

## **EFFECTIVENESS OF MAHATMA GANDHI NATIONAL RURAL EMPLOYMENT GUARANTEE PROGRAMME TO CHECK MIGRATION AMONG THE RURAL HOUSEHOLDS**

*Amit Kundu\**

### **ABSTRACT**

*An important objective of Mahatma Gandhi National Rural Employment Guarantee Programme (MGNREGP) is to curb rural out-migration. This paper, on the basis of a micro-level field investigation, investigates the effectiveness of this programme to reduce the intensity of migration of the rural poor households to urban areas. The survey area is a mono-cropping area but job in the private non-farm employment in the locality is available moderately. Besides that, the geographical distance between the surveyed villages and the nearby urban or semi-urban areas is small which indicates very low cost of migration of the daily migrant. Incidentally, all the migrants in the sample villages are daily migrants. The local farm, average private non-farm wage and the average wage rate in the nearby urban informal sector is more than MGNREGP piece-rate. Hence, seeking employment here through MGNREGP is not exogenous but endogenous in nature. In this background, it is proved that 'motivation' is a factor which influences the local MGNREGP job card holders to secure more persondays of employment through MGNREGP and the households who could secure more persondays of employment through MGNREGP are less prone to migrate from their native village.*

### **Introduction**

Mahatma Gandhi National Rural Employment Guarantee Programme (MGNREGP) in India is a welfare programme

mainly for the rural people, whose prime objective is to offer hundred days of work to unemployed families in their own locality within an entire accounting year at which the participating labourer will receive the

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\* Associate Professor, Department of Economics, Jadavpur University, Kolkata, West Bengal -700 032. E-mail: akundu1970@gmail.com, akundu29@gmail.com

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government declared piece rate after completion of assigned work within a single person day. It is expected that this employment programme through generating employment in the local areas can reduce the intensity of rural to urban migration. Rural to urban migration means movement of people from rural areas to urban areas to seek employment. The major reasons for this movement can be classified into push and pull factors. A push factor is something that can encourage people to move away from an area mostly due to lack of employment opportunity or what they can earn in their own is not sufficient enough for maintaining the subsistence level of consumption and pull factor is one which encourages people to move to an area for better chance of getting higher paid job. It is expected that MGNREGP may check the push factor of migration.

Proper expansion of MGNREGP in village level can generate sufficient non-farm employment closer to home in decent working condition and can enhance both farm as well as non-farm wage which can check migration for better paid job and employment opportunity. There may be another counter argument which will tell that this type of programme may help the poor rural households to improve their earnings which may be utilised as migration cost and there is a possibility that getting more person days of employment through MGNREGP may encourage the out-migration of the rural households. Kumar and Prasanna (2010) had shown that MGNREGP has reduced the distress migration of the rural labourers. Verma (2012) had also supported this view. But both the investigations were done in the economically backward areas where the availability of job in the private non-farm sector was very poor. In this situation, the rural labour households had

little option but to seek employment through MGNREGP during the agricultural slack season or to migrate in the urban areas for survival purposes. But the study area is quite different where private non-farm employment is moderately available during agricultural lean season and the geographical distance between the native rural area and the nearby urban area is small which indicates very low cost of migration. So seeking employment through MGNREGP is not the main employment opportunity in their own locality mainly in the agricultural slack season among the rural households. Hence, total number of person days seeking employment through MGNREGP may not be exogenous but endogenous in nature. On the basis of this background, we have to investigate whether expansion of MGNREGP in such region can reduce the intensity of daily distress out-migration of the rural poor households. Till now no quantitative study has been done on this topic. We here will try to do that, where not the participation in MGNREGP, but number of days of work under this programme in a particular accounting year is considered as 'factor' in this 'impact evaluation'.

### Sample Selection

The present study is based on the survey of households in the South 24 Parganas district of West Bengal, India, one of the country's 250 economically most backward districts in 2006 (Ministry of Panchayati Raj, 2009). Average person days generated through MGNREGP in the South 24 Parganas district were 17.16 in 2009-10, 20.32 in 2010-11 and 32.12 in 2011-12, respectively. The district has 29 blocks. In this micro level study, Mandir Bazar block of that district was randomly chosen. From that block three gram panchayats, Krishnapur, Anchona and Gabberia, were chosen randomly.

