**Research Article**

# AN EVALVATIVE STUDY ON THE PERFORMANCE OF MGNREGA IN J&K STATE

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| ARTICLE INFO | ABSTRACT |
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| | The scheme is a major rural development policy push of the government of India which has been introduced for providing a sustainable income security to rural people. The scheme has been designed on a self targeting principle in that it doesn't differentiate on the basis of socio-economic characteristics of rural people. The present study has endeavored to identify and analyze the operational performance of the scheme in the Phase-I districts of Kupwara and Poonch. The results of the study indicate muted performance of the scheme with insignificant impact on employment and wages of participating households. The wage employment under the scheme has significantly reduced rural labour migration in the study area. |

## INTRODUCTION

India has a huge proportion of its population living in villages and the rural character of the country is reflected in the Govt. of India Census 2011, which shows that 69% of Indians live in rural areas. Besides, India is home to one third of the poor people in the world who are living below international poverty line of $1.90 a day *(World Bank, 2016)*. The rural character of India coupled with massive poverty in the country, policy makers have given considerable importance to poverty alleviation, unemployment reduction and economic development particularly in rural areas. These objectives are a common focus in all the five-year plans formulated since independence in 1947. The setting up of planning commission in 1950 was a major milestone in this direction as it laid down the objectives and strategies for economic development of India with special attention given to rural economy *(Desai, 2009)*.

The enactment of MGNREGA (2005-06), a flagship rural development programme of Govt. of India, is a rights based approach to rural development which was missing in previous rural development schemes. It is aimed at providing livelihood security in rural India by providing work on demand to the rural households to do unskilled work for a period of 100 days at the prevailing minimum wage rate in the states *(MGNREGA Act, 2005)*. The focus of MGNREGA is on creating sustainable rural livelihood through regeneration of the natural resource base by creation of durable assets, enhancing

productivity and strengthening rural governance through decentralized planning & built in system of accountability in the form of social audits *(MGNREGA Act, 2005)*.

The MGNREGA ranks among the most powerful policy interventions for the socio-economic uplifment of rural India. The MGNREGA has three distinct goals including protective, preventive and promotive. It protects the rural poor from vulnerabilities by providing them demand based employment. It prevents risks associated with agricultural investment and forced migration of the rural poor. It brings in buoyancy in rural economy via increased consumption demand *(Mathur, 2007)*. The MGNREGA provides basis for permanent social security system and even acts as an instrument for planned and equitable rural development. It also focuses on raising the productivity of agriculture by creating durable assets. To ensure rights and entitlements of workers under MGNREGA, an exclusive National Rural Employment Guarantee Fund has been set up for implementation of the programme. The Act has a systematic approach for identification and execution of works and payment of wages. It also has the provision for transparency and accountability of implementing agencies. The direct outcome of this provision is conduct of social audits by the Gram Sabhas (GSs) which have been mandated not only by Right to Information (RTI) Act but also the MGNREGA Act 2005-06. The J&K state has extended the benefits of the central act to the rural areas in the state in a phased manner by framing its own policy known as Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS). This was done to overcome the constitutional limitations as the central MGNREGA is not applicable to the state. Therefore, the present study uses the acronym MGNREGS instead of MGNREGA.

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There are several research studies which have focused on the impact of the scheme in India. Besides, the previous studies have also attempted to analyze the implementation and process mechanism of the scheme in India for past many years. However, research on operational efficacy of MGNREGS in the study area is not adequate. Therefore, the present study is an attempt to bridge this research gap in the literature by empirically examining the operational efficacy of MGNREGS in-terms of its impact on key performance indicators such as man-days generated or employment, addition to household income, rural-urban migration. The study also tries to analyze the self targeting design of the study by examining the effect of socio-economic profile of beneficiaries on the participation in MGNREGS scheme. The present study has also relied on robust statistical tools both parametric and non-parametric to draw inferences and conclusions.

### Objectives

The objectives of the present research study are:

To assess the performance of MGNREGS in the study area in terms of employment generation and incomes of beneficiaries by analyzing:

1. Total number of Man-days generated.
2. Average number of Man-days for participating households.
3. Participation of SC's, ST's, Women and BPL households.
4. Total Wages earned by participating households.
5. Average addition to household income.
6. Consumption pattern of participating households on food and non-food items.
7. Difference in Man-days and Wage earnings across socio-economic status of participating rural households.

### Hypotheses

H01: There is no significant difference in Man-days (employment) generated across socio-economic status of participating households.

H02: There is no significant difference in wage earnings of rural households across socio-economic status of respondents.

