

# An Economic Evaluation of Mgnrega Programme in Chikaballapur District of Karnataka: A Comparative Study

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**Abstract:** India is one of the fastest developing economies in the world, ranking 7<sup>th</sup> largest country in the world, sharing 2.4 per cent of the world's geographical area and 2nd largest country after China in population, which stands at 1.15 billion, growing at the rate of 2.2 per cent per annum, that accounts for 16.7 per cent of the world's population, among which 74 per cent of households belong to rural India and account for 76 per cent of total population living in 5.5 lakh villages (62<sup>nd</sup> NSSO survey report 2005-06). The MGNREGA aims at enhancing the livelihood security of the people in rural areas by guaranteeing hundred days of wage employment in a financial year to a rural household whose members volunteer to do unskilled manual work. Providing employment to the rural poor enhances their livelihood security by increasing their earnings as well as the expenditure and thereby improves their standard of living. It also inculcates the habit of thrift in them. This helps the BPL families to cross the poverty line. Keeping the ambitious motive of the world's largest poverty alleviation programme in mind, a modest attempt is made in this study to assess the impact of MGNREGS on livelihood security of its participants and to what extent the scheme has been successful in achieving its objectives, in Chickaballapur district of Karnataka India.

**Keywords:** Economic analysis, MGNREGA, BPL, Employment generation and NREGA

## 1. Introduction

India is one of the fastest developing economies in the world, ranking 7<sup>th</sup> largest country in the world, sharing 2.4 per cent of the world's geographical area and 2nd largest country after China in population, which stands at 1.15 billion, growing at the rate of 2.2 per cent per annum, that accounts for 16.7 per cent of the world's population, among which 74 per cent of households belong to rural India and account for 76 per cent of total population living in 5.5 lakh villages (62<sup>nd</sup> NSSO survey report 2005-06).

## 2. Scope of the Study

National Rural Employment Guarantee Act (NREGA) was notified on September 7, 2005 and came into force on February 2, 2006. It is the world's biggest employment guarantee programme implemented in India. It aims at enhancing livelihood security of households in rural areas of the country by providing at least 100 days of guaranteed wage employment in a financial year to every household whose adult members volunteer to do unskilled manual work. Its primary objective is augmenting wage employment and strengthening natural resource management. Job cards are issued for all the workers seeking employment for the maintenance of identity. Unemployment allowance is paid, if work is not assigned within 15 days of seeking employment. Wages are paid to the workers through their savings account opened in banks or post offices. Use of machineries which replace human labour are minimized. Wage rate for both men and women is the same. One third of the beneficiaries of NREGA should be women. It also provides equal opportunities for SCs, STs and other weaker

sections of the society. An economic analysis of this programme is made in the study to assess as to what extent the programme has been successful in achieving

### Objectives of the present study are:

To assess the socio-economic features of participant households in MGNREGS.

### Hypotheses:

- Men wage income from MGNREGS lesser than women.
- SC and ST participants is larger than for non SC and STs.
- C.MGNREGS works are preferred by BPL families than others.

To analyze the different types of works undertaken in MGNREGS Programme.

### Hypotheses

- Individual works are preferred to community works in MGNREGS.
- Natural resource management works are preferred to other works

To assess the economic empowerment of women through MGNREGS.

### Hypotheses

- Income and savings of the MGNREGS participants is more than that of non-participants.
- Consumption expenditure of MGNREGS participants is more than that of non-participants c. Indicating improved nutritional security due to MGNREGS

## Methodology

The research methodology in terms of conceptual and empirical framework followed and its operationalisation is discussed in this chapter. The particulars include description of study area, sampling framework, database and analytical tools. These are presented under the following headings. Chikkaballapura district was covered during the third phase of implementation of MGNREGS which was selected for the study with the pre set objective of analysing the socio-economic impact of MGNREGS on the participant households.

