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Impact of MGNREGA on Rural Employment and Migration: A Study in Agriculturally-backward and Agriculturally-advanced Districts of Haryana

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Abstract

The study conducted in the state of Haryana has investigated the impact of implementation of MGNREGA in two districts — one agriculturally-advanced (Karnal) and the other agriculturally-backward (Mewat). Besides demographic characteristics, the paper has investigated the difference in the employment status, income, landholding size, herd size and other assets of the sample farm households in these two districts by taking 120 farm families, 60 from each district. The impact of MGNREGA within a district has also been studied in terms of income and employment security, migration, debt repayment, extent of participation in MGNREGA works, socio-economic status, etc. by seeking information from 30 participating and 30 non-participating households in MGNREGA works in each district. A significant difference has been found in the extent of employment under MGNREGA works in agriculturally-advanced Karnal (13.7%) and agriculturally-backward Mewat (24.6%) districts. The study has observed that despite being a source of employment, MGNREGA has not been able to check the migration from the developed region because of higher market wage rates at destinations. The study has concluded that farmers owning large size of landholdings and more number of animals are not much interested in participating in MGNREGA works.

Key words: MGNREGA, Rural employment, Rural-urban migration, Haryana

JEL Classification: J23, J61

Introduction

Mahatma Gandhi Rural Employment Guarantee Act (MGNREGA) though notified on 7 September, 2005, was implemented in all the rural districts of India in April 2008. It is the biggest employment providing programme ever started in a country for the development of its rural areas. It aims at providing 100 days of guaranteed wage employment in a financial year to every rural household whose adult members volunteer to undertake unskilled manual work. This Scheme is different from the earlier employment programmes launched by the Government of India. This scheme is on one hand demand-driven and on the other, treats employment as a right of the rural

households. Thus, the scheme provides income directly to the unskilled workers in the rural areas.

The MGNREGS has shown a significant improvement in different aspects. The number of households associated with MGNREGA works has been increasing consistently, the number of days for which employment has been provided have also increased. Another important aspect of MGNREGS is the increasing participation of women in it. It not only provides employment to them but by giving wage rate equal to that of a man, it has empowered the women economically as well as socially.

Since the launching of MGNREGA, there have been several studies looking into its implementation aspects, such as wage formation processes in the rural labour markets, its finances, its democratic administration and implementation (Ambasta *et al.*,

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2008; Bardhan, 2011; Harrison, 2011; Khera *et al.*, 2009; Shah, 2007). Some studies have focussed on its socioeconomic impact such as rural poverty alleviation, gender issues, self-esteem, livelihood and food security, and migration (Haberfeld *et al.*, 2011; Sankaran, 2011; Tiwari *et al.*, 2011; Zorlu *et al.*, 2003; Raju, 2011; Rogaly, 2011) but there has been no study on the comparative assessment of MGNREGA's impact on agriculturally-backward and agriculturally-advanced regions. Therefore the presented study was planned with the following specific objectives:

- To find the impact of MGNREGA on rural households in agriculturally-backward and agriculturally-advanced regions in terms of employment, income, asset creation, loan repayment, etc.
- To find the difference in the socio-economic status of rural households who adopt MGNREGA and who do not adopt MGNREGA for employment.
- To identify the reasons for non-adoption of MGNREGA.

Methodology

For this study, two districts of Haryana, namely Mewat and Karnal, were selected purposively to see the differential impact of MGNREGA in agriculturally-backward and agriculturally-advanced areas. The contrast characteristics of these districts have a policy initiative regarding public work scheme. From each district, two villages were selected which had very high concentration of the issued job-cards and high gross cropped area, viz. vegetable crops. Altogether, four villages were selected from two districts in the state of Haryana. Thirty farm families from each village, comprising 15 farm families each from under MGNREG scheme and non-MGNREG scheme were randomly selected, making an overall sample of 120 farm families.