## RESEARCH METHODOLOGY

A Multi-Stage Random Sampling Design has been adopted in the study to generate a representative sample for data collection and hypotheses testing. In the First stage, two districts (Kupwara and Poonch) of J&K State were selected from the Phase-I MGNREGS districts on the basis of socio-economic profile. These two districts are among the poorest districts in J&K state. Poonch district is the poorest district in Jammu division with 33.67% & Kupwara is the poorest district in Kashmir division with 32.55% BPL population *(JK BPL Survey, 2008)*. Besides, Poonch has an average population per branch of 14000 people making it the most backward district on financial inclusion followed by Kupwara *(JK Economic Survey, 2014)*. On the basis of average land holding size of households; Poonch has an average land holding size of 0.88 hectares while Kupwara has an average land holding size of 0.46 hectares which is lower than the state average land holding size of 0.67 Hectare (Agricultural Census 2010-11). In the Second Stage, Four blocks with two each from Poonch

& Kupwara were selected for the present research study. The consolidated data on key indicators for various blocks in sample districts was downloaded from the website www.nrega.nic.in for FY 2014-15. For each selected indicator, performance score was given based on weightage as indicated below:

- Average days of employment provided to each participating household - 25 per cent weightage.
- Average days of employment provided to SC, OBC & ST households - 15 per cent weightage.
- Percentage of participation of women-15 per cent weightage.
- Percentage works completed out of total works taken up for execution - 15 per cent weightage.
- Percentage of participating households completed 100 days of employment - 15 per cent weightage.
- Percentage of job card holding household participation in MGNREGS work - 15 per cent weightage *(Prasana V. 2014)*.

Thus, all the blocks in sample districts (Phase-I) were given indicator wise scores and then based on overall score, ranking was given to each block. Accordingly, on the basis of performance, two blocks in each district were selected for the purpose of the study.

In the Third Stage, Halqa Panchayats (HPs) were selected on the basis of their performance. The list of halqa panchayats in selected districts was collected from block development office (BDO) and a total of four Halqa Panchayts were selected from the sample blocks. In the Fourth stage, the selection of households (HH's) was made. The households were selected on the basis of their participation in MGNREGS works. The households that have participated for two or more years were selected to assess the operational efficacy of MGNREGS. The list of participating households was downloaded from the website and the households which have participated for more than 2 years were randomly selected for the purpose of the study. While selecting these households, care has been taken to cover all habitations of selected halqa panchayats. In each Halqa Panchayat, 50 MGNREGS participating households were selected. Thus, the total sample size covered in the study is 200 Households (HH's).

The sample households have been randomly selected from a largely homogenous population as all the rural households irrespective of their socio-economic background are employed in unskilled wage employment for a maximum of 100 days in a year at prevailing minimum wage rate in the state. Therefore, keeping in view the representativeness of the sample, a sample size of 200 HH's have been randomly selected from the four halqa panchayats in two districts of J&K. Further, various studies have been conducted on the impact of MGNREGS with a much smaller sample size of 160 HH's, 160 HH's & 100 Households (HH's) *(Rashmi B, 2013 & Palanichamy, A.P, 2011)*.

### Methodology for Data Collection

A survey methodology has been adopted to achieve the objectives of the study and for testing of hypotheses. The data collection was done with the help of survey schedule/questionnaire in sample districts of Poonch and Kupwara of Jammu & Kashmir. The secondary data for the present study was collected between 2009-10 to 2015-16

whereas the primary data was collected in 2014-15. The primary data was collected using schedule/questionnaire which was pre-tested before initiating field survey in the selected districts so as to check the reliability of the survey instrument in capturing the required data. The reliability was checked for likert scale data using Cronbach's Alpha with >.70 considered reliable (Nunally, 1978 & Haier *et al*, 2006). The tools given below were used for generating data from the study area:

- Household Survey Questionnaire/schedule (HSQ) targeting participants or beneficiaries for data collection.
- Other modes of primary data collection: worksite visits, review of records at district/block level, discussion with workers and officials regarding implementation challenges.

In order to carry out an in-depth analysis of status and challenges involved in the implementation of scheme in the study area; discussions with participants and other stake holders such as Govt. officials were conducted for better understanding of the scheme implementation. The socio-economic context in which MGNREGS is being implemented; district administrative setup, processes and procedures were analyzed to identify the efficient management practices, procedures, processes, factors that have contributed to the good performance and factors that have resulted in limited performance. Along with secondary information on the performance of Halqa panchayat, expert interviews with block level officials particularly with the Programme Officers (PO's), Village Level Workers (VLWs) and BDOs were held in order to get an overall idea about the performance of the block as well as the halqa panchayat. At the halqa panchayat level, the information regarding MGNREGS was collected from multiple sources and stakeholders. A structured questionnaire was prepared to elicit information regarding MGNREGS from participants across sample households.

The data collected through primary and secondary sources was tabulated for analysis. All collected data and information was consolidated, cross-checked and entered in appropriate data formats. After data tabulation, the same was analysed using descriptive statistical tools such as tables, graphs, percentages, mean and cross tabulation. The hypotheses are tested using statistical tools such as One Way ANOVA, Post-hoc Test, Effect size, T-test & McNemar Test. The standard statistical software such as MS Excel and SPSS 21.0 (Statistical Package for Social Science), was used for the purpose of data analysis.

