



ISSN: 2230-9926

Full Length Research Article

**SOCIO-ECONOMIC IMPACT ANALYSIS OF MAHATMA GANDHI NATIONAL RURAL
EMPLOYMENT GUARANTEE SCHEME IN ANDHRA PRADESH: A TOOL FOR
ENHANCING THE LIVELIHOOD SECURITY IN RURAL AREAS**

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ARTICLE INFO

Article History:

Received 07th July, 2013

Received in revised form

04th August, 2013

Accepted 20th September, 2013

Published online 04th October, 2013

Key words:

Framework,
Economic crisis,
Economic hold back,
MGNREGS,
Employment opportunities.

ABSTRACT

In the framework of inclusive economic crisis and economic hold back, providing livelihood security to the people is the major challenging task. In the instigation of the 21st century, 260 million people in the country did not have income to meet their both ends. India is home to 25 per cent of the world's poor, of which 75 per cent were in the rural areas. Thus, the present paper aims to study the impact of Mahatma Gandhi National Rural Employment Guarantee scheme on livelihood security of people in rural areas of Andhra Pradesh. The study area was confined to Mahabubnagar and Anantapur districts of Andhra Pradesh with sample respondents of 240 using multiple random sampling technique. The results reveals that, it was attractive to make a note of that agricultural labour accounts for major share in the participation of MGNREGS works in all the two selected districts viz., Mahabubnagar district with 48 per cent and 47 per cent in Anantapur. In case of social category, the results reveals that, the SC & ST population is showing much interest in attending MGNREGS works compared to other social categories. However, this trend is altogether reverse with reference to non- beneficiaries. Apart from these aspects, the study also noticed that, there was low participation of men labour (about 45 per cent in all the selected districts) in the allotted MGNREGS works can be attributed to the fact that they show much interest in other lucrative earning opportunities rather than the works under MGNREGS. However, there was a significant positive impact on promotion in generation of employment opportunities to the rural poor from the activities identified under MGNREGS programme in the study area. Hence study opinions that, After MGNREGS there was a significant impact regarding the assets creation both in terms of number and value in all the selected districts and this contributed to works creating more number of man working days of employment. Thus government should focus on more in this kind of programme to create livelihood security in nation especially in rural areas.

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INTRODUCTION

In the country, many attempts were made in the direction of wage employment programmes over the years to provide employment opportunity and to eradicate the poverty among the poor people; prominent among them are Food for Work (FFW) (1977), National Rural Employment Programme (NREP) (1980) Rural Landless Employment Guarantee Programme (RLEGP) (1983), etc., The NREP and RLEGP

were merged under Jawahar Rojgar Yojana (JRY) in 1989 to generate meaningful employment opportunities for the unemployed and underemployed in rural areas through the creation of economic infrastructure besides community and social assets. In this situation, the Government has proposed an innovative Mahatma Gandhi National Rural Employment Guarantee Act on 7th September 2005, which is altogether different from the earlier employment schemes in the context of demand driven approach rather than supply driven approach. This MGNREG Act is historic and unique legislation reiterating government's commitment towards promoting livelihood security in rural areas with a promise of

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providing at least 100 days of guaranteed wage employment in a financial year. So far, significant progress has been achieved under MGNREG Act, as revealed by the facts that, nearly half a million worth of assets were created and nearly three percent of India's population were provided with a guaranteed employment by the end of 2010-11 with a Cumulative number of household issued job cards were 119824438, number of households who have demanded employment were 55763244, number of households provided employment were 54954225, person days were 25715.25 lakhs with SCs 7875.65 lakhs, STs 5361.8 lakhs and others were 12477.8 lakhs, funds available ₹ 5264889.48, central release (sanctioned) were 1038287.82, expenditure was ₹ 3937727.03, works ongoing 2496763, works completed 2585824, and total works were 5082587. (www.nrega.nic.in)

In country like India, where labour market is diversified due to the poor physical and social capital base, a large proportion of people are forced to seek employment in vocations with extremely low levels of productivity and wages. Migration of labour, discrimination in wages paid to men and women, distressed child labourer etc., are the common features of rural labour market. There arises a need to take care of the wage employment needs of the rural poor. The creation of employment opportunities for unskilled workforce has been a major challenge for development planners and administrators in macro view it leads to a livelihood security in the nation. With this back drop the present papers aims to study the impact of Mahatma Gandhi National Rural Employment Guarantee scheme on livelihood security of people in rural areas of Mahabubnagar and Anantapur districts of Andhra Pradesh.

METHODOLOGY

The present study was undertaken in the Anantapur and Mahabubnagar districts in Andhra Pradesh state during the year 2010-2011 using multiple random sampling technique. Agriculture is the predominant activity in these districts of Andhra Pradesh. For this study, three mandals from each district, from each mandal two villages were selected based on highest expenditure incurred and total works completed under MGNREGS Programme. From 2 districts 120 beneficiaries were selected randomly. An equal number of non-beneficiaries from the same village or nearby villages were also selected randomly as control group to study the impact of MGNREGS. Thus the total sample respondents selected for the study were 120 respondents in each district (60 beneficiaries and 60 non-beneficiaries). The grand totals of total respondents are 240. To study the impact of socio-economic parameters like employment, income, expenditure and savings of the respondents before and after the implementation of MGNREGS, the technique used for testing the equality of means is paired 't'-test. Employment of sample workers before the Programme was accounted by adding the number of person days of work employed on their own farm and also outside the farm (Agriculture labourers, Construction work, Painting, Carpentry work) and this was compared with their level of employment after the Programme by adopting paired t-test. The income of the sample workers before and after the Programme was calculated accordingly and the impact of MGNREGS on savings and expenditure of beneficiaries was compared using the paired t-test given by equation:

$$t = \frac{|\bar{d}|}{S/\sqrt{n}} \sim t_{n-1} \text{ d.f.}$$

$$\bar{d} = \sum d_i/n,$$

$$\text{and } S = \sqrt{\frac{1}{n-1} \left[\sum d^2 - \frac{(\sum d)^2}{n} \right]}$$

$$d_i = x_i - y_i \quad (i = 1, 2, \dots, n)$$

where

$$S = \sqrt{\text{variance of the deviations}}$$

$$n = \text{sample size; where } d_i = x_i - y_i$$

If calculated value of $t <$ table value of t for $(n-1)$ d.f. at 5% level of significance, then the null hypothesis is accepted and hence we conclude that the two samples may belong to the same population. Otherwise, the null hypothesis is rejected.

For calculating Real wages

To compare the impact on real wages with the implementation of the MGNREGS, the money wages of 2005-06 and 2010-2011 were deflated by the respective year's consumer price index of agricultural labourers.

$$\text{Real wages} = \frac{\text{Money wages}}{\text{CPI of agricultural labourers}} \times 100$$

RESULT AND DISCUSSION

SOCIO ECONOMIC PROFILE OF MGNREGS BENEFICIARY RESPONDENT S1

Gender wise participation of Respondents

The registered MGNREGS workers along with non-beneficiaries were studied with reference to gender and social categories in the selected districts. The data presented through Table 1 revealed the following interesting aspects. In all the selected districts, among the beneficiaries category, women's participation was higher (average 55 per cent) over men's participation which was due to the fact that the MGNREGS programme emphasizes 33 per cent reservation to women participation in allotted works. Women participation was 22 per cent higher than the statutory stipulated rate of 33 per cent in the allotted works, which further infers that women show much interest in participation of works in the local areas for their livelihood security. The low participation of men labour (about 45 per cent in all the selected districts) in the allotted MGNREGS works can be attributed to the fact that they show much interest in other lucrative earning opportunities rather than the works under MGNREGS. The works allotted under MGNREGS are best suited for women beneficiaries as they involve less drudgery and they can be completed easily well in the scheduled time.

Social category wise participation of Respondents

Regarding social category wise participation of labour in the works under MGNREGS programme, there enlists a significant comparative picture between SC & ST beneficiaries vis-à-vis other beneficiaries. It is interesting that the SC & ST population is showing much interest in attending MGNREGS works compared to other social categories. However, this trend is altogether reverse with reference to non- beneficiaries. The informal discussion held with the beneficiaries and non-beneficiaries and also with the officials executing MGNREGS works revealed that there is no limit regarding the number of days of participation in the allotted works for SC & ST beneficiaries under MGNREGS programme, whereas the same is restricted to 100 days for BC & OC beneficiaries. Regarding non-beneficiary category SC & ST members occupy meager share compared to BC and other categories, as BC & OC categories are enjoying other alternative employment opportunities both in the local area and in distant areas as well. The participation rate of the SC and ST was 35 and 29 per cent respectively among the respondents (Table 1).

Socio economic characteristics of the respondents

The socio economic characteristics including (the income profile, extent of involvement in MGNREGS works, family expenditure pattern etc.) of the respondents in all the selected districts have been studied, and the details are shown through Table 2. The average family size of beneficiary category was 4.78 as against 4.18 in non-beneficiary category. The average age of Household head participating in MGNREGS works is slightly above 47 years in all the selected districts whereas the same under non participant category is around 37 years. This shows that both large family size and higher age of the head of the household influence the participation of workers under MGNREGS works. This was due to the fact that large family size compels them for regular employment and the less drudgery works under MGNREGS activity make the elderly persons to participate in MGNREGS programme.

It is interesting to note that agricultural labour accounts for major share in the participation of MGNREGS works in all the three selected districts viz., with 48 per cent in Mahabubnagar district and 47 per cent in Anantapur district. However, in non-beneficiaries category, reverse is the picture i.e., farmers do account for less participation compared to agricultural labour as farmers are practicing their own agribusiness activities. Education background of the beneficiaries seems to have profound influence on the participation of respondents in MGNREGS works. It was evident that 25.56 per cent of respondents participating in MGNREGS works were illiterate and 48 per cent were with primary education in all the selected districts. However, regarding non-beneficiaries' category, the respondents with education above primary level showed less interest in the participation of MGNREGS works. As evident from the dry land farmers actively participated in the MGNREGS works compared to irrigated farmers as dry land farmers do not have income surely from agribusiness activity. In case of non-beneficiaries category the farmers with irrigated land have assured income source from agribusiness and hence, they show less interest in the participation in MGNREGS works.

ENHANCING THE LIVELIHOOD SECURITY OF PEOPLE IN RURAL AREAS

Employment Details of Beneficiaries under MGNREGS in Anantapur and Mahabubnagar Districts of Andhra Pradesh

The main objective of implementing MGNREGS programme is to promote employment opportunities for rural people so as to ensure their livelihood security. Accordingly, under MGNREGS programme, different works have been identified by the government on prioritization basis in all the districts. Thus, employment is provided to several poor people to perform unskilled manual work. As evident from the results that there was altogether a significant positive impact on generation of employment opportunities to the rural poor from the activities identified under MGNREGS programme. As these activities are entirely new when compared to the earlier situation before implementation of MGNREGS programme and moreover these activities involve less drudgery and provide assured employment, there is a huge demand for these works among the rural poor. This rise in demand to work under the MGNREGS activities is further indicated by the drastic fall in the number of man days of employment both in agriculture and non-agricultural works. The results of employment details are presented in Table 3 & 4. As shown in the Table 3 the total employment in man days before MGNREGS was 174.23 days and after introduction of MGNREGS the employment days increased by 62.66 per cent to 283.40 days in Anantapur district. In Anantapur district sample beneficiaries derived 69 per cent of employment from agricultural works that was mainly due to paddy crop, followed by red gram sugarcane and cotton crops.