From each gram panchayat, three gram-shansads (each of which is basically a village) were chosen. During the time of choosing them, two important aspects were considered: (i) the agrarian economy of the villages and (ii) the availability of job in the private farm and non-farm sector within the villages and in the external world i.e. in other villages as well as in the nearby urban or semi-urban areas of the native villages. It was observed that the agro-climatic conditions of the villages are identical. Most of the resident households are either small or marginal farmers or rural labour households and possess BPL card. All the farmers cultivate their own land in the rainy season. But in the winter, due to high cost of cultivation and lack of availability of own family labour force, a good percentage of the marginal and small farmer households are not always willing to cultivate. During that time, they have three options: (i) work in the private non-farm sector, (ii) work through MGNREGP and (iii) migrate to the nearby urban area (Kolkata and its suburbs) where they can have job mainly as construction worker on daily basis. So we claim that employment opportunities and different wage structures in the sample villages are almost same. Hence the sample villages can be called homogeneous in nature in terms of employment opportunities. From the official website of MGNREGP, the households of each gram shansad who enrolled themselves in this employment programme prior to the financial year 2011-12 were identified because in the investigation, financial year 2011-12 (from April 2011 to March 2012) was chosen as reference period and this purposive sampling assures that all the chosen households can seek employment through MGNREGP in the entire reference period. It came out from the official website of MGNREGP that before the financial year 2011-12, on an average 60 households enrolled themselves under this employment programme in each sample village. Hence from these households, around 35 households from

each gram shansad were randomly chosen. Total sample size of the households is 314. All the sample households are either rural labour households or marginal/small farmer households. The field survey was done between May 2012 to July 2012. This time period was chosen to get necessary socio-economic information including persondays of different types of employment of the sample households in the financial year 2011-12 keeping the recall period as minimum as possible. It should be also noted that proper expansion of this employment programme in the sample villages had started mainly from the financial year 2011-12. Before that, most of the households got maximum 25 persondays of employment. But, in the reference period, 172 out of 314 sample households got more than 45 persondays of employment. Again out of 172 sample households, 30 households could manage to get full 100 days of employment. Besides that, there are 49 registered households who did not seek any personday employment in the entire reference period through this programme. Thus, the presence of wide heterogeneity in the same region could be seen among the sample households during the time of securing employment through MGNREGP. It may be mentioned here that 'household' is treated as unit in this impact evaluation.

### Research Methodology

Migration decision is here treated as 'binary response' and takes the value either 1 or 0. It is considered as 1 when we observe daily migration of any member of the sample household at least once in the entire reference period. Otherwise it is considered as '0'. We have to consider a set of explanatory variables which contain various household specific characteristics and on the basis of the estimation of Probit model, we want to identify

the factor(s) which can influence the migration decision of a household. But the parameter estimates of the original Probit model will be biased if at least one explanatory variable becomes endogenous. To tackle this problem we have to take the help of Instrumental variable estimation in the Probit model'. We have to carefully take the instrumental variable of the endogenous explanatory variable of the original Probit model in such a way that the instrument is correlated with the endogenous explanatory variable and uncorrelated with the error term of the original Probit model.

The Eq.(1) is the original Probit model and Eq.(2) actually explains the possible explanatory variables which can influence the 'endogenous' explanatory variable of Eq.(1).

$$\begin{aligned} \text{MIGR}_i &= \alpha_1 \text{AFM}_i + \alpha_2 \\ &\text{NREGSDAY}_i + \alpha_3 \text{BPL}_i + \alpha_4 \\ &\text{EDU}_i + \alpha_5 \text{LANDSIZE}_i + \alpha_6 \\ &\text{TNONFARM}_i + \mu_i \dots\dots\dots \text{Eq. (2)} \end{aligned}$$

In Eq.(1) we consider 'NREGSDAY' as endogenous explanatory variable. There should be one variable in Eq.(2) which should not be in Eq.(1). So we have Eq.(2) which is narrated below.

$$\begin{aligned} \text{NREGSDAY} &= \beta_0 + \beta_1 \\ &\text{MOTIVATION}_i + \beta_2 \\ &\text{LANDSIZE}_i + \beta_3 \text{BPL}_i + \beta_4 \\ &\text{TNONFARM}_i + \varepsilon_i \dots\dots\dots \text{Eq. (2)} \end{aligned}$$

Initially, we have to justify the application of Instrumental variable in the original Probit model. If we can do that only then we can draw the inferences.

