

Determinants of Beneficiaries of MGNREGA and Socio-economic impact of MGNREGA: - A case Study of District Kathua

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Abstract : MGNREGA is scheme started to provide 100 days of employment to the jobless people. Its also aims at to eradicate poverty. The main aim of the paper is to focus on whether MGNREGA is successful in ensuring sustainable livelihood or not. The study has been conducted with the objective to analyze the functioning and execution of the scheme at grass root level and examining “the impact of MGNREGA on rural livelihoods” (Employment, Consumption and Migration) in the Changran Panchayat of Kathua District of J& K State. Logit model is used to determine the significant determinants of MGNREGA beneficiary. The institutional arrangements between workers and officials of MGNREGA, (i.e., Panchayat, village level worker) is responsible for less than 100 man days under the scheme in this study area, this is the main loophole of the scheme. There is no significant impact of the scheme MGNREGA in uplifting the rural livelihoods and sustainable development of people in this study area.

Introduction

India is country of villages & even today around 70 per cent of its population is residing in the villages of which 28.3 per cent live below the poverty line (World Bank, 2011). In India, there is the prevalence of chronic under-employment and disguised unemployment. It would be worthwhile to emphasize here that unemployment in developing economies like India is a consequence of shortage of capital equipment or other complementary resources. In addition, India is an agricultural economy, having a home for more than 130 billion of population, out of which more than 60% of population depend on agriculture for their subsistence. There is the presence seasonal unemployment. In India, 84% of the population lives in rural areas (2011 census). Though India has completed more than 65 years of independence, poverty in rural India continues to increase day by day and people are increasingly migrating to the urban areas to earn their living. In other words, even after completing 65 years of independence we have more than 40 per cent people living below poverty line. Poverty is one major factor. Rural development is necessity for the development of every nation. Rural development will pick up the tempo of growth of Indian economy and trickledown effect will ensure the reduction of poverty. So rural development and poverty reduction are both inter related and interdependent concepts. In India, present strategy of rural development is to provide basic amenities infrastructure, better livelihood opportunity and to terminate poverty through various wage and self-employment innovative programmes. Government has planned many Schemes for development of rural areas in India.

To overcome the problems and deficiencies of the earlier wage employment programmes, Government of India took a historic step by enacting the National Rural Employment Guarantee Act (NREGA) in 2005 by merging Swarnajayanti Gram Rozgar Yojana (SGRY) & National Food for Work (NFFWP) for providing livelihood security to rural unemployed.

What is MGNREGA?

The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) is a flagship Programme of Government of India. The Act was notified initially in 200 most backward districts of the country w.e.f. February 02, 2006 and extended subsequently all over India in two phases:- it was extended to additional 130 districts added in the financial year 2007-2008 (113 districts were notified with effect from April 1st 2007, and 17 districts in Uttar Pradesh (UP) were notified with effect from May 15th 2007). The remaining districts have been notified under MGNREGA with effect from April 1, 2008. Thus, the MGNREGA covers the entire country with the exception of districts that have a hundred percent urban population. The programme aims at enhancing livelihood security of the rural poor 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. The Act seeks to create durable assets and strengthen the livelihood resource base of the rural poor. The most important priority of this programme was to provide security and enhance livelihood of the poor people residing in the rural India.

Objectives of the Study:

1. To examine socio-economic determinants of MGNREGA beneficiaries.
2. To examine the impact of MGNREGA on rural livelihoods (Employment, Consumption and Migration).

Research Hypotheses:

There is no significance impact of MGNREGA on rural livelihood.

Castes, religion, age structure, educational status of the individuals do not significantly determine the MGNREGA beneficiaries' status.

Review of Literature:

Karthika (2015) carried out a study to examine the impact of MGNREGA on socio-economic development & women empowerment and analyses the process of implementation in the area of Mangalam gram Panchayat. This study reveals that 95% of implementation by Panchayat is correctly enhancing social skills. In addition, most of the workers have any one of the saving like Rural Development, insurance, saving account etc. enhancing for economic development and most of panchayats in Kerala ensure. Pamecha (2015) conducted a study to examine the earning level of each household and expenditure pattern on food and non-food item, as well as to observe the socio-economic condition of migrant people. The study reveals that only 16% women had migrated also getting low wages as compared to male workers during migration. Programmes had definitely remained beneficial to support in adding their yearly income. Narayanan et al (2014) conducted a study in order to examine and record the perceptions of impact of these works through a systematic survey of beneficiaries indentified with spatial delimitation criteria. Overall beneficiary perceptions of MGNREGA works surveyed was largely positive with more than half the respondents founding the assets created very useful. Around 40% found that these assets were "somewhat useful". Remarkably only 8% of all respondents felt that it was useless or actually had negative repercussions also including who said they did not care. Singh (2013) examined the impact of MGNREGA on migration and asset creation. The study reveals that there is weak correlation between MGNREGA intensity with rural population and out migration per thousand mean that with a percent increase in MGNREGA intensity out migration decreases.

