisheries, BNRGSK, Coastal Areas, Rural Sanitation, Rural Drinking water and Other works these works are registered drastically low in Karnataka.

Table no 1: Employment Generation and Household Earned total wage in different Category wise works under MGNREGA in Karnataka (in %)

Work Category	2013-14			2017-18		
	Household	Persondays	Total wage Earned	Household	Persondays	Total wage Earned
Rural Connectivity	17.12	20.18	19.09	15.93	16.36	16.31
Irrigation Facilities to SC/ST/IAY/LR	12.27	10.57	7.82	36.02	37.53	37.68
Flood Control	11.69	13.62	15.28	9.18	9.53	9.54
Water Conservation	11.08	13.41	14.95	14.58	14.39	14.26
Land development	9.67	9.94	10.61	4.92	4.23	4.25
Drought Proofing	9.04	8.30	8.28	4.68	4.56	4.69
Renovation of Traditional Water Bodies	6.65	7.17	7.11	8.63	8.34	8.25
Irrigation Canals	5.27	5.14	5.57	3.69	3.31	3.24
Fisheries	0.40	0.37	0.38	1.00	0.62	0.63
Rural Drinking Water	13.24	7.18	6.33	0.25	0.16	0.15
BNRGSK	0.59	0.62	0.69	0.26	0.23	0.23
Coastal Areas	0.03	0.02	0.01	0.00	0.00	0.00
Rural Sanitation	0.08	0.09	0.07	0.04	0.03	0.03
Other works	2.87	3.39	3.81	0.82	0.70	0.72
Total	100	100	100	100	100	100

Source: www.mgnrega.nic.in

5.2. Zonal Wise Expenditure on Agriculture and Allied Sector under MGNREGS in Karnataka (2013-14 to 2018-19)

The Centre has made mandatory that 60 percent of work undertaken in a district under MGNREGS is should be linked to agriculture. in this context the study to know the act has maintained 60 per cent work related to agriculture and allied works by the years. The data provide in table 2 shows that the agriculture and allied works expenditure was highest (78.15 per cent) and also highest 40.77 per cent of expenditure on irrigation works was in 2016-17. The total expenditure was

highest 335750.7 lakh in 2017-18. In the year 2013-14 the expenditure on agriculture and allied works 63.41 percent and 39.83 per cent of expenditure on irrigation works. As compared to the 2018-19, 57.60 per cent of expenditure on agriculture and allied followed by 27.68 per cent of expenditure on irrigation works. the fund utilization has highest found 105.1 per cent in 2017-18, but least 73.4 per cent is recorded in 2014-15. As compared to the overall year the total available fund has highest 330508 lakh in 2018-19 but its data as on 12th January 2019.

Table no.2 Percentage of Total Expenditure on Agriculture & Allied Works under MGNREGS in Karnataka

years	Total Available Fund (in lakh)	Total Expenditure (in lakh)	% of Utilization Fund	% of Expenditure on Agriculture Works	% of Expenditure on Allied Works	% of Expenditure on Agriculture and Allied Works	% of Expenditure on Irrigation Works
2013-14	220185	182434	82.9	47.47	15.94	63.4	39.8
2014-15	182929	134195	73.4	50.43	10.56	61.0	31.6
2015-16	194789	185559	95.3	63.45	12.30	75.8	36.6
2016-17	321048	321319	100.1	66.49	11.66	78.2	40.8
2017-18	319486	335750	105.1	63.04	10.16	73.2	39.2
2018-19*	330508	278843	84.4	54.84	2.76	57.6	27.7