As indicated in the Table 3 the employment in agricultural work was reduced by 19 per cent after implementation of MGNREGS and it was more or less similar to employment generation in all the crops in that region, except chilli. The major crop paddy had shown reduced of employment generation of 20.78 per cent. The contribution of non-agricultural work in employment generation before MGNREGS was 31per cent, but after MGNREGS on an average 20 per cent of employment was curtailed. The sample respondents in the district obtained on an average 142.45 days of employment in MGNREGS. The major work they have done in the context of infrastructure of the district was dug out pond (39.13 days) followed by diversion drain (24 days). And the other important works were work site facilities, block plantation, mini percolation tanks, farm pond with OTG (Other Than Granite), cattle proof trench and medium bush clearance. In Mahabubnagar district (Table 4) the total employment days before MGNREGS was 177.04 man days. With the addition of 132 days of employment MGNREGS total employment days increased to 272 days. Agriculture was the major source of employment and provided around 120 days but after MGNREGS the total agricultural employment days reduced to 97 days, except in case of crops like of *groundnut* and *ragi*, while other farmers face the labour scarcity problem in the cultivation of crops in Mahabubnagar district. The worst affected crop was jowar where 55 per cent of labour employment generation was lost with high wage and labour scarcity. Non-agricultural works like construction, painting and carpentry work had faced the labour scarcity due to MGNREGS. Non-agricultural works as whole was

Table 1. Gender wise and social category wise distribution of MGNREGS respondents

S. No.	Gender Classes	Anantapur		Mahabubnagar	
		Beneficiaries (N=60)	Non-Beneficiaries (N=60)	Beneficiaries (N=60)	Non-Beneficiaries (N=60)
1	Men	27 (45)	42 (70.00)	28 (46.67)	41 (68.33)
2	Women	33 (55)	18 (30.00)	32 (53.33)	19 (31.67)
	Total	60 (100)	60 (100)	60 (100)	60 (100)
	Social category				
3	SCs	20 (33.33)	12 (20.00)	21 (35.00)	10 (16.67)
4	STs	16 (26.67)	4 (6.67)	18 (30.00)	6 (10.00)
5	BCs	13 (21.67)	25 (41.67)	12 (20.00)	26 (43.33)
6	Others	11 (18.33)	19 (31.67)	9 (15.00)	18 (30.00)
	Total	60 (100)	60 (100.00)	60 (100)	60 (100)

Note: Figures in parentheses indicate Percentage of total respondents

Table 2. Socio economic characteristics of the respondents

S. No.	Particulars	Anantapur		Mahabubnagar	
		Beneficiaries (N=60)	Non- Beneficiaries (N=60)	Beneficiaries (N=60)	Non- Beneficiaries (N=60)
1	Family size	4.90	4.30	4.60	4.21
2	Average age of the head of the household (Years)	48.50	38.40	47.29	35.33
3	Occupation				
I	Agriculture	19 (31.67)	53 (88.33)	21 (35)	51 (85)
II	Agricultural labour	28 (46.67)	3 (5.00)	29 (48.33)	2 (3.33)
III	Others	13 (21.67)	4 (6.67)	10 (16.67)	7 (11.67)
	Total	60 (100)	60 (100)	60 (100)	60 (100)
4	Education				
I	Illiterates	20 (33.33)	7 (11.67)	14 (23.33)	4 (6.67)
II	Primary education	25 (41.67)	16 (26.67)	30 (50)	13 (21.67)
III	High School	9 (15)	26 (43.33)	13 (21.67)	20 (33.33)
IV	Above High School	6 (10)	11 (18.33)	3.00 (5)	23 (38.33)
	Total	60 (100)	60 (100)	60 (100)	60 (100)
5	Average Owned cultivated area ha				
i	Dry	2.30 (63.16)	2.60 (47.10)	1.20 (63.16)	2.10 (49.18)
ii	Irrigated	0.90 (36.84)	2.92 (52.90)	0.70 (36.84)	2.17 (50.82)
	Total	3.20 (100)	5.52 (100)	1.9 (100)	4.27 (100)