Data Collection

Both quantitative and qualitative data were collected for the study. To assess the impact of MGNREGA on the macroeconomic variables like employment, wages, and migration, data were collected for the year 2010-2011. Using pre-tested schedules by personal interview.

Information was gathered on the demographic characteristics of a household; its income and asset base; liabilities; employment status; earnings from public work programmes and migration; participation in the MGNREG scheme as a beneficiary or as a non-beneficiary; the impact of the programme, largely in terms of income and employment security; impact on migration, asset creation, debt repayment and the trend prevailing in the use of earnings through the MGNREGS. The perception of the beneficiary regarding the programme in terms of its utility and dimension of coverage was also assessed. However, from the non-beneficiary household, information regarding its willingness to avail and its need to participate in the employment guarantee programme was collected. The reasons for the in-accessibility of the programme to some households were also explored. Sample families members were asked questions related to their socio-economic profile like educational level, land ownership, work experience under MGNREGA, total employment, wages, and emigration to urban centres. Qualitative data were collected through focus group discussions (FGDs) with the villagers, workers and representatives of PRIs and NGOs. Discussions were also held with the key officials involved in the implementation to learn their views and the difficulties faced in implementation and informal surveys.

Analytical Procedure

In order to quantify the impact of the MGNREGA in the sample beneficiaries, simple tabular analysis in percentage terms has been done. A logit model was estimated to identify the factors that influenced the probabilities of the rural households' decision to participate in the MGNREGA jobs. The dependent variable was a binary, taking a value of 1 for the household of MGNREGA job and 0 otherwise. The logit model is:

$$\Pr(Y=1|X_1, X_2, \dots, X_k) = \frac{F(\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5)}{1 + e^{-(\beta_0 + \beta_1 + \beta_2 + \beta_3 + \beta_4 + \beta_5 + \beta_6)}}$$

$$\Pr(Y=1|X_1, X_2, \dots, X_k) = \frac{1}{1 + e^{-(\beta_0 + \beta_1 + \beta_2 + \beta_3 + \beta_4 + \beta_5 + \beta_6)}}$$

The definition of the variables have been given in Table 1 and explained in Table 6.

Table 1. Description of variables

Variables	Definition
Dependent variables	
(i) MGNREGA	Taking a value of 1 for the MGNREGA job-card holder and 0 otherwise
Independent variables	
Farm size	Land ownership in acres
Immigration	In number of days per year
Livestock	In numbers
Dependency ratio	Ranging from 0-1
Auto vehicle dummy	Taking value of 1 for having auto-vehicle and 0 otherwise.
Wage differential	in rupees
Credit from moneylenders	in rupees
ϵ_i	Error-term

Results and Discussion

Demographic Characteristics of Selected Farm Households

The demographic characteristics of farm households have great significance on the working of any employment scheme. These characteristics were indicated through the average size of the household, age of members, dependency ratio, literacy and caste distribution and the results are given in Table 2. The average size of MGNREGA beneficiary households in Mewat is 6.63, and of non-beneficiary household size is 6.83. As per the distribution pattern, it is evident from Table 2 that in more than 80 per cent households family-size ranged between 5 and 12 persons per family, indicating thereby large household size in this district and it may be due to the dominance of Muslim community in this district. It has been observed that in the Mewat district, 50 per cent of the persons are workers under MGNREGA-beneficiaries. The difference between MGNREGA and non-MGNREGA households with regard to age distribution was statistically significant as p -value of chi square is 0.026. In the case of Karnal district, the difference between the two categories was non-significant, as in both the groups more than 52 per cent people are workers and 43 per cent are children. The dependency ratio of beneficiary households (0.683) is higher as compared to the non-beneficiary (0.643) households. The distribution pattern shows that in more than 95 per cent of the households, it is up to 2.0 and only a few households come under the category of 2 - 3.5. The