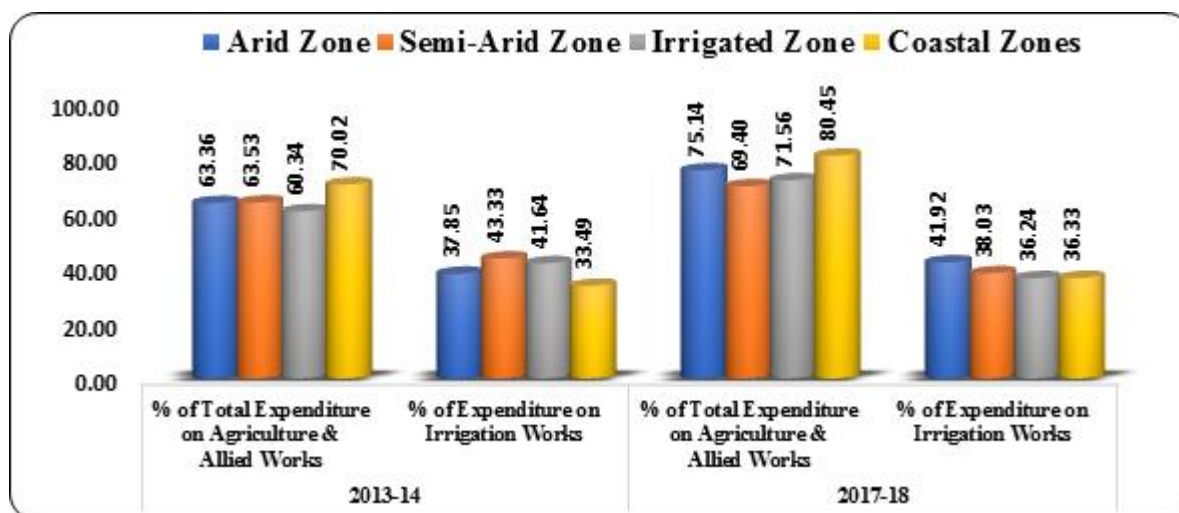
Source: www.mgnrega.nic.in

Note: *(Data as on 12th January 2019).

Agriculture sector is the main factor for economic growth. Nowadays, agriculture contribution for GSDP has been continuously decreased from 28.1 per cent in 1999-2000 to 14.7 per cent in 2014-15. The govt have taken new initiative of convergence for other development programmes into the MGNREGA Scheme for the betterment of the agriculture development in rural Karnataka and India. For the propose of sustain agriculture product and self-reliance. 60 per cent of works should be related to agriculture. In this scheme there are so many works have taken like, water conservation and management, land development, micro irrigation, flood control and so on. same of the important studies have find out MGNREGS scheme has positive impact on agriculture

development. in terms of increase in ground water, change in cropping pattern, etc. in this context the figure-1 illustrated that zonal level expenditure on agriculture and allied works and irrigation works under MGNREGS in Karnataka during 2013-14 and 2017-18. In coastal zone has highest expenditure on agriculture and allied woks has been increased from 70.02 per cent in 2013-14 to 80.45 per cent in 2017-18, as compared to the other zones, but least expenditure on irrigation followed by in arid zone 37.85 per cent in 2013-14 to 75.14 per cent in 2017-18, in semi-arid zone 43.33 per cent in 2013-14 to 69.40 per cent in 2017-18 and in irrigated zone 41.64 per cent in 2013-14 to 71.56 per cent in 2017-18.

Figure No.1 Zonal wise Percentage of Total Expenditure on Agriculture & Allied Works under MGNREGA in Karnataka