Note: Figures in parentheses indicate Percentage of total respondents

Table 3. Impact of MGNREGS on employment of beneficiaries in Anantapur district

S. No.	Particulars	Before MGNREGS		After MGNREGS		Impact	
		Man days	Percent change	Man days	Percent	Difference between before & after	Percent change
I	Agricultural works	120.23	69.01	97.50	34.40	-22.73	-18.91
I	Paddy	38.12	21.88	30.20	10.66	-7.92	-20.78
II	Ground nut	27.20	15.61	23.12	8.16	-4.08	-15.00
III	Chilli	6.00	3.44	4.12	1.45	-1.88	-31.33
IV	Maize	7.30	4.19	6.00	2.12	-1.30	-17.81
V	Cotton	10.60	6.08	9.00	3.18	-1.60	-15.09
VI	Red gram	5.32	3.05	5.30	1.87	-0.02	-0.38
VII	Sugarcane	11.15	6.40	8.20	2.89	-2.95	-26.46
VIII	Onion	6.40	3.67	5.56	1.96	-0.84	-13.13
IX	Tobacco	8.14	4.67	6.00	2.12	-2.14	-26.29
II	Non-Agricultural works	54.00	30.99	43.45	15.33	-10.55	-19.54
I	Construction work	26.00	14.92	21.00	7.41	-5.00	-19.23
II	Painting	10.00	5.74	14.00	4.94	4.00	40.00
III	Carpentry work	18.00	10.33	18.45	6.51	0.45	2.50
III	MGNREGS WORKS	0.00	0.00	142.45	50.26	142.45	-
I	Rock Fill Dam	0.00	0.00	00.63	00.22	00.63	-
II	Work Site Facilities	0.00	0.00	13.75	4.85	13.75	-
III	Block Plantation (Labour Intensive)	0.00	0.00	11.20	3.95	11.20	-
IV	Mini Percolation Tank	0.00	0.00	12.00	4.23	12.00	-
V	Dugout pond	0.00	0.00	39.13	13.81	39.13	-
VI	Farm Pond with OTG variety stone	0.00	0.00	13.08	4.62	13.08	-
VII	Continuous Contour Trench	0.00	0.00	00.22	0.08	00.22	-
VIII	Cattle Proof Trench	0.00	0.00	13.98	4.93	13.98	-
IX	Medium Bush Clearance	0.00	0.00	8.43	2.98	8.43	-
X	Farm pond	0.00	0.00	6.02	2.12	6.02	-
XI	Diversion drain	0.00	0.00	24.00	8.47	24.00	-
	Total	174.23	100	283.40	100	109.17	62.66

Table 4. Impact of MGNREGS on employment of beneficiaries in Mahabubnagar district

S. No.	Particulars	Before MGNREGS		After MGNREGS		Impact	
		Man days	Per cent change	Man days	Per cent change	Difference between before & after	Per cent change
I	Agriculture works	119.56	67.53	96.78	35.54	-22.78	-19.05
i	Paddy	51.12	28.87	45.10	16.56	-6.02	-11.78
ii	Ground nut	11.45	6.47	12.04	4.42	0.59	5.15
iii	Red gram	7.13	4.03	6.07	2.23	-1.06	-14.87
iv	Cotton	14.02	7.92	7.00	2.57	-7.02	-50.07
v	Maize	9.30	5.25	10.14	3.72	0.84	9.03
vi	Sunflower	7.25	4.10	6.25	2.30	-1.00	-13.79
vii	Jowar	9.25	5.22	4.18	1.54	-5.07	-54.81
viii	Chilli	10.04	5.67	6.00	2.20	-4.04	-40.24
II	Non- Agricultural works	57.48	32.47	43.45	15.96	-14.03	-24.41
i	Construction work	27.20	15.36	20.17	7.41	-7.03	-25.85
ii	Painting	16.04	9.06	14.03	5.15	-2.01	-12.53
iii	Carpentry work	14.24	8.04	9.25	3.40	-4.99	-35.04
III	MGNREGS WORKS	0.00	0.00	132.07	48.50	132.07	-
i	Desilting and Silt application on lands owned by BPL families (or) Beneficiaries of Land reforms (or) Beneficiaries of IAY of GOI	0.00	0.00	24.2	8.89	24.20	-
ii	Stone Bund	0.00	0.00	12.40	4.55	12.40	-
iii	Work Site Facilities	0.00	0.00	13.03	4.79	13.03	-
iv	Field Channel	0.00	0.00	18.48	6.79	18.48	-
v	Land levelling in ordinary soil	0.00	0.00	13.72	5.04	13.72	-
vi	Juliflora Clearance	0.00	0.00	46.25	16.98	46.25	-
vii	Land Levelling in low lying Burial Grounds	0.00	0.00	0.93	0.34	0.93	-
viii	Land Levelling in Govt. Institutions	0.00	0.00	2.77	1.02	2.77	-
ix	Filling of Abandoned Wells	0.00	0.00	0.28	0.10	0.28	-
	Total	177.04	100	272.30	100	95.26	53.81

impacted negatively by 24 per cent. The major MGNREGS works were directed towards Juliflora clearance, field channel, desilting and silt application on land owned by BPL families or beneficiaries or land reform beneficiaries. The increase in the number of mandays of employment under MGNREGS outweighed the fall in the number of mandays in agricultural and non-agricultural works together. This contributed positive impact regarding the net increase in the number of man days due to the execution of MGNREGS. The net positive impact of MGNREGS regarding generation of employment opportunity was highest in Anantapur district (63 per cent) and Mahabubnagar district (54 per cent). This highlights an important finding that, the impact of MGNREGS on generation of employment opportunities varies positively with the backwardness of the district *i.e.*, Anantapur district being the most backward with reference to both agricultural and non-agricultural activities had benefited most when compared to Mahabubnagar district. The MGNREGS programme had significant negative effect on agricultural (25.32 per cent) and non-agricultural works (14.19 per cent) as revealed by the 't' test. Hence the hypothesis that the MGNREGS had negatively affected the availability of agricultural labour to agricultural and non-agricultural activities in the villages was accepted.

Impact of MGNREGS on wages of beneficiaries

Besides employment generation, MGNREGS had significantly contributed for the rise in labour wages to the beneficiaries

and this was illustrated in Table 5. The execution of works under MGNREGS has significantly raised the wages of both men and women labour across agricultural and non-agricultural sectors. With the advent of MGNREGS there was a significant shift of labour towards the works under MGNREGS and hence there was an acute agricultural labour shortage in the selected districts. However, as agricultural works were moderately managed by mechanized farm operations, this had slightly increased the demand for skilled men workers. So, these factors cumulatively increased the demand for women agricultural labour to perform farm operations and hence their wages were increased enormously when compared to that of men agricultural labour. These changes have both discussed in detail here under.