## LITERATURE REVIEW

Dre'ze and Christian Oldiges (2007) based on the official data, estimated that, the employment generated under MGNREGS (90 crore person days during 2006-07) was much more than the employment generated in earlier years under NFFWP and SGRY. They also opined that the women participation in MGNREGS brings social change. The authors expressed the view that MGNREGS has shown greater economic security and its implementation has led to rise of agricultural wages, slowing down of migration, creation of productive assets and women having more economic independence, changing power equations and so on. They concluded that the Southern state and Western states did better than most of the Northern states.

Comptroller and Auditor General of India (CAG), 2008, Published a paper on 'Performance Audit of Implementation of National Rural Employment Guarantee Act (NREGA). The request of the Ministry of Rural Development, the CAG undertook an audit in 2006 to evaluate how effectively states were making a transition from the earlier wage employment programmes to the MGNREGS. The audit was conducted in 26 states and the sample for the audit included 25 per cent of the MGNREGS districts in each state. The audit was conducted in the introductory phase of the Act and a majority of the findings of the audit were process deviations with regard to the National Guidelines. It is important to note that several states took action on the findings of the CAG and introduced systems to prevent procedural deviations and promote transparency in the implementation of the scheme.

Planning Commission (2008) conducted a survey in 20 states to study the impact of MGNREGS. The results showed a shift of low income groups (about 50%) towards high income category, significant increase in the expenditure on food and non-food items (6%) and change in the expenditure pattern, procurement of livestock (68%) and household articles (42%) and initiation of savings for the first time (2%), clearing of outstanding loans (1/5th of sample households) were some of the positive impacts of MGNREGS on rural households. The other things that were ported include the non-provision of employment within stipulated timeframe (80%) and non-payment of unemployment allowances, the utilization of small portion of households for more than 35 days of work and existence of distress migration in sample villages.

Indian Institute of Management Shillong (2009) studied the implementation of MGNREGS in six districts has indicated that MGNREGS has sufficiently added to household income of the people who have worked/working in MGNREGS. The workers were of opinion that they have been able to support their households' daily food requirements.

Dutta, S K (2009) carried a quick appraisal of MGNREGS in Dangs (Gujarat) and Jalpaiguri (West Bengal) districts and reported that the mobility and interactions of community increased to due to the impact of rural connectivity works. Migrations also become limited to only one member of a family during slack season due to availability of work locally. The report also indicates that even though people are not well aware of works carried out in their village under MGNREGS, improvement in water availability has been observed by them. Further, hardly any permanent assets have been created out of NREGS fund due the stipulated norm of 60:40 ratio between labour and material cost and also due to lack of coordination with line departments.

Swaminathan, M S (2009) highlighted that the priority works under MGNREGS are important to strengthen the ecological foundations of sustainable agriculture. He also commented that a major weakness was the absence of effective technical guidance and support from agriculture and rural universities and institutes. He suggested the need to bring convergence of child care, nutritional health and education programmes at MGNREGS worksites for sustainable rural development along with human development. He opined that the MGNREGS workers need to be engaged in checking of eco-destruction. Recognition could be given to MGNREGS workers with Environment Savior Awards for their outstanding work for sustainable ecological development. Venkatesh, A (2009) viewed the impact of the economic crisis on the rural economy as a significant loss of employment opportunities. He opined

that the MGNREGS is especially important in terms of mitigating the crisis on rural working people through creation of productive employment on a large scale. He discussed some of the key problems in implementation of MGNREGS. He also reported that where the MGNREGS has been effectively implemented, there has been a significant reduction in labour migration and an improvement in the livelihoods of the poor. The author also recommended removal of the ceiling of 100 days of work and implementation of Act in true spirit as it has become a lifeline for millions of Indians who have been left out in the cloud by high economic growth.

Roy, S and B Singh (2010) conducted study in two districts, Burdwan and Dakshin Dinajpur of West Bengal to assess the impact of MGNREGS on the empowerment of the beneficiaries. Significant positive changes were found in the level of aspiration, self confidence and self reliance of the respondents after commencement of the scheme. All the respondents were found to be in low empowerment category before MGNREGS. After working under MGNREGS, 75.5 per cent of the respondents were found under low empowerment category and 24.5 per cent were found under medium empowerment category. So a positive impact of the programme was observed on the empowerment of its beneficiaries in the study area.

Institute of Rural Management Anand (2010) published "An Impact Assessment Study of the Usefulness and Sustainability of the Assets Created under Mahatma Gandhi Rural Employment Guarantee Act in Sikkim". The study shows that MGNREGS has provided a supplementary source of income to families without discriminating between men and women, which is why the Scheme has a high participation for women. The Scheme has enhanced food security and provided opportunities to the unemployed rural households. Overall, it has had a positive impact on livelihood. However, the state needs to ensure a better mechanism for durability and sustainability of assets created under the scheme.