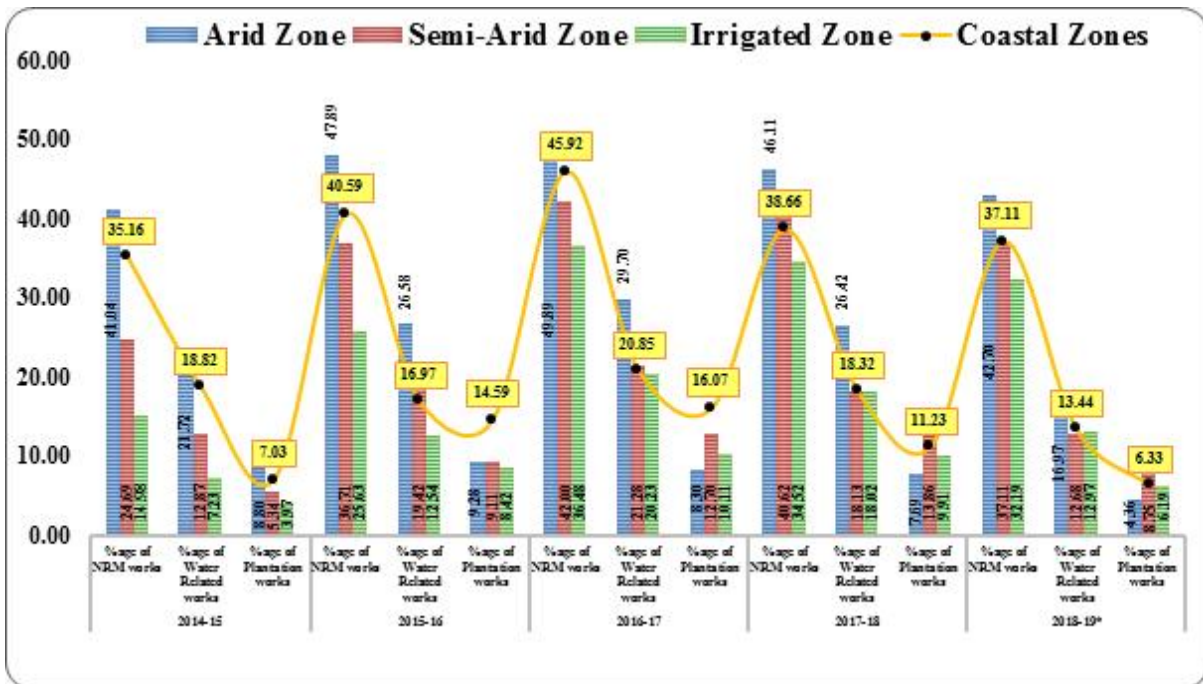


Source: www.mgnrega.nic.in

MGNREGA programme activities are classified into three types like, natural resources management (NRM) works, water related works and plantation works. These activities were found to reduce the vulnerability of agriculture production, water resources and livelihoods to uncertain rainfall, water scarcity and soil fertility. The figure-2 shows that percentage of zonal wise category works against total works taken under MGNREGA in Karnataka during 2014-15 to 2018-19. As compared to the other years, the study found that in the year 2016-17 all category works and all zones has better performed and most of the works have done in arid and coastal zone in Karnataka. The overall years on an average

percentage of NRM works has highest found 45.53 per cent in arid zone respectively, 39.49 per cent in coastal zone, 36.22 per cent in semi-arid zone, but least 28.76 per cent in irrigated zone. In the same period on an average percentage of water related works has recorded 24.28 per cent arid zone followed by, 17.68 per cent in coastal zone, 16.87 per cent in semi-arid zone, but low 14.20 per cent in irrigated zone. Similarly, the plantation works has highest found 11.05 per cent in coastal zone followed by 9.95 per cent in semi-arid zone, 7.69 per cent in irrigated zone, but least works found 7.69 per cent in arid zone. Therefore, the study suggests to plan and distribute equal works respective all zones. Because of these are most important resources of safe livelihood and reduce agriculture vulnerability.

Figure No.2 Percentage of Zonal wise category works under MGNREGA in Karnataka (2014 to 2019)



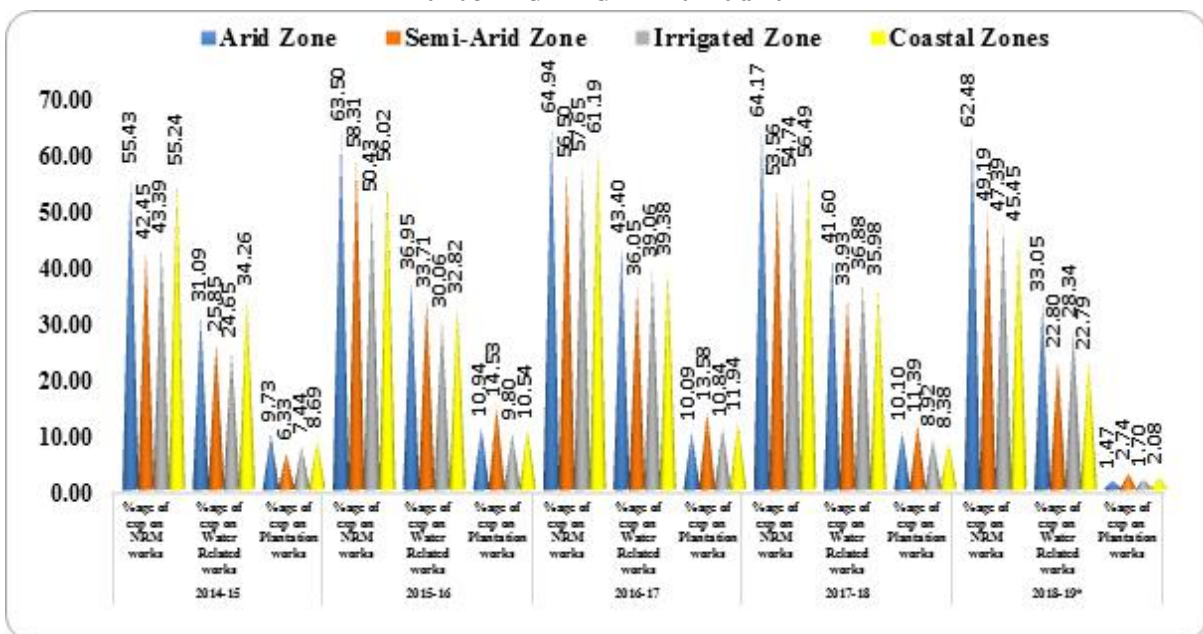
Source: www.mgnrega.nic.in

Note: *(Data as on 12thJanuary 2019).