The variables used in Eq.(1) and Eq.(2) are narrated below:

MIGR=> This is dummy dependent variable of Eq.(1). The nature of this variable was already explained before. So here, 'MIGR' can take any of the two values 1 or '0'. In the field survey, it is observed that the migrant labourer is actually a daily migrant labourer who lives in his/her native village but goes outside the village mainly to nearby urban areas to do work in the informal sector (mainly in construction sector) on daily basis. On an average, 148 out of the 314 sample households reported that before 2011-12 at least one member of each household migrated to the nearby urban area as daily migrant for better wage and employment, but now the size came down to 68. The daily wage rate of the migrant labourers in different urban informal sectors in the reference period was between ₹ 180 to ₹ 250 which is much higher than local private non-farm wage and per person/day MGNREGP piece rate. We know that if MGNREGP is properly expanded, then one can expect that the willing households can seek more person-days of employment locally. So, we have to investigate whether this expansion in the sample villages can drop the intensity of migration among the rural participating households.

AFM => Total number of adult family members (between age 18 and 50) in each sample household. It is expected that the possibility of migration may be much higher among the sample households which consists of more number of adult working members.

NREGSDAY=> Total number of mandays the  $i^{\text{th}}$  households has worked under MGNREGP in the financial year 2011-12. In the sample, on an average, the households are seeking 49

persondays of employment through MGNREGP. Due to heterogeneity among the households during the time of securing employment through MGNREGP, there may exist at least one factor which can influence the decision of the sample rural households during the time of seeking employment through this employment programme. So in Eq.(1), NREGSDAY is considered as endogenous regressor of Eq.(1).

$BPLDUMMY_i = >$  Whether the  $i^{th}$  household belongs to BPL category or not. It is treated as Dummy Variable and takes the value 1 if the household is a BPL card holder or '0' otherwise. As BPL card holding households belong to economically backward community, it is expected that BPL households will be more prone to migrate to the nearby urban area for better paid job or (and) can seek more persondays of employment through MGNREGP. In the investigation, out of 314 sample households, 290 households (92 per cent) belong to BPL category.

$EDU_i = >$  Education level (measured in terms of years of schooling) of the head of the  $i^{th}$  respondent household.

$LANDSIZE_i = >$  Size of land owned by the  $i^{th}$  respondent household. Ownership of land indicates economic affluence of a rural household. It was already mentioned that in the sample the land owners are mainly 'marginal farmer' class. It is expected that a landholding household may be less prone to migrate to the nearby urban area for better paid job or seek employment through MGNREGP in his own locality. In the investigation, out of 314 sample households, only 28 households were landholding class and all are marginal farmer households. The remaining households are landless.

$TNONFARM = >$  Total persondays the working members of the respondent households worked in the non-farm sector, except MGNREGP, in the entire reference period within the locality.

It was already mentioned that 'NREGSDAY' is here considered as an endogenous explanatory variable of Eq.(1). But it is assumed that the remaining explanatory variables of Eq.(1) are uncorrelated with ' $\mu$ '. Hence the reduced form of equation of 'NREGSDAY' is written in Eq.(2). Now as 49 out of 314 values of 'NREGSDAY' is zero, we have to take the help of censored regression or 'Tobit' model (which is effectively a hybrid between a standard regression model and a binary choice model) during the time of estimating Eq.(2).

The sample villages are mostly mono-cropping villages and the cultivation is done mainly in the rainy season, i.e., between June to October. In this period MGNREGP works are not done. Most of the agricultural labourers in the survey on an average could arrange about 50 persondays of employment annually from agricultural activities. In this period, the agricultural labour households prefer to do agricultural activities in their domestic locality and give less importance on migration. So a willing job-card holder can seek employment through MGNREGP, mainly in April-May and between October to March. Job in the private non-farm sector in the sample villages is moderately available every year and on an average, a sample household can avail of 80 persondays of employment in the entire reference period from local private non-farm sector. Besides that, it also came from the field investigation that a household without seeking any personday employment through MGNREGP can maximum avail about 130 mandays from private non-farm employment

in his/her native and nearby village in the entire reference period<sup>2</sup>. So a rural labourer without seeking employment through MGNREGP and without migration can arrange maximum 180 mandays of employment annually. Hence, without MGNREGP, some unemployment problem exists among the rural households in the sample villages.