LeeLavathi, T (2010) examined the impact of MGNREGS on various factors including institutional, socio-economic inclusion of poor households, rural-urban distress migration, access of credit *et al*. The study concluded that the benefits gained from work under MGNREGS led to the reduction of distress migration and increased investment in human capital. It also revealed that some of the workers were not provided with unemployment allowance and were denied work for longer periods. The funds flow including the wage disbursal mechanism should be made for efficient.

Verma *et al* (2011) studied MGNREGS with respect to the extent of employment generation, effect on rural to urban migration & asset creation. Their primary data (collected from 300 households) revealed that family size, asset value, household income were significant indicators of household participation. These changes, authors stressed, have been the reasons for the significant decline in the inflow of labour in Punjab.They stated that the biggest strength of MGNREGS is that it is self targeting in spite of systemic corruption in its implementation the benefits can reach the poor rural households because of the fact that the richer population do not opt for unskilled manual labour at minimum wages.

Azam (2011) focused on 'The Impact of Indian Job Guarantee Scheme on Labour Market Outcomes: Evidence from A Natural Experiment'. Public works programmes, which are aimed at building a strong social safety net through redistribution of wealth and generation of gainful employment, are becoming increasingly popular in developing countries. The NREGA, enacted in August 2005, is one such programme. This paper assesses causal impacts (Intent-to-Treat) of NREGA on public work participation, labour force participation, and real wages of casual workers by exploiting its phased implementation across Indian states. Using nationally representative data from the National Sample Surveys (NSS) and Difference-in- Difference framework, the author finds that there is a strong gender dimension to the impact of NREGA: it has a positive impact on the labour force participation and this impact is mainly driven by a much sharper impact on female labour force participation. Similarly, NREGA has a significant positive impact on the wages of female casual workers/real wages of female casual workers increased 8 per cent more in NREGA districts compared with the increase experienced in non-NREGA districts. However, the impact of NREGA on wages of casual male workers has only been marginal (about 1 per cent). Using data from the pre-NREGA period, the authors also performed falsification exercises to demonstrate that the main conclusions are not confounded by pre-existing differential trends between NREGA and non-NREGA districts.

Ghosh (2011) attempted the study the 'Impact of NREGA on Wage Rates, Food Security and Rural Urban Migration in West Bengal', The study aims to compare wage differentials between MGNREGS activities and other wage employment activities and the pattern of migration from rural to urban areas across five districts of West Bengal. The MGNREGS wage was found to be higher than the wage for agricultural workers in the state and this led to distortion of the wage labour market. The study postulates that the net effect of MGNREGS has been negligible.

Berg *et al* (2012) tested the impact of the Indian government's major public works programme, the National Rural Employment Guarantee Act (NREGA), on agricultural wages. The rollout of NREG in three phases is used to identify difference-in difference estimates of the programme effect. Using monthly wage data from the period 2000–11 for a panel of 249 districts across 19 Indian states, we found that, on average, NREGA boosts the real daily agricultural wage rates by 5.3 per cent. It takes six to 11 months for an NREGA intensity shock to feed into higher wages. The wage effect appears to be gender neutral and biased towards unskilled labour. It is positive across different implementation stages and months. It remains significant even after controlling for rainfall, district and time fixed effects, and phase-wise linear, quadratic, and cubic time trends. The validity of the author's identification strategy is confirmed by placebo tests. They have argued that since most of the world's poor live in rural areas, and the poorest of the poor are agricultural wage labourers, rural public works constitute a potentially important anti-poverty policy tool.

Krishnan and Balakrishnan (2014) analyzed 'MGNREGS marching towards achieving the Millennium Development Goals-an analysis'. The study follows descriptive and diagnostic method which are sought to examine the current status, interior prospects and performance of MGNREGS scheme in achieving the MDGs. The study is mainly based on secondary data from Ministry of Rural Development by using

simple percentage, standard deviation and coefficient variation.

Gupta & Fearooz (2015) studied the impact & durability of the assets created under MGNREGS in block Sundarbani of district Rajouri. They found that in the study block there seems to be a significant impact on rural households through assets created under MGNREGS programme. They further held that the productive value of assets created under the scheme need to be enhanced & suggested that the officials/functionaries should focus more on (i) community assets & (ii) convergence with other departments so that programme can be made more productive.

Ranaware *et al*. (2015) studied various works executed under MGNREGS and their impact on economy of villages in Maharashtra. The study reported that MGNREGS works support agriculture, and benefit a large number of small and marginal farmers. The study further observed that 90% of the respondents considered the works very useful, while only 8% felt they were useless. Overall, the study suggests that the perception of MGNREGS is doing nothing is misplaced, although scope exists for further improvement in works planning, selection, design and execution.