Both primary and secondary data were collected for analysis for the year 2014-15. Primary data from the MGNREGA participants related to their age, gender, employment, income, savings, consumption expenditure and other socioeconomic parameters and from the farmers about the labour availability for agriculture is collected through structured and pre-tested schedules. Similarly secondary data on number of person days of employment generated, funds released and utilised, nature and number of works ongoing and completed etc., is collected from the zilla panchayat, Taluk panchayat, and Gram panchayat offices and also from NREGA website. Based on the amount of expenditure made under MGNREGS and number of person days of employment generated, which were found higher in the ten villages namely Avalagurki, Gerahalli, Thippenahalli, Kurlahalli, Avalagurki, Kournahalli, Gollahalli, Ittappanahalli, and Kethenahalli these villages from Chikkaballapura district were selected through Multi-stage sampling. The total sample size taken was 300, out of which 200 were MGNREGS participants in MGNREGS and 100 were non participants having the same socioeconomic background from the ten selected villages, were randomly selected for eliciting information from the respondents.

## 3. Results

The results that emerged from the analysis of the data are presented under the following broad headings.

- 1) Socio-economic features of the respondent households.
- 2) Comparison of wage income of different classes of respondent households.
- 3) Employment pattern, income, consumption expenditure and savings details of the respondent households.

**Table 1:** Number of registered workers in MGNREGS in the sample Villages

Classes	Participants (N=200)	Non-participants (N=100)
Men	142 (71)	63 (31.5)
Women	58 (29)	37 (18.5)
<b>Total</b>	<b>200 (100.00)</b>	<b>100 (100.00)</b>
SCs	89 (45)	44 (22)
STs	42 (21)	26 (13)
BPL	69 (35)	30 (15)
<b>Total</b>	<b>200 (100.00)</b>	<b>100 (100.00)</b>

Note: Figures in parentheses indicate percentage to the total

## Composition of sample respondent households

Number of participants in MGNREGS works in Avalagurki (20) and non participants (10) participants the total sample 30 participants similarly all 10 villages equally selected. The total sample of participants in MGNREGS is 200 and non participants 100 total sample is 300 from 10 villages respectively.

**Table 2:** Composition of sample respondent households

Sl No.	Sample villages	Number of participants in MGNREGS works	Number of non participants	Total number of respondents
1	Avalagurki	20	10	30
2	Gerahalli	20	10	30
3	Thippenahalli	20	10	30
4	Hariharapura	20	10	30
5	Kurlahalli	20	10	30
6	Avalagurki	20	10	30
7	Kournahalli	20	10	30
8	Gollahalli	20	10	30
9	Ittappanahalli	20	10	30
10	Kethenahalli	20	10	30
	<b>Total</b>	<b>200</b>	<b>100</b>	<b>300</b>

## Land holdings across villages

Land holding of selected sample farm families is of dry land 617 (acres) and irrigated land is 233.06 acre, and Dry land 450 (acre) from all the sample farm families the average land holding per families of irrigation land 0.75 acre and dry land is 1.41(acre) respectively.

**Table 3:** Land holdings across villages

Sl. No	Villages	Total land (Acres)			Average land per farm			% to total land	
		Total	Irrigated	Dry	Total	irrigated	Dry	Irrigated	Dry
1	Avalagurki	6.12	27.5	32.4	2.24	0.89	1.32	41.01	62.8
2	Gerahalli	61.32	22.75	41.2	2.29	0.76	1.53	33.16	66.1
3	Thippenahalli	54.12	23	36.78	1.93	0.85	1.23	36.34	63.66
4	Hariharapura	60.14	16.5	42.1	2.09	0.85	1.25	26.27	73.73
5	Kurlahalli	60.42	14	49.1	2.14	0.47	1.67	21.81	78.19
6	Avalagurki	128.1	38.5	87	2.3	0.64	1.66	27.86	71.4
7	Kournahalli	63.12	17.5	48.52	2.2	0.58	1.62	24.1	73.49
8	Kournahalli	60.1	23	38.15	2.04	0.71	1.27	36.1	52.4
9	Ittappanahalli	60.14	26.75	37	2.13	0.89	1.23	40.4	52.1
10	Kethenahalli	63.17	23.56	38	2.14	0.86	1.32	38.1	51
	<b>Grand Total</b>	<b>616.75</b>	<b>233.06</b>	<b>450.25</b>	<b>21.5</b>	<b>0.75</b>	<b>1.41</b>	<b>325.15</b>	<b>644.87</b>