Hence, during the time of taking decision on migration, the availability of job in local non-farm sector in persondays may create an impact on the decision of the household to migrate and (or) to seek employment through MGNREGP.

MOTIVATION<sub>i</sub> => It is also here treated as Dummy variable. Motivation refers to the psychological process that directs behaviour and determines its intensity and persistence. During the time of field investigation, the head of the sample household was asked whether the household prefers to demand employment through MGNREGP<sup>3</sup> in the entire reference period in the presence or absence of private non-farm employment. The value of the dummy variable was taken as 1 if the answer was affirmative, otherwise '0'<sup>4</sup>. On the basis of the field investigation, three major factors were identified which can influence the MOTIVATION' of the sample rural households during the time of seeking employment through MGNREGP:

1. MGNREGP is a demand based policy. Here the job applicant should get work within 15 days after applying for work. During the time of arranging employment, the elected member of local gram sanshad should play an important coordinating role. But the initiative of the local elected member to arrange job is not symmetric for all

sections. Sometimes, regular visit to panchayat office (sometimes it is far from house and a labourer may have to sacrifice one personday employment) to secure job under MGNREGP is required which reduces the motivation of the job card holders to seek work under this scheme<sup>5</sup>. This indirectly indicates some necessity of loyalty to local political party which is now in power in local panchayat.

2. We have found group formation among the male job seekers during the time of seeking employment through MGNREGP and all the group members are very much motivated to work under MGNREGP. The group is formed among the able bodied job seekers whose physical work capacity is high and homogeneous in nature. This informal group formation is also encouraged by local panchayat. On each personday, each job seeker has to dig 50 cubic feet soil. A group of five persons have to dig 250 cubic feet soil which helps the local engineer to measure the size at a time. Able bodied homogeneous members form group on the basis of expectation that all the group members will give equal effort to complete one personday work quickly. Peer monitoring among the group members is also observed here though the payment is made on the basis of piece rate. After completion of work, the individuals can go for another work or can do two persondays work in a single day<sup>6</sup>. This cooperation among the group members help them earn two persondays MGNREGP wage in a single day.

3. Sometimes rural labour households want to participate in MGNREGP because they think they can complete one personday work devoting less effort. Actually in the private non-farm sector, a labourer has to work at least 8 hours in a day and very high level of effort has to be devoted in the entire working hours whereas one can earn one personday piece rate through digging 50 cubic ft soil in MGNREGP devoting far less effort if we compare that with previous one.

### Results and Discussion

If the two error terms mentioned in Eq.(1) and Eq.(2),  $\mu_i$  and  $\varepsilon_i$  are correlated, then to get consistent estimate of Eq.(1), we have to estimate Eq.(1) and Eq.(2) jointly. To do that we have to apply instrumental variable (IV) estimation in the bivariate Probit model mentioned in Eq.(1). We know that a good IV should satisfy two basic conditions: (i) it should influence the outcome variable 'NREGSDAY'

mentioned in Eq.(2) and (ii) it should not affect the migration decision of a sample household<sup>7</sup>. It was tested that 'MOTIVATION' is not influencing the migration decision of a household or total persondays of employment of the sample households in non-farm sector, but plays an important role on 'NREGSDAY'. In this model, 'MOTIVATION' is used as an instrument of 'NREGSDAY'<sup>8</sup>. We have to run a Tobit regression in Eq.(2) on the number of persondays of work through MGNREGP of each sample household and then use the estimate to run probit regression in Eq.(1) to investigate if more participation in MGNREGP create any impact on daily migration decision of the rural participating households. Statistical significance of the estimated value of the correlation between and which is here presented as  $\hat{\rho}$  can establish the necessity of application of Instrumental Variable in the linear probit model described through Eq.(1) in the investigation. The results of the econometric exercises are presented in Table 1 below.