Himanshu (2016) has argued in his article that the relevance of MGNREGA in rural areas goes beyond its success in creating public employment and its impact on wages. The scheme has generated more than 19.86 billion man-days of employment benefitting 276 million workers, with a major portion of jobs going to women workers and scheduled castes and scheduled tribes. He argues that there is strong evidence that the quality of assets has been better than comparable government programmes. He opines that MGNREGA has played a much larger role in revitalizing the labour market in rural areas. Not only has it led to the creation of a class of workers who are using the MGNREGA as a safety net, but these workers are also able to use it as a bargaining tool for extraction of higher wages. He suggest that there is evidence that the scheme has led to a slowdown in rural-urban migration. Further, he opines that the present regime has failed in stemming the implementation rot in the scheme such as delay in payment of wages and speeding up the disbursal of funds.

Saswati Das (2016) studied the impact of MGNREGA on the livelihood security of rural poor in India. The study has analyzed National Sample Survey (NSS) for determining the impact of the scheme in the country. The study found that the increase in spending capacity of non-beneficiary households was greater than MGNREGA beneficiary households. Besides, the overall growth trend in spending capacity over time had a greater effect in improving the livelihood security of the target households than the estimated effect of the programme.

## DISCUSSION & DATA ANALYSIS

### *MGNREGS & Employment Generation*

The data on the impact of MGNREGS on employment generation or Man-days in the study area is presented in table 1. The total man-days worked by the beneficiary respondents are 11527 and overall average man-days generated is only 57 against the guaranteed 100 days in a year. It is quite evident that the overall impact on employment generation in all sample blocks is poor as can been seen from the low average man-days figures. The average man-days generated in Surankote & Langate blocks are 67 and 51 man-days respectively whereas

the average Man-days generated is 56 and 57 for block Poonch & Trehgam respectively. Therefore, the impact on employment generation in Surankote and Trehgam is better than other two blocks in the study area.

The observations made on employment in study area are in line with findings of other research studies; Raghuraman (2009) reported average number of 45 man-days against the guaranteed 100 days in the scheme. The study carried out by Fearooz (2015) & Nagaraj (2011) also observed on average 47 & 33 man-days for a participating household. The present study along with all these studies have observed that the employment generation for a participating rural household is much below than the MGNREGS mandated 100 days guaranteed work for a rural household in a year.

**Table 1** Total & Average Man-days Generated across Sample Blocks

| Block | No. of beneficiaries provided with Employment | Total Man-days generated from MGNREGS | Average Man-days |
|---|---|---|---|
| Trehgam | 50 | 2842 | 57 |
| Langate | 50 | 2541 | 51 |
| Poonch | 50 | 2805 | 56 |
| Surankote | 50 | 3339 | 67 |
| Total | 200 | 11527 | 57 |

*Source: Field Survey*

The findings in the present study on employment generation measured on average man-days was compared with official data extracted from *www.nrega.nic.in*. The official data on average man-days was 52 days for J&K state for the period under reference and 53 man-days at sample block level which is similar to the observed 57 man-days in the present study. Therefore, it is quite evident from primary and official data that the impact on employment generation in the study area is poor and much below than the 100 man-days guaranteed in a year as mandated in MGNREGS scheme.

The researcher in the present study has attempted to analyze the impact on employment in the sample blocks, measured by man-days generated, across socio-economic status of workers. The hypothesis testing was conducted using One Way ANOVA. The hypothesis was tested separately for social group, gender, income status & size of land ownership for determining the effect that these factors have on participation of rural households or man-days worked in the scheme.

### *Null Hypothesis*

**H01: There is no significant difference in average Man-days (employment) generated across socio-economic status of workers**

H01a: There is no significant difference in average Man-days between SC, ST, OBC & GEN category respondents.

H01b: There is no significant difference in average Man-days between Male & Female workers.

H01c: There is no significant difference in average Man-days between AAY, BPL & APL workers.

H01d: There is no significant difference in average Man-days between Marginal Farmers, Small Farmers & Landless Labourers.

### *Dependent variable: Man-days*

### *Indepent variable: Socio-economic status*

## Null Hypothesis

**H01a: There is no significant difference in average Man-days among SC, ST, OBC & GEN category respondents.**

The data in table 2 shows man-days generated across various social groups. The average man-days worked by SCs, STs, OBCs & General category rural households is 84, 74, 54 and 54 man-days respectively. The participation of backward communities such as SCs & STs in terms of number of man-days is different & considerably higher than the Gen. category households which shows that the impact on these communities is much better than socially upward communities.