Anantapur district

In Anantapur district (Table 5), the money wages of agricultural works increased by 118 per cent, with 194 per cent increase in women money wages and 86.56 per cent increase in men money wages. Increase in women money wages was higher than men money wages by more than 107 per cent. The money wages of non-agricultural works also increased by 118 per cent with increase of men money wages by 123 per cent and women money wages by 107 per cent. The increase in men and women wages was statistically significant as revealed by significance of 't' test.

Mahabubnagar district

The money wages of agricultural works increased by 108.65 per cent in Mahabubnagar district (Table 5). With 129.52 per cent increase in women money wages and 97.75 per cent increase in men money wages. Increase in women money wages was higher than men money wages by more than 32 per cent. The money wages of non-agricultural works also increased by 122 per cent with increase of men money wages by 129 per cent and women money wages by 106 per cent. The increase in men and women wages was statistically significant as revealed by significance of 't' test. The analysis of impact of MGNREGS on wages of beneficiaries, revealed that before MGNREGS the wages were less calculated that, mainly due to the disguised employment. Implementation of MGNREGS created 100 days of additional employment to every household per financial year. It resulted in competition of wage rate and works. After implementation of MGNREGS the minimum wages had positively increased compared to before MGNREGA as revealed by significant 't' values, both for agricultural works and non-agricultural works. The real wages for agricultural and non-agricultural works also increased positively. Hence the hypothesis that nominal wages and real wages in rural areas both for agricultural works and non-agricultural works had increased positively was accepted. However, whether the increase was due to inflation or due to real increase has to be verified by deflating money wages by inflation rate.

Impact of MGNREGS on real wages of beneficiaries

The real wages were calculated by deflating the average nominal wages with consumer price index for agricultural labour at state level and multiplied by 100. The results were presented in Table 6.

Anantapur district

As revealed by the data from Table 6, the real wages in agriculture increased by 118.01 per cent with 86.56 per cent for men, and 193.82 per cent for women while the same in non-agricultural works increased by 118.01 per cent with 122.77 per cent for men and 107.09 per cent for women. In all the above categories the real wages were less by two third of money wages due to inflationary effects.

Mahabubnagar district

The real wages increased by 29.66 per cent in agriculture with 22.88 per cent for men, 42.62 per cent for women and in non-agricultural works the wages increased by 37.78 per cent with 42.35 per cent and 28.20 per cent for men and women respectively (Table 6). In all the above categories the real wages were less by two third of money wages due to inflationary effects.

Impact of MGNREGS on Income of beneficiary households

Before MGNREGS implementation in Anantapur district the major sources of income for beneficiaries were Agricultural labour wage, income from owned farm and non-agricultural wage (construction work, painting and carpenter works). The

income was per household average income was ₹ 26,606 per year, of which major source was from agricultural labour wage (37.09 per cent) followed by income from crops (30.33 per cent) and non-agricultural labour wage (20.29 per cent) (Table 7). With the implementation of MGNREGS each household earned additionally ₹ 13,427 with increase in the general labour wage income from all sources and MGNREGS wage income was the major source of income accounting for 27.77 per cent of total income followed by agricultural labour wage income (23.05 per cent), income from crops (21.79 per cent) and non-agricultural wage income (17.64 per cent). The agricultural labour wage was major share of income Before MGNREGS, while the MGNREGS wage became the major source of income after MGNREGS, implying that the average households in Anantapur district dependent on agricultural wage income became MGNREGS wage income dependent. This also indicates that the agricultural labourers are earning more than that of average of farmers.

Implementation of MGNREGS had an impact on the income of the household by increasing the wage rate and increasing the employment days. This resulted in earning more income in comparison to before MGNREGS that is observed from the Table 7. The beneficiaries in Mahabubnagar district before MGNREGS earned 37.50 per cent income from crops followed by 31.68 per cent from agricultural wages, 18.59 per cent from non-agricultural wage 12.43 per cent from dairy income. On an average a sample household earned ₹ 26,634 per year, but after the introduction of MGNREGS average household income increased by 57 per cent (₹ 42,075.51), of which MGNREGS wage income constituted one fifth of the total income. After the implementation of MGNREGS agricultural wage income had risen by 28.19 per cent but income from crops increased only by 25 per cent, which might be due to the MGNREGS community works viz., desilting and silt application on lands owned by BPL families and creating field channels that resulted in decrease in cost of cultivation and increase in the crops income as indicated from Table 7. Dairy income also increased by 40 per cent which might be attributed to the fact that with the increase in the average household income after the introduction of MGNREGS beneficiaries were able to invest on livestock.