inter-district comparison has shown that the worker dependent ratio is higher in Karnal district than Mewat district, which is one of the indicators of prosperity in the former district. The educational status of the people is higher in Karnal than in Mewat, as 60 per cent people in our sample in Mewat were illiterates, while for Karnal, it was only 38 per cent. Difference between MGNREGA and non-MGNREGA households is significant ($p= 0.046$) in Mewat, while it is non-significant ($p=0.667$) in Karnal. The overall literacy rate was 49 per cent for both the categories (beneficiary and non-beneficiary) of households. Caste fabric did not show any relationship with the participation in MGNREGA, but most of the families of our sample were of lower caste (SCs and OBCs); this may be due to the fact that mostly poor families work in MGNREGA and we tried to select the matching sample of non-MGNREGA families, which also belonged to the lower caste.

Land and Livestock Resources of Sample Households

As land and livestock resources affect the employment significantly, therefore ownership pattern of these two assets was analyzed and the results have been presented in Table 3 for both the districts. A perusal of Table 3 reveals that land continues to be an important source of livelihood for the rural population. The average landholding-size was smaller (0.73 acres) of beneficiary than non-beneficiary (3.96 acres) households across both the districts. However, distribution pattern of landholding size varied across categories and districts.

Table 2. Demographic features of sample households in Haryana

Attributes	Mewat district		Karnal district		Total	
	Non-MGNREGA	MGNREGA	Non-MGNREGA	MGNREGA	Non-MGNREGA	MGNREGA
Age (years)						
below 18	88(42.93)	100(20.25)	57(42.86)	63(43.15)	145(42.90)	163(47.25)
19-55	106(51.71)	97(48.74)	70(52.63)	77(52.74)	176(52.07)	174(50.43)
56 and above	11(5.37)	2(1.01)	6(4.51)	6(4.110)	17(5.03)	8(2.32)
Mean	22.07	24.26	26.06	25.62	24.68	23.76
Family size (No.)						
Below 4	6(20)	4(13.33)	16(53.33)	11(33.67)	22(36.67)	15(25.00)
5-8	12(40.00)	15(50.00)	12(40.00)	19(63.33)	24(40.00)	34(56.67)
9-12	12(40.00)	11(36.67)	2(6.67)	0(0.00)	14(23.33)	11(18.33)
Mean	6.83	6.63	4.46	4.86	5.65	5.75
Dependency ratio						
Zero	7(23.33)	5(16.67)	9(30.00)	9(30.00)	16(26.67)	14(23.33)
0.01-0.5	9(30.00)	11(36.67)	7(23.33)	9(30.00)	16(26.67)	20(33.33)
0.51-1.0	7(23.33)	6(20.00)	10(33.33)	9(30.00)	17(28.33)	15(25.00)
1.01-2.0	6(20.00)	6(20.00)	4(13.33)	2(6.67)	10(16.67)	8(13.33)
2.01-3.5	1(3.33)	2(6.67)	0(0.00)	1(3.33)	1(1.67)	3(5.00)
Mean	0.705	0.806	0.591	0.561	0.648	0.683
Literacy						
Illiterate	41.46	40.20	61.65	61.64	49.41	49.28
Primary	120(58.54)	119(59.8)	51(38.35)	56(38.36)	171(50.59)	175(50.72)
Higher Secondary	28(13.66)	41(20.6)	23(17.29)	29(19.86)	51(15.09)	70(20.29)
Senior Secondary	53(25.85)	32(16.08)	48(36.09)	54(36.99)	101(29.88)	86(24.93)
Graduation & above	4(1.95)	5(2.51)	11(8.27)	7(4.79)	15(4.44)	12(3.48)
	0(0.00)	2(1.01)	0(0.00)	0(0.00)	0(0.00)	2(0.58)
Caste distribution						
SCs	0(0.00)	0(0.00)	23(76.67)	29(96.67)	23(38.33)	29(48.33)
OBCs	24(80.00)	16(53.33)	6(20.00)	0(0.00)	30(50.00)	16(26.67)
General	6(20.00)	14(46.67)	1(3.33)	1(3.33)	7(11.67)	15(25.00)