**Table 2** Man-days Worked Across Social Groups

| Social Groups | Mean (Man-days) | Std. Deviation |
|---|---|---|
| SC | 84 | .56 |
| ST | 74 | .52 |
| OBC | 54 | .59 |
| GEN | 54 | .67 |

*Source: Field Survey*

The homogeneity of variances test was conducted, using Levene method, before running one way ANOVA and the results are reported in table 3. The variance in average man-days score is the same for all the four social groups viz. SCs, STs, OBCs & GEN. with *P>0.05.*

**Table 3** Test of Homogeneity of Variances
Man-days

| Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|
| 2.209 | 3 | 196 | .088 |

To empirically verify the above null hypothesis, a one way analysis of variance (ANOVA) & post-hoc test was conducted to find the impact of social groups on average man-days scores. The results of the tests are explained in the table 4. The workers were divided into four groups SCs, STs, OBCs & GENs and the analysis was statistically significant for difference in average man-days scores for four social groups F $(3, 196) = 15.57$, *p=.001* The effect of social groups on difference in average man-days generated is large calculated using eta squared with effect size .192 *(Cohen, 1998).*

Therefore, the null hypothesis that there is no significant difference in average man-days among various social groups is rejected and alternative hypothesis is accepted.

**Table 4** One Way ANOVA between Social Groups & Man-days DV= Man-days

| | Sum of Squares | Df | Mean Square | F | Sig. | Eta Squared |
|---|---|---|---|---|---|---|
| Between Groups | 15109.348 | 3 | 5036.449 | 15.575 | .000 | .192 |
| Within Groups | 63381.007 | 196 | 323.372 | | | |
| Total | 78490.355 | 199 | | | | |

Post-hoc comparisons using the Tukey HSD test indicated that the average man-days score for SCs (M=84, SD=.56) is significantly different from the OBCs (M=54, SD=.59) & GENs (M=54, SD= .67) & is statistically not significant for STs (M=74, SD=.52). The average man-days score for STs is significantly different from OBCs and GENs and for OBCs average man-days is statistically not significantly different from GENs. While for GENs social group participants, the average man-days score is significantly different from SCs, STs & is not significant for OBCs.

**Table 5** Post Hoc Test Multiple Comparisons
DV: Man-days Tukey HSD

| (I)Social Groups | (J)Social Groups | Mean Difference (I-J) | Std. Error | Sig. | 95% CI Lower Bound | 95% CI Upper Bound |
|---|---|---|---|---|---|---|
| SC | ST | 10.495 | 8.020 | .559 | -10.29 | 31.28 |
| | OBC | 30.641[*] | 8.144 | .001 | 9.54 | 51.75 |
| | GEN | 30.786[*] | 7.500 | .000 | 11.35 | 50.22 |
| ST | SC | -10.495 | 8.020 | .559 | -31.28 | 10.29 |
| | OBC | 20.146[*] | 4.782 | .000 | 7.75 | 32.54 |
| | GEN | 20.291[*] | 3.577 | .000 | 11.02 | 29.56 |
| OBC | SC | -30.641[*] | 8.144 | .001 | -51.75 | -9.54 |
| | ST | -20.146[*] | 4.782 | .000 | -32.54 | -7.75 |
| | GEN | .145 | 3.847 | 1.000 | -9.82 | 10.11 |
| GEN | SC | -30.786[*] | 7.500 | .000 | -50.22 | -11.35 |
| | ST | -20.291[*] | 3.577 | .000 | -29.56 | -11.02 |
| | OBC | -.145 | 3.847 | 1.000 | -10.11 | 9.82 |

*. The mean difference is significant at the 0.05 level.

## Null Hypothesis

**H01b: There is no significant difference in average Man-days for Male & Female workers.**

The descriptive data on man-days generated among male and female workers is reported in table 6. The total days worked by female beneficiaries was 2579 with mean work days of 63 which is higher than the mean man-days of 56 for male participants in the scheme. For testing the statistical significance of the difference in average man-days generated among male & female workers one way between groups ANOVA was conducted.

**Table 6** Man-days Worked Between Male & Female Workers

| Gender | No. of Beneficiaries | Total Man-days | Mean (Man-days) | Std. Deviation |
|---|---|---|---|---|
| Female | 41 | 2579 | 63 | .67 |
| Male | 159 | 8948 | 56 | .75 |

*Source: Field Survey*

The homogeneity of variances test was conducted before running one way ANOVA. The variance for man-days generated among male & female participants is same with *p>0.05.*

**Table 7** Test of Homogeneity of Variances
Man-days Worked

| Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|
| 2.767 | 1 | 198 | .098 |

To empirically verify the above null hypothesis, a one way analysis of variance (ANOVA) was conducted to find the impact of gender on average man-days generated. The results of the tests are explained in the table 8. The workers were divided into two groups Male & Female and the analysis was statistically not significant for difference in average man-days scores for two groups (Male & Female) with F $(1, 198) = 3.677$, *p=.057.* The actual difference in average man-days among male & female workers is small calculated using eta squared with effect size .018 *(Cohen, 1998).* Therefore, based on ANOVA results in table 8, the null hypothesis that there is no significant difference in average man-days among Male & Female workers is accepted and alternative hypothesis is rejected.