The results on impact of MGNREGS on average income of the beneficiaries, revealed that the MGNREGS implementation increased the total income of the beneficiaries. The average increase in income was ₹ 18241.74 per annum and MGNREGS wage income contributed to increased wage income etc. In the foregoing analysis it was estimated that MGNREGS had shown a significant impact on the wage rate of the workers engaged both in agricultural and non-agricultural works. This had prompted the researcher to analyze the impact of rise in income of the workers due to the participation in MGNREGS activities. The findings shown in Table 7 revealed that with the advent of MGNREGS there was a positive impact on the rise in agricultural wage income and non-agricultural wage income in the study area. It was interesting to note that the beneficiaries who are practicing in crop cultivation and allied activities have also realized higher income on account of the facilities created through MGNREGS works like field channels. Percolation tanks etc. and with the increased income some farmers have strengthened their allied enterprises in both districts. Likewise

Table 5. Impact of MGNREGS on money wages of beneficiaries

(Rupees per labour per day)

S. No.	Particulars	Anantapur						Mahabubnagar					
		Before MGNREGS	After MGNREGS	Impact		Paired 't' test	Before MGNREGS	After MGNREGS	Impact		Paired 't' test		
				Difference between before & after	Per cent change				Difference between before & after	Per cent change			
1	Agriculture	114.25	249.08	134.83	118.01	2.50	125.37	261.59	136.22	108.65	2.51		
i	Men	80.75	150.65	69.9	86.56	5.22	82.35	162.85	80.5	97.75	3.93		
ii	Women	33.50	98.43	64.93	193.82	3.90	43.02	98.74	55.72	129.52	3.11		
2	Non Agriculture	158.49	345.52	187.03	118.01	6.35	150.96	334.73	183.77	121.73	3.11		
i	Men	110.37	245.87	135.5	122.77	5.44	102.21	234.15	131.94	129.09	2.26		
ii	Women	48.12	99.65	51.53	107.09	3.86	48.75	100.58	51.83	106.32	4.79		
3	MGNREGS	-	194.38	194.38	-	-	-	140.85	140.85	-	-		
i	Men	0	99.73	99.73	-	-	0	72.35	72.35	100.00	-		
ii	Women	0	99.73	99.73	-	-	0	72.35	72.35	100.00	-		

Table 6. Impact of MGNREGS on Real wages of beneficiaries

(Rupees per labour per day)

S. No.	Particulars	Anantapur						Mahabubnagar					
		Real wages Before MGNREGS	Real wages After MGNREGS	Impact		Paired 't' test	Real wages Before MGNREGS	Real wages After MGNREGS	Impact		Paired 't' test		
				Difference	Per cent Difference				Difference	Per cent Difference			
1	Agriculture	31.22	68.05	36.84	118.01	3.99	34.25	44.41	10.16	29.66	8.27		
i	Men	22.06	41.16	19.10	86.56	5.70	22.50	27.65	5.15	22.88	8.74		
ii	Women	9.15	26.89	17.74	193.82	2.48	11.75	16.76	5.01	42.62	3.84		
2	Non-Agriculture	43.30	94.40	51.10	118.01	7.17	41.25	56.83	15.58	37.78	9.39		
i	Men	30.16	67.18	37.02	122.77	4.91	27.93	39.75	11.83	42.35	6.29		
ii	Women	13.15	27.23	14.08	107.09	2.45	13.32	17.08	3.76	28.20	8.90		
3	MGNREGS	-	54.50	53.11	-	-	-	24.57	24.57	-	-		
i	Men	-	27.25	27.25	-	-	-	12.28	12.28	-	-		
ii	Women	-	27.25	27.25	-	-	-	12.28	12.28	-	-		

Table 7. Impact of MGNREGS on income of beneficiary households

(Rupees per household per year)

S. No.	Income Particulars	Anantapur						Mahabubnagar					
		Before MGNREGS	After MGNREGS	Impact		Paired 't' test	Before MGNREGS	After MGNREGS	Impact		Paired 't' test		
				Difference between before & after	Per cent change				Difference between before & after	Per cent change			
1	Agricultural wage income	9868.14 (37.09)	11142.65 (23.05)	1274.51	12.92	8.14	8437.5 (31.68)	11862.08 (28.19)	3424.58	40.59	2.73		
2	Income from crops	8068.33 (30.33)	10535.00 (21.79)	2466.67	30.57	5.63	9987.18 (37.50)	10487.18 (24.92)	500.00	5.01	2.65		
3	Income from dairy	3089.16 (11.61)	4710.24 (9.74)	1621.08	52.48	2.25	3258.32 (12.23)	4174.03 (9.92)	915.71	28.10	2.73		
4	MGNREGS wage income	0.00 (0.00)	13427.27 (27.77)	13427.27	-	-	0.00 (0.00)	9411.67 (22.37)	9411.67	-	-		
5	Non -Agriculture wage income (i.e. construction work, painting, carpenter/factory work etc.)	5580.42 (20.97)	8530.51 (17.64)	2950.09	52.87	3.99	4951.26 (18.59)	6140.55 (14.59)	1189.29	24.02	6.88		
	Total Income	26,606.06 (100)	48,345.67 (100)	21,739.61	81.71	4.72	26,634.3 (100)	42,075.51 (100)	15,441.25	57.98	3.47		

Note: Figures in parentheses indicate Percent to total income

* 't' table value at 0.05 probability is 2.0009

Table 8. Impact of MGNREGS on household migration of beneficiaries in Anantapur district

S. No.	Particulars	Before	After	Impact	
		MGNREGS	MGNREGS	Difference between after and before	Per cent Difference
1	Number of households on migration	58 (96.67)	23 (38.33)	-35	-60.34
2	No. of family members on migration per household	3.42	2.39	-1.03	-30.12
3	Place of migration and distance from native village				
A	Out of mandal and Within Anantapur district (55-60 km)	18	7	-11	-61.11
B	Out of district and within the state Hyderabad (110-120 km)	27	12	-15	-55.56
C	Out of state Bangalore (130-140 km)	13	4	-9	-69.23
	Total	58	23	-35	-60.34
4	Duration				
	No migration	2 (3.33)	37 (61.67)	35	1750.00
	<2 months	16 (26.67)	5 (8.33)	-11	-68.75
	2-3 months	30 (50)	14 (23.33)	-16	-53.33
	3-4 months	12 (20)	4 (6.67)	-8	-66.67
	4-5 months	0 (0)	0 (0)	0	0
	5-6 months	0 (0)	0 (0)	0	0
	Total	60 (100)	60 (100)	0	0