Methodology:

A multistage random sampling and purposive sampling has been used to select the study area and households. One Panchayat of Kathua district, i.e., Changran has been randomly selected out of the total 18 Panchayats of the selected block for our sample. The main purpose of the study is to analyze the impact of MGNREGA on rural livelihood

Data collection: The present study is based on the primary data, collected from those household with at least one MGNREGA beneficiaries. In addition to that, we have also used secondary data from various sources like relevant publications journals, books, brochures etc. and internet has also been used Logit model is also applied to determine the significant determinants of MGNREGA beneficiary.

Findings and Conclusion:

Econometric modeling on the determinants of MGNREGA beneficiaries:

As stated earlier, one of our objectives is to examine the socio-economic determinants of MGNREGA beneficiaries of the sample households. Therefore, we attempt to estimate econometrically the influences of various determinants of MGNREGA beneficiaries using field survey data. We have included only eleven explanatory variables in our regression model – one quantitative and ten dummy variables . Since our dependent variable is qualitative in nature, we have used the following Logit model:

$$Y_i = \beta_0 + \beta_1 X_i + \varepsilon_i \quad (1)$$

Where

Where β_0 = intercept term, β_1 = slope coefficients.

X_i =Set of Explanatory Variables

Y_i =1 if the individual is MGNREGA Beneficiaries

= 0 otherwise, and

ε_i is the disturbance term.

It is an independently distributed random variable, and follows zero mean and serial independence (or non-autocorrelation) assumptions.

As Y_i takes on either 1 or 0 values, we can describe the probability distribution of Y_i by letting

$P_i = Prob(Y_i = 1)$ = MGNREGA beneficiaries

And

$1 - P_i = Prob(Y_i = 0) = \text{MGNREGA Non-beneficiaries}$

Characteristics of Logit Model

$$P_i = \beta_0 + \beta_1 X_i \quad (2)$$

Where X is a set of explanatory variables and $P_i = E\left(\frac{Y_i}{X_i}\right)$ means that the individual is MGNREGA beneficiaries.

$$P_i = \frac{1}{1 + e^{-(\beta_0 + \beta_1 X_i)}} \quad (3)$$

For ease of exposition, we write Eq.(2) as

$$P_i = \frac{1}{1 + e^{-Z_i}} = \frac{e^Z}{1 + e^Z} \quad (4)$$

Where $Z_i = \beta_0 + \beta_1 X_i$

Equation (4) represents what is known as the (cumulative) logistic distribution function.

$$1 - P_i = \frac{1}{1 + e^{Z_i}} \quad (5)$$

Therefore, we can write

$$\frac{P_i}{1 - P_i} = \frac{1 + e^{Z_i}}{1 + e^{-Z_i}} = e^{Z_i} \quad (6)$$

Now $P_i / (1 - P_i)$ are simply the odds ratio in favour of MGNREGA beneficiaries -the ratio of probability that the individual will MGNREGA beneficiaries to the probability that the individual will not the MGNREGA beneficiaries.

$$\begin{aligned} L_i &= \ln\left(\frac{P_i}{1 - P_i}\right) = Z_i \\ &= \beta_0 + \beta_1 X_i \end{aligned} \quad (7)$$

That is, L, the log of odd ratios, is not only linear in X, but also linear in the parameters. L is called the Logit and hence the name Logit Model for models likes equation (7).

Estimation of the Logit Model

For estimation purpose, we write equation (6) as follows:

$$L_i = \ln\left(\frac{P_i}{1 - P_i}\right) = \beta_0 + \beta_1 X_i + u_i \quad (8)$$

$$\begin{aligned} L_i &= \ln\left(\frac{P_i}{1 - P_i}\right) = \beta_0 + \beta_1 CD_{1i} + \beta_2 CD_{2i} + \beta_3 CD_{3i} + \beta_4 FTD_i + \beta_5 GD_i + \beta_6 OD_{1i} + \beta_7 OD_{2i} + \beta_8 RCD_{1i} + \beta_9 RCD_{2i} \\ &\quad + \beta_{10} RD_{1i} + \beta_{11} RD_{2i} + \beta_{12} Age_i + u_i \end{aligned}$$

$$\begin{aligned} Z_i &= \beta_0 + \beta_1 CD_{1i} + \beta_2 CD_{2i} + \beta_3 CD_{3i} + \beta_4 FTD_i + \beta_5 GD_i + \beta_6 OD_{1i} + \beta_7 OD_{2i} + \beta_8 RCD_{1i} + \beta_9 RCD_{2i} + \beta_{10} RD_{1i} + \beta_{11} RD_{2i} \\ &\quad + \beta_{12} Age_i + u_i \end{aligned}$$

A brief description has been given below on the variables used and their measurement.