**Table 8** One Way ANOVA between Gender & Man-days

| | Sum of Squares | Df | Mean Square | F | Sig. | Eta Squared |
|---|---|---|---|---|---|---|
| Between Groups | 1430.921 | 1 | 1430.921 | 3.677 | .057 | .018 |
| Within Groups | 77059.434 | 198 | 389.189 | | | |
| Total | 78490.355 | 199 | | | | |

### Null Hypothesis

**H01c: There is no significant difference in average Man-days among AAY, BPL & APL Households**

The data regarding the participation of beneficiary rural households across income status is given in table 9. The participation of low income households such as AAY (poorest of the poor) & BPL (Poor) in MGNREGS is much better than the APL (relatively good income) households with 70, 68 & 43 man-days respectively. It reveals better impact of the scheme on economically weaker sections of the rural communities.

The standard deviation value of man-days is 1.20 for APL households which show that there is a higher variance in work participation among APL households compared to BPL households with standard deviation of 0.560 and AAY households with standard deviation value of 0.59.

**Table 9** Man-days Generated among AAY, BPL & APL Workers

| Income Status | Total No. of Beneficiaries | Mean (Man-days) | Std. Deviation |
|---|---|---|---|
| APL | 84 | 43 | 1.20 |
| BPL | 88 | 68 | 0.560 |
| AAY | 28 | 70 | 0.59 |
| Total | 200 | | |

Source: Field Survey

The assumption of homogeneity of variances for independent groups was violated with *p=.040*. Therefore, Welch Robust test of equality of means was used to conduct one way ANOVA *(Mcdonald, 2014)*.

**Table 10** Welch's Robust Test of Equality of Means Man-days

| | Statistic[a] | df1 | df2 | Sig. |
|---|---|---|---|---|
| Welch | 79.403 | 2 | 70.73 | .000 |
| | a. Asymptotically F distributed. | | | |

A One Way analysis of variance (ANOVA) & Post Hoc test was conducted to find the effect of income status on average man-days generated. The results of the tests are explained in the tables 11. The participant workers were divided into three groups AAY, BPL & APL and the analysis was statistically significant for difference in average man-days scores for three groups (AAY, BPL & APL) with $F_{(2, 197)} = 71.742$, $p = .001$. The effect of income status on difference in average man-days generated is large calculated using Eta squared with effect size .421 *(Cohen, 1998)*.

**Table 11** One Way ANOVA for Man-days Generated Across Categories of Income Status
DV: Man-days

| | Sum of Squares | Df | Mean Square | F | Sig. | Eta Squared |
|---|---|---|---|---|---|---|
| Between Groups | 33076.843 | 2 | 16538.421 | 71.742 | .000 | .421 |
| Within Groups | 45413.512 | 197 | 230.525 | | | |
| Total | 78490.355 | 199 | | | | |

Post-hoc comparisons using the Tukey HSD test indicated that the average man-days score for APL workers (M=43, SD=1.20) is significantly different from the BPL workers (M=68, SD=.56) & AAY workers (M=70, SD= .59). The average man-days score for BPL workers (M=68, SD=.56) is not significantly different from AAY workers (M=70, SD= .59).

Therefore, the null hypothesis that there is no significant difference in average man-days generated among AAY, BPL & APL workers is rejected and alternative hypothesis is accepted.

**Table 12** Post Hoc Test Multiple Comparisons
DV: Man-days Tukey HSD

| (I) Income Status | (J) Income Status | Mean Difference (I-J) | Std. Error | Sig. | 95% CI Lower Bound | 95% CI Upper Bound |
|---|---|---|---|---|---|---|
| APL | BPL | -25.464[*] | 2.316 | .000 | -30.93 | -19.99 |
| | AAY | -27.738[*] | 3.313 | .000 | -35.56 | -19.91 |
| BPL | APL | 25.464[*] | 2.316 | .000 | 19.99 | 30.93 |
| | AAY | -2.274 | 3.294 | .769 | -10.05 | 5.51 |
| AAY | APL | 27.738[*] | 3.313 | .000 | 19.91 | 35.56 |
| | BPL | 2.274 | 3.294 | .769 | -5.51 | 10.05 |
| *. The mean difference is significant at the 0.05 level. | | | | | | |

### Null Hypothesis

**H01d: There is no significant difference in average Man-days among Marginal Farmers, Small Farmers & Landless Labourers**

The data for average man-days as per the size of land ownership is preseneted in table 13. The average(mean) man-days for marginal farmers was 50 days in a year, 46 man-days for small farmers and the highest number of man-days participation was by landless labourers. Therefore, the higher participation in MGNREGS by economically backward rural households indicates postive impact on these communities. The findings related to higher participation of economically marginalized sections of rural sector are supported by the studies conducted by *Prasana, V, 2014 & Faeroze, 2015*.