Source: Survey data

It has been observed that in Mewat, non-beneficiaries had upto 18 acres of land while for beneficiaries maximum size of holding was up to 2 acres only. In Karnal, it was 10 acres and 1.6 acres for non-beneficiaries and beneficiaries, respectively. In the case of livestock also, non-beneficiaries had larger herd-size as compared to beneficiaries in both the districts. It can be inferred on the basis of land and livestock ownership pattern that the farmers owning much land and more livestock do not participate in MGNREGA works. The farmers who have small land and livestock resources work in MGNREGA works. So employment scheme of MGNREGA is providing livelihood security to the resource- poor rural people.

Occupational Distribution of Sample Households

By analyzing the data on occupational distribution (Table 4), it was found that about 50 per cent of the household had agriculture as the main occupation, but it is important to mention that among them more than 75 per cent were non-beneficiaries, only 25 per cent were participating in MGNREGA, inferring thereby that farmers who have land are less inclined to work in this Scheme. The second important occupation was labour comprising agricultural and non-agricultural labour and the percentage was higher for MGNREGA families. The other major occupations were skilled labour and self-employment and these were also more among beneficiaries, and between the two districts, their

Table 3. Summary statistics – Land and livestock ownership of sample households in Haryana

Attributes	Mewat district		Karnal district		Total	
	Non-MGNREGA	MGNREGA	Non-MGNREGA	MGNREGA	Non-MGNREGA	MGNREGA
Land ownership (in acres)						
Mean	0.7267	4.2667	0.74667	3.6667	0.73667	3.9667
S.D.	0.6997	5.6542	0.6009	2.5603	0.6467	4.3621
Min.	0	4	0	0	0	0
Max	2	18	1.6	10	2	18
Livestock (in No.)						
Mean	1.6	2.9333	1.5333	2.1667	1.5667	2.55
S.D.	1.3025	1.01483	1.07425	1.2617	1.1841	1.1992
Min.	0	1	0	1	0	1
Max	4	5	3	4	4	5
Obs.	30	30	30	30	60	60

Source: Survey data

Table 4. Major occupational distribution of selected households

Attributes	Mewat district		Karnal district		Total	
	Non-MGNREGA	MGNREGA	Non-MGNREGA	MGNREGA	Non-MGNREGA	MGNREGA
Agriculture	6(20.00)	23(76.77)	0(0.00)	22(73.33)	6(10.00)	45(75.00)
Agricultural labour	7(23.33)	0(0.00)	4(13.33)	0(0.00)	11(18.33)	0(0.00)
Non-agricultural labour	6(20.00)	3(10.00)	16(53.33)	2(6.67)	22(36.67)	5(8.33)
Self-employed	0(0.00)	2(6.67)	1(3.33)	3(10.00)	1(1.67)	5(8.33)
Government services	0(0.00)	0(0.00)	0(0.00)	1(3.33)	0(0.00)	1(1.67)
Agricultural and non-agricultural	4(13.33)	1(3.33)	0(0.00)		4(6.67)	1(1.67)
Labour & self-employed	7(23.33)	1(3.33)	9(30.00)	2(6.67)	16(26.67)	3(5.00)

Source: Survey data

number was more in the Karnal district. It implies that the people of a developed area who don't have much land are involved in other semi-skilled activities and earn their livelihood, but the people of under-developed area are involved in the traditional works only.