Caste (CD)

In our study, three categories of caste found namely SC, ST and GENERAL. In order to estimate the econometric model, we have taken two dummy variables for caste and GENERAL category is used as a benchmark category.

(CD)_1=1, If SC

= 0, Otherwise

(CD)_2=1, If ST

= 0, Otherwise.

Type of Family (FTD)

Type of Family is divided into two categories nuclear and joint. In our econometric model we use one dummy variable and nuclear family is used as a bench mark.

(FTD)_i=1, If Joint family
= 0, otherwise.

Gender (GD)

GENDER is classified into two categories male and female respectively. In order to estimate the econometric model we use one dummy variable and female is considered as base category.

(GD)_i=1, If male
= 0, otherwise.

Occupation (OD)

In our study, occupation is divided into eight categories organized wage employed, unorganized wage employed, farming, self-employed, housewife, student, unemployment, artisans respectively. For the purpose of our econometric model eight categories are divided into three sub categories i.e. Wage organized, wage unorganized (Farming, Self employed and Artisan) and unemployment. We used two dummies, where unemployment is used as a bench mark category.

(OD)₁ = 1, If wage organized
= 0, otherwise

(OD)₂ = 1, If wage unorganized, farming, self employed artisan
= 0, otherwise.

Ration card (RCD)

Ration card is divided into four categories APL, BPL, AAY, NONE respectively. In order to estimate the econometric model we have clubbed these four categories into three categories. Since we have very few households belong to AAY category we clubbed it with BPL category. Therefore, we used two dummy variables and none category is considered as benchmark here.

(RCD)₁ = 1, If APL
= 0, otherwise

(RCD)₂ = 1, IF BPL & AAY
= 0, otherwise.

Religion (RD)

RELIGION is divided into five categories namely Hindu, Muslim, Sikh, Christian, others. In our study area, two category of religion were found. Therefore, we use one dummy variable and Muslim category is used as a benchmark category.

(RD)₁ = 1, If Hindu
= 0, otherwise.

AGE

AGE is a quantitative variable in measure number of years in our study.

Estimated Results

Dependent Variable: MGNREGA_WORKERS				
Method: ML - Binary Logit (Newton-Raphson / Marquardt steps)				
Date: 07/09/16 Time: 16:11				
Sample: 1 172				
Included observations: 171				
Convergence achieved after 5 iterations				
Coefficient covariance computed using observed Hessian				
Variable	Coefficient	Std. Error	Z-Statistic	Prob.
C	-3.900676***	2.317337	-1.683258	0.0923
CD1	-5.571901*	1.360315	-4.096038	0.0000
CD2	-4.393098*	1.754300	-2.504189	0.0123
FTD	-1.524290*	0.611497	-2.492718	0.0127
GD	1.146969	0.720129	1.592727	0.1112
OD1	2.413759***	1.415527	1.705201	0.0882
OD2	3.397044*	0.730620	4.649537	0.0000
RCD1	1.580530	1.413014	1.118552	0.2633
RCD2	1.115745	1.344106	0.830102	0.4065
RD	2.825048***	1.536462	1.838671	0.0660
AGE	0.078490*	0.019473	4.030703	0.0001
McFadden R-squared	0.542837	Mean dependent var	0.403509	
S.D. dependent var	0.492042	S.E. of regression	0.312696	
Akaike info criterion	0.745285	Sum squared resid	15.64465	
Schwarz criterion	0.947380	Log likelihood	-52.72187	
Hannan-Quinn criter.	0.827287	Deviance	105.4437	
Restr. Deviance	230.6478	Restr. log likelihood	-115.3239	
LR statistic	125.2040	Avg. log likelihood	-0.308315	
Prob(LR statistic)	0.000000			
Obs with Dep=0	102	Total Obs	171	
Obs with Dep=1	69			

Note: *, ** and *** indicates 1%, 5% and 10% level of significance respectively

Estimated Results and Discussion

The estimated results of the household registration in MGNREGA model is given in table. Results show that sign of most of the estimated coefficients are as expected, particularly for the total sample. A brief description is given below for each explanatory variable.