#### Socio-economic features of the respondent households.

The Table 4 shows the socio-economic characteristics of the respondent households in the sample villages. The average number of family members per household was found to be 3.30 in case of MGNREGS participants and 3.08 in case of non participants reflecting that there is no significant difference with respect to family members. The average age of the head of the household was 42 years in case of MGNREGS participant households and 46 years in case of non participants. As evident from the

In case of MGNREGS participants are having their main occupation as agriculture and those who work as agricultural labour constitute 51 per cent and those pursuing other types of works were only 42 per cent. Whereas in non participant group, it was 28 per cent, in case of 40 per cent and 30 per cent of respondents with main occupation as agriculture, agricultural labour and other works respectively.

Educational status of the sample respondents as showed that, 44 per cent of MGNREGS participant households were illiterates, 33 per cent had primary education, 16 per cent had high school education and only 9 per cent of them had PUC and above qualification. Whereas in case of non participant households, 21 per cent were illiterates, 14 per cent had primary education, average land holding in nonparticipant 1.6 acre and 1.5 acre is participant respectively.

**Table 4:** Socio-economic characteristics of the sample respondents

Particulars	Units	Participants (N=200)	Non Participants (N=100)
Number of family members per Household	Number	3.30	3.08
Average Age of the head of the Household	Years	42	46
Occupation		-	-
Agriculture	Number	102 (51)	42 (42)
Agriculture labour	Number	58 (29)	30 (30)
Others	Number	40 (20)	28 (28)
Education		-	-
Illiterates	Number	87 (44)	42 (21)
Primary	Number	65 (33)	28 (14)
High school	Number	31 (16)	20 (10)
PUC and above	Number	17 (9)	10 (5)
*Average cultivated Area Owned		-	-
Dry	Acres	1.7	1.5
Irrigated	Acres	1.5	1.6

Note: Figures in parenthesis indicate percentages to the respective totals

#### Comparison of wage income of different classes of sample respondent households

The Table 5 reveals that, the average annual wage income earned by the women participants from MGNREGS works was Rs 5167 while from agricultural work it was Rs 7609 and by the men participants was Rs 6050 and Rs 14506 from MGNREGS works and agriculture respectively. Although, there was a slight difference in the average annual wage

income earned from MGNREGS by women and men participants, the difference was not statistically significant

The average annual wage income earned by the SC/ST participants from MGNREGS works was Rs 6242 and from agricultural labour works was Rs 14706 and by other category participants was Rs 4941 and Rs 13692 respectively. Although the average annual wage income earned from MGNREGS is more for SC/ST participants than others, the difference was not statistically significant. The average annual wage income earned by BPL participant households from MGNREGS and agricultural labour work was Rs 5695 and Rs 13542 respectively and that of APL participant families was Rs 5400 and Rs 12120 respectively.

**Table 5:** Average annual wage income earned by different classes of sample respondents (Rupees)

(Rupees) Average annual wage income of respondents	Participants (N=200)			Non participants (N=100)
	MGNREGS work	Agriculture Labour work	Total wage income	
Men	6050 (29.43)	14506 (70.57)	20556	24694
women	5167 (40.44)	7609 (59.56)	12776	8100
SC/ST	6242 (29.80)	14706 (70.20)	20948	19771
Others	4941 (26.52)	13692 (73.48)	18633	26286
BPL	5695 (29.60)	13542 (70.40)	19237	19082

**Table 6:** Computed value of test statistic used in comparing the mean wage income from MGNREGS for women, men, SC/ST households

Particulars	F- ratio	t- value
Mean wage income for men and women	1.793NS	0.6601NS
Mean wage income for SC/ST and others	0.6004NS	1.1046NS

Note: NS - Non Significant

#### Techniques for testing the equality of means

The objective of studying the socio-economic features of MGNREGS participant households in terms of wage income from MGNREGS among women, men, SC/ST and non SC/ST participant households involved testing of equality of means. For this purpose, the following procedure was adopted. The hypothesis of equality of two population means was tested by applying student 't' test. However the crucial assumption of the test namely equalities of the two population variances was first verified by 'F' test. The null hypothesis (H<sub>0</sub>) and the alternate hypothesis (H<sub>1</sub>) constructed for testing the equality of two means were,

$$H_0: M_1 = M_2$$

$$H_1: M_1 > M_2$$

Where M<sub>1</sub> and M<sub>2</sub> are the averages of the statistic for wage income from MGNREGS among women, men, SC/ST and non SC/ST participant households further equality of means was tested using the 't' test. 't' test was done to compare equality of mean wage income from MGNREGS of men and women participants and also to compare wage income from MGNREGS of SC/ST and non SC/ST participant households