Employment Pattern of Sample Households

To see the employment pattern of the selected households, data regarding participation of family members in different economic activities were analysed and are given in Table 5. It can be observed from Table 5 that in the Mewat district participation in economic activities was higher (523 day/ household/year) by non-MGNREGA families than MGNREGA families (346 day/ household/year), it was due to the participation in agricultural activities at their own farm as out of 523

days, for 390 days they worked on their own farm. It was further observed that for 100 days, they went out of the village to get employment and only for 32 days they did labour work in the village. In the case of Karnal, reverse situation was observed as non-beneficiaries participated in economic activities for 510 days/ household/year and for beneficiaries, it was 518 days/ household/year; the migration was also less in non-beneficiaries (82 days/household/year) as compared to beneficiaries (137 days/household/year). It can be inferred that in agriculturally-developed area MGNREGA did not check the migration as the people were earning more income from migration.

Extent of Employment in MGNREGA

It can be seen from Figure 1 that on an average 18.1 per cent of the total employment of a household is

Table 5. Employment pattern of the selected households

Attributes	(days/year)					
	Mewat district		Karnal district		Total	
	Non-MGNREGA	MGNREGA	Non-MGNREGA	MGNREGA	Non-MGNREGA	MGNREGA
NREGA	0	85	0	71	0	78
Agriculture & allied	390	108	418	222	404	165
Out-migration	101	27	82	137	91	82
Rural wage employment	32	126	10	88	21	107
Total	523	346	510	518	516	432

Source: Survey data

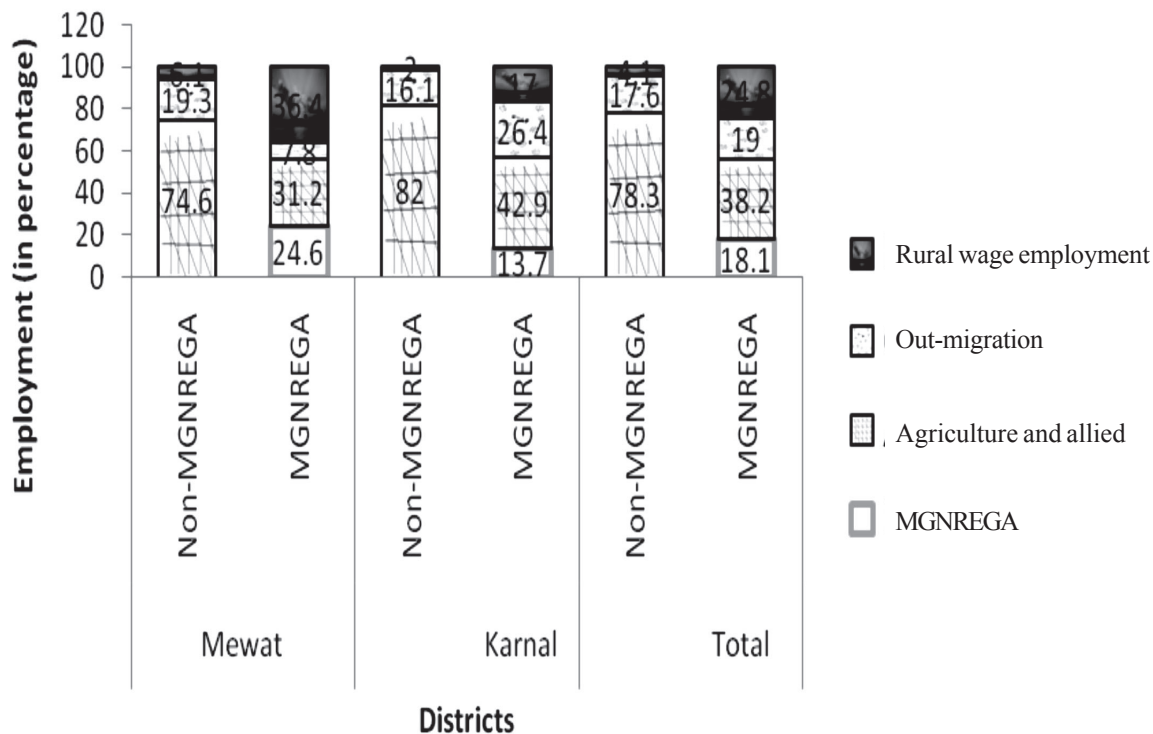


Figure 1. Employment pattern of sample households in Mewat and Karnal districts

Source: Survey data

provided through MGNREGA, with a significant difference in the developed and underdeveloped areas, it is 13.7 per cent for Karnal and 24.6 per cent for Mewat. It implies that for the backward and resource-poor areas, MGNREGA is a good source of employment.