The figure-3 shows that percentage of zonal wise category works against total works taken under MGNREGA in Karnataka during 2014-15 to 2018-19. As compared to the other years, the study found that in the year 2016-17 the expenditure on all category works and all zones has better performed and more expenditure on all works have utilized in arid and coastal zone in Karnataka. The overall years on an average percentage of expenditure on NRM works has highest found 62.10 per cent in arid zone respectively, 54.88 per cent in coastal zone, 52 per cent in semi-arid zone, but least 50.72

per cent in irrigated zone. In the same period on an average percentage of expenditure on water related works has recorded 37.22 per cent arid zone followed by, 33.05 per cent in coastal zone, 31.80 per cent in irrigated zone, but low 30.47 percent in semi-arid zone. Similarly, the percentage of expenditure on plantation works has highest found 9.71 percent in semi-arid zone, followed by 8.47 per cent in arid zone, 8.33 per cent in coastal zone, but least works found 7.74 per cent in irrigated zone. Therefore, the study suggests to distribute equal expenditure respective all zones in Karnataka.

Figure no.3 percentage of Zonal wise Expenditure on Major category works against total works under MGNREGA in Karnataka



Source: www.mgnrega.nic.in

Note: *(Data as on 12thJanuary 2019).

5.3. Impact of MGNREGS on Agriculture Productivity and Wage Rate in Karnataka (2001-02 to 2014-15).

The status of agriculture productivity in Karnataka in terms of changing in cropping pattern, area under cultivation, irrigation intensity, food grains production and so on. The govt have taken new initiative of convergence for other development programmes into the MGNREGS Scheme for the betterment of the agriculture development in rural Karnataka and India. For the propose of sustain agriculture product and self-reliance. Therefore, 60 percent of works should be related to agriculture. Mainly works are classified

into two type like, Natural Resource Management, Water related works and plantation works. the table-4 reveals that the study divided into two periods like, before MGNREGS and After MNGREGS. As compared to the after MGNREGS implementation, on an average there has been increased total area under cultivation (124.39 in lakh, ha), cropping intensity (122.81 per cent), irrigation intensity (32.28 per cent) and food grains (117.53lakh tonnes). but drastically low in before MGNREGS implementation in Karnataka. In terms of total area under cultivation, cropping intensity, irrigation intensity and food grain production.

Table No.4 Status of Agriculture productivity in Karnataka (2002 to 2015)

Years	Total Cultivated Area (in lakh hectares)	Cropping Intensity (%)	Irrigation Intensity (%)	Total Food Grains (lakh tonnes)
2000-01	122.84	118	27.0	109.6
2001-02	116.7	116	26.0	86.97
2002-03	115.32	117.2	25.0	66.64
2003-04	114.5	116.3	24.0	65.62
2004-05	128.07	122	26.0	104.91
2005-06	130.27	124	28.0	115.35
Before MGNREGS 2002 to 2006 (Average)	121.28	118.92	26.0	91.52
2006-07	124.38	123.1	29.0	93.3
2007-08	128.93	123.7	29.0	120.49
2008-09	123.68	121.6	32.0	111.34
2009-10	128.73	123.7	32.0	108.04
2010-11	130.62	124.1	33.0	137.91
2011-12	120.59	124.1	34.0	117.69
2012-13	117.48	120	34.5	109.64
2013-14	122.67	124	33.0	133.1
2014-15	122.47	121	34.0	126.22
After MGNREGS 2006 to 2015 (Average)	124.39	122.81	32.28	117.53

Source: Annual Season & Crop Reports of <http://des.kar.nic.in>

As a rural wage employment programme, the architects of MGNREGA recognized the need for incorporating gender equity and empowerment of women in its design. Various provision under the Act and its guidelines, aim to ensure that women have equitable and easy access to work, decent working conditions, equal payment of wages and representation on decision making bodies. It is likely to have good impact on the economic and social empowerment of women. It is likely to reduce traditional gender wage discrimination, even in open market, so the impact of MGNREGS on gender difference in market wage rates was analysed. Table-5 in this table shows

that gender wise average agriculture wage rate for filed labour and MGNREGA wage rate in Karnataka during 2005-06 to 2017-18. The average agriculture field labour wage rate of male and female and MGNREGA wage rate has been continuously increased, but gender difference in agriculture field labour has been declined from 8 rupees in 2005-06 to 4 rupees in 2009-10, then it was increased from 5 rupees in 2010-11 to 44 rupees in 2014-15, it means high gender difference in agriculture wage rate. But MGNREGA it provides equal wage for male and female in rural Karnataka and India and also intervention of MGNREGS has to be hike agriculture wage rate.