**Table1: The Results of The Probit Model Calculated on the Basis of Instrumental Variable Estimation**

Dependent Variable: MIGR		
Name of the Explanatory Variable	Value of the Co-efficient	Value of the Marginal Co-efficient
TNONFARM	-.0069*(.0026)	-.0028
AFM	.112**(.059)	.0374
NREGSDAY	-.223*(.04)	-.0076
BPL	.81(.598)	.205
EDU	.137**(.0711)	.456
LANDSIZE	.161**(.081)	.0535
CONSTANT	-1.789*(.557)	
$\hat{\rho}$	-1.405*(.594)	
Wald $\chi^2(6)$	44.47*	

The standard errors are given in the parentheses.

\*=> significant at 1% level and \*\*=> significant at 5% level, \*\*\*=> significance at 10% level.

The result establishes the fact that  $\hat{\rho}$  is statistically significant. Hence, in the impact evaluation, application of instrumental variable in the Probit model mentioned in Eq. (1) was necessary because it is established that total persondays of seeking employment through MGNREGP is endogenous in nature<sup>9</sup>. The Wald test concludes that there exists endogeneity in one of the covariates used in Eq.(1) and it is here 'NREGSDAY'.

The regression results mentioned in Table 1 show the following results:

- (i). The households who got more persondays of employment through MGNREGP in the entire reference period are less prone to migrate to the nearby urban areas for better paid job. It is also proved that only the 'motivated' households (as narrated before) seek more persondays of employment through this government employment programme. This is the most important result of our 'impact evaluation'. Actually, a large section of the sample households (near about 78 per cent) stated during the time of field investigation that availability of job in their own locality through MGNREGP discouraged them to go even in the nearby urban areas for searching employment. It also came out from the field investigation that, few persondays of assured employment in their own locality mainly in the agricultural slack season are enough to persuade few rural households in the survey region to 'stay back' in their own locality. Hence, it is proved that expansion of this employment programme can reduce the intensity of rural to urban migration
  - by providing work for the needy rural people closer to home at decent working conditions.
  - (ii). It is also proved from Table 1 that the sample households who could secure more persondays of employment in the local private non-farm sector are less likely to migrate in the urban areas.
  - (iii). The probability of migration of at least one working member is more among the sample households who have more number of adult family members.
  - (iv). The higher the education level of the head of the family, higher will be the probability of migration of at least one working member of the household to the urban area for better paid job.
  - (v). It is also established that landholding households are more prone to migrate to the urban area for better paid job. We have already mentioned that most of the land owners are marginal farmers (though this group occupies only 9 per cent of our sample households). Due to high cost of cultivation, particularly in the winter season, and lack of availability of family labour force, a sizable number of marginal farmer households prefer not to cultivate their land in the lean season. During that time, either they lease-out their land or keep their land barren and migrate to the urban area for employment where the payment is not only better than what he can get in his native village but also instant.
- It was already mentioned that the intensity of migration of the sample households decreased in our reference period



if we compare that with previous two reference periods. The parameter estimates of different explanatory variables mentioned in Eq.(1) shows that expansion of non-farm employment through MGNREGP and in private sphere in the survey regions are the two major causes behind that.

### Conclusion

MGNREGP is essentially a social safety net provided by the government of India since 2005. One of the prime objectives of MGNREGP is to curb out-migration of the rural labourers through generating local non-farm employment mainly during the agricultural lean season. It came out from the field investigation that this employment programme has become an important source of local employment. In the study area only limited number of households, mainly belonging to landless agricultural labour households have some intention of migration to the nearby urban area. A large number of sample households reported that expansion of this employment programme provides supplementary income for them and is able to reduce the uncertainty in the local job market during the time of seeking employment. So they are now able to stay with their family instead of moving away from their family for survival purposes. Asset creation through MGNREGP also helps the labour households to get private farm and non-farm employment throughout the year particularly in the agricultural lean season. Hence it is observed that the higher the number of persondays a household got job in private non-farm employment, he will be less prone to migrate. If we look at overall impact it is proved that in the survey area, expansion of MGNREGP is able to reduce the intensity of migration among the rural households.