Determination of Participation in MGNREGA Work

Participation in MGNREGA depends upon various attributes which in turn are mainly governed by socio-

economic factors. To know the various factors influencing the participation in MGNREGA, a binary logistic regression model was used. The factors/explanatory variables selected were: size of landholdings, No. of milch animals, dependency ratio, migration, ownership of vehicle, and loan from moneylenders. The results given in Table 6 reveal that all the variables, except loan, were significant having a negative sign, inferring thereby that participation in MGNREGA is negatively affected by these variables.

Table 6. Determinants of participation in MGNREGA work based on logit model

Independent variable	Coefficient	p-value	Odds ratio	p-value
Constant (β_0)	9.5238*** (4.47)	0.000	-	-
Landholding (β_1)	-3.651*** (-4.59)	0.000	.025958*** (-4.59)	0.000
No. of livestock (β_2)	-.3251 (-0.99)	0.32	.7223845 (-0.99)	0.320
Dependency ratio (β_3)	-2.772*** (-3.70)	0.000	.0624941*** (-3.70)	0.000
Out-migration (No. of days) (β_4)	-.01323*** (-3.20)	0.001	.9868541*** (-3.20)	0.001
Vehicle (β_5)	-5.105*** (-1.58)	0.001	.006066*** (-3.29)	0.001
Loan from moneylenders (β_6)	-0.0000304 (4.47)	0.115	.999969 (-1.58)	0.115
No. of observations			120	
Pseudo R ²			0.5929	
LR chi ²			98.64	
log likelihood			-33.858611	
Specification	Logit		Logit	

Source: Authors' own calculations based on survey data.

The dependent variable was binary, taking a value of 1 for the MGNREGA job-card holders and 0 otherwise.

The z- statistics are reported in the parentheses.

*** 1% significance level.

Thus, if size of holding is large, the chances to work in MGNREGA work are less. In order to give a more precise explanation, odd ratios of point estimates of the factors influencing participation were also worked out. The value of odds ratio of these variables was less than unity which implies that probability of participation is less than of non-participation. The negative sign of the logit coefficients and less than unit value of odd ratio of these variables indicated that the farmers having a large size of holding, more number of livestock, out-migrate for employment and have loans were less inclined to participate in MGNREGA work.

Conclusions

The study has concluded that the farmers owning large size of landholdings and more number of livestock are not much interested in participating in MGNREGA works as they are busy in their own activities. The farmers who have small land and livestock resources are more inclined to work in MGNREGA and their participation is also more. Thus, MGNREGA is

providing livelihood security to the resource-poor rural people. The study has also revealed that in an agriculturally-backward area participation in economic activities is more for non beneficiaries as compared to beneficiaries but in agriculturally-developed area, situation is just reverse. On an average, MGNREGA is providing employment to the tune of 18.1 per cent of the total employment of the households. The study has thrown light on the employment differential in the developed and underdeveloped areas. In the agriculturally-backward area, the share of MGNREGA jobs in total employment is 24.6 per cent, while it is 13.7 per cent in the developed area. The logit model used to identify determinants of participation in MGNREGA works has revealed that the estimates of all the variables (except loan) selected for the analysis were significant having a negative sign, inferring thereby that participation in MGNREGA is negatively affected by these variables. The negative sign of the logit coefficients and less than unit value of odd ratio of these variables have indicated that the farmers having large size of holding, more number of livestock,

migrating to other places for employment and have taken loans are less inclined to participate in MGNREGA.

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