When the observed 't' value was less than the table value at the given degrees of freedom at 5 per cent level of

significance, it was concluded that the difference between the two means were non significant

$$\text{Test statistic, } t = \frac{(\bar{X} - \bar{Y})}{\sqrt{sp^2(1/n_1 + 1/n_2)}}$$

$$\text{The estimate, } sp^2 = \frac{(n_1-1)s_1^2 + (n_2-1)s_2^2}{(n_1+n_2-2)}$$

Where  $(\bar{X} - \bar{Y})$  difference between the two means.  
 $S^2_1$  and  $S^2_2$  = are the variances of sample 1 and sample 2.  
 $n_1$  and  $n_2$  = are the sample sizes of sample 1 and sample 2

### Regression Analysis

Regression analysis is used in order to analyse the contribution of independent variable in determining the variations in the dependent variable. A multiple linear regression model was employed to estimate the determinants of Total annual income of the respondents.

The empirical model was:

$$Y = a + b_1X_1 + b_2X_2 + b_3D_1 \dots\dots\dots(1)$$

Where,

$Y_1$  =

total  
annual  
income in  
rupees.

$X_1$

=irrigated

area in  
acres

$X_2$  = per capita person days of employment

$D_1$  = Dummy variable (participants=1, non participants=0)

## 4. Results

### Socio-economic features of the respondent households

The number of registered MGNREGS workers during 2013-14 and their category wise classification in the sample villages are provided in the Table 4. The share of women in number of registered MGNREGS workers was found to be 45 per cent, SC households were 22 per cent, ST households were 4.76 per cent and households belonging to BPL categories were 35 per cent and non participants MGNREGS is 15 percent. Whereas in non participant group, the respondent households belonging to SC were 22 per cent, ST were 26 per cent, BPL were 30 per cent.

## 5. Summary and Conclusion

India is still a developing country, has around 70 per cent of its population living in rural areas. Unemployment with the resultant poverty is one of the burning problems faced by the country. Unemployment among rural population has resulted in migration of rural people to urban areas in search of work. Unemployment among agricultural labour households has sharply increased from 9.5 per cent in 1993-94 to 15.3 per cent in 2004-05. Hence Government of India has taken up several poverty and unemployment alleviation programmes to solve this problem to the extent possible and to increase

the standard of living of the rural poor. The most significant intervention made by the Government of India to generate employment is in the form of MGNREGA – Mahatma Gandhi National Rural Employment Guarantee Act 2005-06. It is the world's largest employment guarantee programme implemented in India. It aims at enhancing livelihood security of households in rural areas of the country by providing at least 100 days of guaranteed wage employment in a financial year to every household whose adult members volunteer to do unskilled manual work. Its primary objective is augmenting wage employment and strengthening natural resource management. Job cards are issued for all the workers seeking employment for the maintenance of identity. Unemployment allowance is paid, if work is not assigned within 15 days of submitting application form seeking employment. Wages are paid to the workers through their savings account opened in banks or post offices. Use of machinery which replaces human labour is minimized. Wage rate for both men and women is the same. It is stipulated that one third of the beneficiaries of NREGA should be women. It also provides equal opportunities for SCs, STs and other weaker sections of the society.

## 6. Policy Implications

- 1) MGNREGS should be made complementary to agriculture by implementing more natural resource management works such as water conservation, soil conservation, water harvesting, tree planting, drought proofing works and so on in individual farmers' fields under MGNREGS.
- 2) MGNREGS is the most prominent programme initiated by Government of India to provide employment to rural people and thereby improve their livelihood security. The present study has pointed out that the programme has affected the supply of labour to agriculture in a few cases after its implementation. Hence, the programme needs to be reoriented, so that it becomes complementary to progress in agricultural sector by executing MGNREGS works only during the off season.

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