C (Constant): is statistically significant at 10% significance level. As its value changes the Logit value goes down by 0.0923 i.e. Logit odd ratio in against of MGNREGA beneficiary is 0.0923.

Caste:

(CD)₁: Holding all other variables constant, for the estimated coefficient of the [(CD)]₁, we have strong evidence on it because it is statistically significant at 1% level of significance. This means that the enrollment of SC population under MGNREGA is higher as compared to other population of other castes.

(CD)₂: All other variables remaining to be constant, for the estimated coefficient of the CD2, we have no strong evidence on it but it is highly statistically significant at 1% level of significance i.e. the probability of enrollment of General and ST population is 0.0123. We have an expected sign for it i.e. there is a negative relationship between CD2 and Logit value such that if there is a 1 percent increase in the value of CD2 variable then there is a 1 percent decrease in the Logit value. This means that the enrollment of General and ST population is lower than other caste population.

Type of Family

FTD: is statistically significant at 1% significant level, holding all other variables as constant but we have less evidence for it. If the individual belongs to joint family then, there is lesser chance of enrolling under MGNREGA. As the FTD value changes by 1%, the Logit value goes down by 0.0127 i.e. Logit odd ratio in against of enrollment under MGNREGA is 0.0127.

Gender:

GD: It is found that there is positive relation between the Logit value and GD but it is not statistically significant. If the gender is male the Logit value goes down by 0.1112 i.e. Logit odd ratio in against of enrolment under Mgnrega is 0.1112, because of the low wage rate they are less likely to work under MGNREGA, but we have less evidence on this since the coefficient is statistically insignificant.

Occupation:

OD1: It has been seen that there is a positive relation between OD1 and Logit value and is statistically highly significant at 10% level of significance. As the OD1 value increases by 1% the Logit value goes up 0.0882 i.e. Logit odd ratio in favour of enrolling under MGNREGA is 0.0882. People who are engaged in wage organized sector are more likely to enroll under MGNREGA and we have strong evidence on it.

OD2: It has been observed that OD2 is highly significant at 1% significance level keeping all other variables constant and has a positive relation between OD2 and Logit value. As the people who are engaged in wage unorganized sector, are farmers or self employed are more likely to enroll under MGNREGA.

Both RCD1 and RCD2 are not statistically significant, but having positive signs i.e. type of ration card has nothing to do with enrollment under MGNREGA. But probability of enrollment is high of people with APL card as compare to BPL and AAY card holders.

RELIGION:

RD: The coefficient of RD1 has a positive relationship with Logit value and is highly statistically significant at 10% level of significance for the total sample population. It is seen that the probability of average enrolment of Hindu community is higher by about 0.0660 as compared to enrollment of Muslim community.

AGE is a quantitative variable here. It has a positive effect on enrollment under MGNREGA and is highly statistically significant at 1% level of significance, holding all other variables constant.

McFadden R-Squared is the Goodness of Fit. Goodness of Fit explains, "How well the estimated data fits the sample data". Its value is 0.542837 i.e. 54 percent of the variation in dependent variable is explained by the explanatory variable and rest of the 46 percent of variation in dependent variable is explained by the error term.

After conducting the survey on "Impact of MGNREGA on rural livelihood" in the Panchayat Changran, we examine various findings as reflected by the results of our survey.

It has been observed from the estimated model that AGE of the beneficiaries, beneficiary who belongs to joint families, beneficiary who is engaged in wage unorganized sector are significantly positive determinants of MGNREGA beneficiary in the study area "Panchayat Changran". On an average, impact of MGNREGA on consumption patterns of sample household remains same, i.e., not influenced positively the consumption patterns of sample households in the Panchayat Changran. It has been observed that 36 percent respondents migrated before joining MGNREGA, as an impact of enrolling under MGNREGA only 13 percent of respondents migrated after joining MGNREGA, it is concluded that MGNREGA has a minor impact on migration of workers. Only 36 percent sample population reveals that MGNREGA has improved the condition of poor people in the Panchayat Changran. Thus to conclude, in survey area, i.e., Kathua, MGNREGA has provided employment to vulnerable group of society but not provided 100 days job guarantee to who are willing to do jobs under this scheme. In some cases, wages were not given after the completing of work and unemployment allowance, which works as another safe guard of this scheme not provided.

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