### Policy Implications

It is observed that in the survey area, MGNREGP is effective to reduce the intensity of migration from rural to urban areas. But to continue this success, government should follow the following two strategies:

1. It is good that MGNREGP wage is paid through bank account. It has reduced corruption during the time of wage payment. Besides that, this is also a good financial inclusion drive among the poor and the marginalised class particularly in the rural areas. But the payment of wage should not be delayed, i.e. the 'patience cost' incurred by a MGNREGP wage earner during the time of getting wage should be minimised. Actually poor households require money to maintain their basic daily consumption needs. In that situation, if getting wage is delayed, the household may lose interest to seek employment through this programme, rather he will prefer to participate in a private employment programme where the payment is instant. In that situation he may migrate. So government should improve its system so that after completion of assigned task, the participant can get his/her wage quickly.
2. 'Clientelism' should be avoided. It came out from the field investigation that rural households who are willing to seek job through MGNREGP sometimes have to depend on the influence of local political parties during the time of seeking employment. This was accommodated as 'motivation' in our selection equation. It is observed that less motivated households are not getting good number of persondays of

employment through MGNREGP and they may be more prone to migrate in the nearby urban areas. Only reduction of the intensity of 'clientelism' during the

time of seeking employment through MGNREGP can reduce the rural to urban migration among the poor rural households.

### References

1. Kumar. R. and R. Prasanna (2010), 'Role of NREGA in Providing Additional Employment for Tribal and Curtailing Migration' in National Rural Employment Guarantee Act: Design, Process and Impact', New Delhi, Ministry of Rural Development.
2. Verma. S (2012), 'Labour Markets Dynamics in Post-MGNREGS Rural India' Unpublished Note Shared with the Ministry of Rural Development.

### Endnotes

1. Instrumental variable estimator in the Probit model considers the Maximum Likelihood Estimator by default.
2. In the previous reference period, the employment picture of the rural households from the private non-farm sector was worse. Due to expansion of 'Indira Awaas Yojana', the rural labourers now get few more days of employment in private non-farm sector in their own locality.
3. The information came out from the field survey that per personday private non-farm wage in the locality is ₹ 170 and wage rate in the nearby urban area is ₹ 200 – ₹ 250 and these are no less than the MGNREGP piece-rate which was then ₹ 136. Hence, most of the times, the household has an alternative employment opportunity except through MGNREGP. In the non-farm sector or in the nearby urban area, the labourer has to devote high level of effort in one personday but the payment is instant. In MGNREGP each labourer has to devote less effort to do work one personday and the payment is also not instant. The wage payment is made through bank account and it is observed that a labourer can get payment not less than 20 days after completion of the job which implies that each participating labourer in MGNREGP has to bear 'patience cost' before getting their payment.
4. There are some households who demanded employment through MGNREGP only once in the entire reference period.
5. Sometimes a rural household after securing 10 -15 persondays of employment through MGNREGP are not willing to seek that due to its' heavy transaction cost. They are also not motivated enough to seek employment through MGNREGP again and again.
6. The local panchayat cannot officially show that type of incidence. The panchayat has to accommodate the incidence in two days. But during the time of field survey, it was observed that a good number of job card holders who mainly belong to certain group do two personday work under MGNREGP in a single day. Their physical capability helps them do that.

7. The estimated Probit Model shows  $MIGR = -.732 - 0.161MOTIVATION + e_i$   
(.172)

The result shows under no circumstances, 'MOTIVATION' can influence the migration decision of a household because the parameter estimate of 'MOTIVATION' is statistically insignificant.

8. It is observed that the correlation co-efficient between 'MOTIVATION' and 'TNONFARM' is .03 and it is statistically insignificant. Hence the problem of multi-co linearity will not arise in Eq. (2).
9. The regression result of the Tobit model mentioned in Eq.(2) will be as follows.

$$\begin{aligned} NREGSDAY &= 2.28^* + 1.314^* \\ & MOTIVATION - .0045 TNONFARM + .201 \\ & LANDSIZE - 1.22 BPL + e_i \end{aligned}$$

\*=> significant at 1% level.

The above result shows 'MOTIVATION' influences 'NREGSDAY' i.e. only the highly motivated households are more prone to seek more persondays of employment through MGNREGP.