Table 9. Impact on household migration of beneficiaries in Mahabubnagar district

S. No.	Particulars	Before	After	Impact	
		MGNREGS	MGNREGS	Difference between after and before	Per cent Difference
1	Number of households in migration	57 (95)	28 (46.67)	-29	-50.88
2	No. of family members on migration per household	3.1	2.26	-0.84	-27.10
3	Place of migration and distance from native village				
a	Out of district and within the state Hyderabad (110-120 km)	28	15	-13	-46.43
	Guntur (280-290 km)	18	8	-10	-55.56
b	Out of state Bangalore (130-140 km)	11	5	-6	-54.55
	Total	57	28	-29	-50.88
4	Duration				
	No migration	3 (5)	32 (53.33)	29	966.67
	<2 months	14 (23.33)	6 (10)	-8	-57.14
	2-3 months	31 (51.67)	16 (26.67)	-15	-48.39
	3-4 months	12 (20)	6 (10.00)	-6	-50.00
	4-5 months	0 (0)	0 (0)	0	0
	5-6 months	0 (0)	0 (0)	0	0
	Total	60 (100)	60 (100)	0	0.00

non-agricultural wage income also showed increasing trend with the advent of MGNREGS through executing different works like construction works, painting works, carpenter works, factory works etc. The agricultural wage income (26.03 per cent), income from crops (13.63 per cent), dairy income (41.76 per cent), MGNREGS wage income and non-agricultural wage income (39.26 per cent) of the households increased after MGNREGS. Hence the hypothesis that the income of households will increase due to MGNREGS is accepted as revealed by the 't' values for all the categories of income sources.

Impact on Household Migration of Beneficiaries

Anantapur District

One of the major objectives of the government in executing MGNREGS programme is to check migration of labour from

villages to urban areas in search of employment. The extent of migration of labour before and after the execution of MGNREGS programme studied in all the selected districts directly indicate the impact of MGNREGS on the migration of labour. In Anantapur district out of 60 households 58 (97 per cent) household were migrants, but after the implementation of MGNREGS the total household migration was reduced to 23 households (38 per cent). On an average each household had 3.42 persons as migrants before MGNREGS whereas after MGNREGS it was reduced to 2.39 persons per household i. e. 30 per cent. To understand the nature of migration, distance and duration of migration were specifically studied. In Anantapur out of 58 households, 23 households were migrated to Hyderabad (out of district but within state) before MGNREGS, which has declined to 12 households after MGNREGS. Before MGNREGS the number of household migrated to Anantapur and Bangalore were 18 and 13

Table 10. Impact of MGNREGS on economic security of beneficiary households

S. No.	Particulars	Anantapur					Mahabubnagar					text-align: right;">(Rupees per household per year)	
		Before MGNREGS	After MGNREGS	Impact		Paired 't' test	Before MGNREGS	After MGNREGS	Impact		Paired 't' test		
				Difference	Per cent Difference				Difference	Per cent Difference			
1	Average Annual income from Crops income	26606.05	48345.67	21739.61	81.71	5.85	26634.26	42075.51	15441.25	57.98	7.08		
a		8068.33	10535.00	(30.33)	(21.79)		9987.18	10487.18	500.00	5.01	4.76		
b	Agricultural wages	9868.14	11142.65	(37.07)	1274.51	12.92	8.37	8437.50	11862.08	3424.58	40.59	3.47	
c	Non-agriculture	5580.42	8530.51	(20.97)	2950.09	52.87	2.37	4951.26	6140.55	1189.29	24.02	5.02	
d	Dairy	3089.16	4710.24	(11.61)	1621.08	52.48	7.47	3258.32	4174.03	915.71	28.10	9.84	
e	MGNREGS	0.00	13427.27	(0.00)	13427.27	100.00	-	0.00	9411.67	9411.67	100.00	-	
				(27.77)				(100)	(22.37)				
2	Indebtedness	40550.64	32765.32		-7785.32	-19.20	1.37	35640.52	27855.68	-7784.84	-21.84	1.79	
3	Repayment of loan per year	2185.21	4386.32		2201.11	100.73	4.39	1125.45	2953.71	1828.26	162.45	3.25	
4	Savings												
a	Savings in post office	0.00	728.33	(31.07)	728.33	100.00		0.00	396.67	396.67	100.00	-	
b	savings in bank	0.00	201.50	(0.00)	201.50	0.00	-	0.00	0.00	0.00	0.00	-	
c	Savings in LIC	0.00	205.00	(8.75)	205.00	100.00	-	0.00	0.00	0.00	0.00	-	
d	SHGs	630.00	1209.00	(60.29)	579.00	91.90	7.46	338.67	1064.00	725.33	214.17	4.11	
								(100.00)	(72.84)				
	Total savings	630.00	2343.83	(100.00)	1713.83	105.01	4.78	338.67	2250.52	1122.00	187.18	6.87	
								(100.00)	(100.00)				

households respectively, but they have reduced to 7 and 4 households respectively after MGNREGS as shown in the Table 8. Thirty respondents (half of the respondents) who migrated for two to three months before MGNREGS was reduced to 14 household after MGNREGS. Similarly the number of households migrated for less than two months were reduced from 16 to 4 after implementation of MGNREGS. It was evident from the Table 8 that in Anantapur district the migration of number of households and number of family members for household declined to the extent of 60 per cent and 30 per cent respectively. The workers in the selected villages migrated to Hyderabad, other areas of Anantapur district and Bangalore in search of alternate employment opportunities and the period of migration is upto a maximum of four months. It is essential to note that some workers migrated to other areas, the allotted time period of 100 days for MGNREGS in all the selected works was successfully completed by their family members, usually by women beneficiaries.