Table No. 5 Average Agricultural Wage Rate for Filed Labour and MGNREGA wage rate in Karnataka

years	Male	Female	M-F	M/F	MGNREGA Wage Rate
2005-06	68	60	8	1.13	63
2006-07	72	68	4	1.06	63
2007-08	78	74	4	1.05	63
2008-09	114	110	4	1.04	82
2009-10	115	111	4	1.04	100
2010-11	130	125	5	1.04	125
2011-12	171	152	19	1.13	125
2012-13	181	161	20	1.12	155
2013-14	224	202	22	1.11	174
2014-15	279	235	44	1.19	191
2015-16	272	245	27	1.11	204
2016-17	NA	NA	0	0	224
2017-18	NA	NA	0	0	236

Source: Agriculture Census 2015-16 & www.mgnrega.nic.in

Note: 'M-F' is the difference between Male and Female wage rate and 'M/F' is the ratio of Male wage rate and Female wage rate and 'NA' (Not available).

6. FINDINGS AND SUGGESTIONS

1. Findings

- ✓ As compared to the other years, the study found that in the year 2016-17 all category works and all zones has better performed and most of the works have done in arid and coastal zone in Karnataka.
- ✓ As compared to the other years, the study found that in the year 2016-17 the expenditure on all category works and all zones has better performed and more expenditure on all works have utilized in arid and coastal zone in Karnataka.
- ✓ As compared to the after MGNREGS implementation, on an average there has been increased total area under cultivation (124.39 in lakh, ha), cropping intensity (122.81 per cent), irrigation intensity (32.28 per cent) and food grains (117.53lakh tonnes).but drastically low in before MGNREGS implementation in Karnataka.
- ✓ The average agriculture field labour wage rate of male and female and MGNREGA wage rate has been continuously increased, but gender difference in agriculture field labour has been declined from 8 rupees in 2005-06 to 4 rupees in 2009-10, then it was increased from 5 rupees in 2010-11 to 44 rupees in 2014-15, it means high gender difference in agriculture wage rate. but MGNREGA it provides equal wage for male and female in rural Karnataka and India and also intervention of MGNREGS has to be hike agriculture wage rate.

2. Suggestions

- To awareness about MGNREGA in gross root level and to provide more employment opportunity for every poor rural household in general Karnataka and India.
- The MGNREGA beneficiaries are poor and vulnerable section of the society, wage is the main source of income. Therefore, timely payment of wage to workers as mandated in the act should be ensured.

- To increase the from Rs. 236 to Rs.300 wage rate of MGNREGA and it is possible tool for reduce gender wage discrimination and migration in rural Karnataka and India.
- To focus on productive assets and land development works for especially SCs/STs and small and marginal farmers should be given more priority and should be made to provide full 100 days employment to these households.
- Nowadays, agriculture is suffering from vulnerability of agricultural production, lack of water resources and livelihoods to uncertain rainfall, water scarcity and poor soil fertility. Therefore, in MGNREGA programme should to be focus on natural resource management works, water related works and plantation.
- Therefore, the study suggests distribute equal expenditure and to suitable steps towards timely work completion and convergence of MGNREGA with development programmes is should be ensured in respective all zones in Karnataka and India.

7. CONCLUSION

The MGNREGA programme has become a world largest public wage employment and as well as rural development programme in rural India. in Karnataka same important empirical evidence denotes that the MGNREGA programme is generating multiple environmental and socio- economic benefits, landing to improved water availability and soil fertility resulting increased crop production, increased area under plantation and reducing vulnerability of agriculture production and livelihoods in rural Karnataka. Nowadays, agriculture is suffering from vulnerability of agricultural production, lack of water resources and livelihoods to uncertain rainfall, water scarcity and poor soil fertility. Therefore, in MGNREGA programme should to be focus on natural resource management works, water related works and plantation. To focus on productive assets and land development works for especially SCs/STs and small and marginal farmers should be given more priority and should be

made to provide full 100 days employment to these households. Therefore, the study suggests distribute equal expenditure and to suitable steps towards timely work completion and convergence of MGNREGA with development programmes is should be ensured in respective all zones in Karnataka and India.

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