Mahabubnagar district

It was evident from the (Table 9) that in Mahabubnagar district, the migration of number of households and number of family members per household were declined to the extent of 51 per cent and 27 per cent respectively. The workers in the selected villages migrated to Hyderabad, other areas of Guntur district and Bangalore in search of alternate employment opportunities and the period of migration is up to a maximum of four months. It is essential to note that some workers migrated to other areas, the allotted time period of 100 days in all the selected works of MGNREGS was successfully completed by their family members usually by women beneficiaries. It is essential to note that some workers migrated to other areas, the allotted time period of 100 days for MGNREGS in all the selected works was successfully completed by their family members, usually by women beneficiaries. Similar pattern of findings was also reported by Kareemulla *et al.* (2009), and Kohli (2009).

Impact on Economic Security of Beneficiaries

As indicated (Table 10), MGNREGS beneficiaries' income has significantly increased due to the implementation of MGNREGS. The extent of increased average annual income was 82 per cent in Anantapur district, 58 and 73 per cent in Mahabubnagar and Srikakulam district respectively. Out of these three sample districts beneficiaries derived income from MGNREGS works to the level of around ₹11,500. That resulted in increase in savings and repayment of loan and ultimately reduction of indebtedness. The MGNREGS beneficiaries saved their income mainly in Post Office, LIC, SHG, but rarely they saved in banks. In Anantapur district MGNREGS beneficiaries saved annually ₹ 728 in Post Office which was three times higher than what they saved before MGNREGS. MGNREGS beneficiaries in the district prefer to save their hard earn money in SHG. As indicated form Table 10, they saved on an average ₹ 1,209 which was nearly 105 per cent higher than what they saved previously (before MGNREGS). Some beneficiaries' had showed interest in LIC savings. The repayment of loan has double (₹ 4,386). The indebtedness of beneficiaries had observed to be reduced by 19 percent. Before MGNREGS the beneficiary on an average

indebted ₹ 40,551. With MGNREGS employment generated income he was able to reduce his indebtedness by 19 per cent to ₹32,765. MGNREGS beneficiaries in Mahabubnagar district saved annually ₹ 2,251, 187 per cent higher than saved before MGNREGS. They saved 73 per cent (₹1064) of the total saving in SHG, 27.16 per cent (₹ 396.67) of saving in post office. With reference to their previous level of saving beneficiaries saving increased to 214.17 per cent in SHGs, 100 per cent in Post Office. The observed repayment of loan per year in the district was ₹ 2,953 (162 per cent). The indebtedness reduced to ₹ 27,856 from ₹ 35,641 (22 per cent). The purpose of any agricultural development programme is to ensure economic security to the beneficiaries and MGNREGS is meant for providing economic security in terms of employment guarantee and wage income. Highlighting this benefit the relevant data was presented in Table 10 with reference to the economic security realized by all the beneficiaries in the selected districts. It was noted that before the execution of MGNREGS, the beneficiaries were in debts due to excess of expenditure of over annual income. However with execution of MGNREGS programme there was sharp rise in the annual income of the beneficiaries in all the selected districts viz., Anantapur, and Mahabubnagar to the tune of 81.71 and 57.98 per cent respectively. It was essential to note that the execution of MGNREGS programme in all the selected districts not only resulted in the escalation of beneficiaries income but also in rise in the incomes through promoting agricultural production, strengthening of dairy enterprise, development activities in non-agricultural sector etc. The rise in income of the beneficiaries through the execution of MGNREGS programme had successfully mitigated the indebtedness in all the selected districts. In the declined indebtedness was highest in Mahabubnagar with 21.81 per cent and Anantapur with 19.20 per cent.

Conclusion

The study concludes that, in the study area the works allotted under MGNREGS are best suited for women beneficiaries as they involve less drudgery and they can be completed easily well in the scheduled time. The real wages of all categories were less by two third of money wages due to inflationary effects. However, in case of socio-economic aspects, it was also interesting to note that some of the dry land farmers who also possess assets like rented houses, practicing allied enterprises like sheep, goat etc., have not shown much interest in the MGNREGS works. The impact of MGNREGS on generation of employment opportunities through providing livelihood security varies positively with the backwardness of the district *i.e.*, Anantapur district being the most backward with reference to both agricultural and non-agricultural activities had benefited most when compared to Mahabubnagar district. In the study area wage rate was more than doubled both for agriculture and non-agricultural works and also for both men and women. The agricultural wage income (26.03 per cent), income from crops (13.63 per cent), dairy income (41.76 per cent), MGNREGS wage income and non-agricultural wage income (39.26 per cent) of the households increased after implementation of MGNREGS. Hence, the overall impact can be concluded that, MGNREGS programme has benefited the beneficiaries in the two ways. With the increase in income of the beneficiaries, their repayment capacity to clear the loans (Crop loan and Term

loan) had increased significantly in all the selected districts. On the other hand, increase in repayment capacity, the beneficiaries are capable of saving a part of their income in various agencies like Post Office, banks, LIC and SHGs.

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