**Table 13** Average Man-days & Size of Land Ownership

| Size of Land Ownership | Mean | Std. Deviation |
|---|---|---|
| Marginal Farmers (Upto 2.5 Acres) | 50 | 0.43 |
| Small Farmers (2.5 to 5 Acres) | 46 | 0.78 |
| Landless Labourers | 63 | 0.38 |

*Source: Field Survey*

The homogeneity of variances test was conducted before running one way ANOVA. The variance for man-days generated among marginal farmers, small farmers and landless labourers is same with *Sig. =.610*

**Table 14** Test of Homogeneity of Variances Man-days

| Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|
| .496 | 2 | 197 | .610 |

A One Way Analysis of Variance (ANOVA) & Post Hoc test was conducted to find the effect of land ownership status on average man-days generated. The results of the tests are explained in the table 15. The participant workers were divided into three groups' marginal farmers (MF), small farmers (SF) & landless laboures (LL) as per the size of land holding. There was a statistically significant difference in average man-days

scores for three groups (MF, SF & LL) with F (2, 197) = 12.134, $p$ =.001. The effect of land ownership status on difference in average man-days generated is large calculated using Eta squared with effect size .110 *(Cohen, 1998)*.

**Table 15** One Way ANOVA For Man-days & Size of Land Ownership

*Dependent Variable (DV): Man-days*

|  | Sum of Squares | Df | Mean Square | F | Sig. | Eta Squared |
|---|---|---|---|---|---|---|
| Between Groups | 8608.869 | 2 | 4304.435 | 12.134 | .000 | .110 |
| Within Groups | 69881.486 | 197 | 354.728 |  |  |  |
| Total | 78490.355 | 199 |  |  |  |  |

Post-hoc comparisons using the Tukey HSD test indicated that the average man-days score for Marginal Farmers (MF) (M=50, SD= .43) is significantly different from the Landless Labourers (LL) (M=63, SD=.38) but are not significantly different for Small Farmers (SF) (M=46, SD= .78). The average man-days score for Small Farmers (M=46, SD=.78) is significantly different from Landless Labourers (M=63, SD= .38). The average man-days score for Landless Labourers, is significantly different from Marginal Farmers & Small Farmers.

Therefore, the null hypothesis that there is no significant difference in average man-days generated among Marginal Farmers, Small Farmers & Landless Laborers is rejected and alternative hypothesis is accepted.

**Table 16** Post Hoc Test Multiple Comparisons Tukey HSD

*Dependent Variable (DV): Man-days*

| (I)Land Ownership | (J) Land Ownership | Mean Difference (I-J) | Std. Error | Sig. | 95% CI Lower Bound | 95% CI Upper Bound |
|---|---|---|---|---|---|---|
| MF | SF | 3.362 | 6.398 | .859 | -11.75 | 18.47 |
|  | LL | -13.026* | 2.880 | .000 | -19.83 | -6.22 |
| SF | MF | -3.362 | 6.398 | .859 | -18.47 | 11.75 |
|  | LL | -16.388* | 6.190 | .024 | -31.01 | -1.77 |
| LL | MF | 13.026* | 2.880 | .000 | 6.22 | 19.83 |
|  | SF | 16.388* | 6.190 | .024 | 1.77 | 31.01 |

**\*. The mean difference is significant at the 0.05 level.**

*MF- Marginal Farmers,  SF- Small Farmers  &  LL-Landless Labourers*

### MGNREGS & Income of Beneficiary Households

The impact on incomes of the beneficiary households was examined by measuring the average addition to household income from the scheme. Since, majority of the sample workers in MGNREGS belong to below poverty and landless labourer category, therefore, the wage earnings from the scheme constitutes their only source of income. Which enhances the importance of the scheme in ensuring basic nutrition (food) and other necessities such as helath care, water and education for their children. The wages in the scheme are paid in accordance with The J&K Minimum Wages Act, 1948. The minimum wages fixed for unskilled workers vide SRO No. 304 dated 01-10- 2009, is Rs 150 per day.  The prevailing wage rate under the MGNREGS is also around Rs 150/day. The total and average wage earnings were calculated using Rs 150/day.

The total and average wage earnings by participating households is given in table 17. The data on total and average addition to household income by respondents in block

Trehgam was Rs 426,300 and Rs 8,526 respectively. Whereas, for block Langate, Poonch and Surankote the average addition to household income from MGNREGS was Rs 7,526, Rs 8,415 & Rs 10,017 respectively. It is quite evident from data in table 7.2 that the highest average wage earning was reported in block Surankote. The deviation of average wage earnings stems from the variation in average number of man-days generated in each sample block not from the difference in wage rates.

**Table 17** Total Wages Earned & Average Addition to Household Income across Sample Blocks

| Blocks | Total Man-days generated from MGNREGS | Total Wages Earned From MGNREGS (Rs) | Average Addition To Household Income (Rs) |
|---|---|---|---|
| Trehgam | 2842 | 426,300 | 8,526 |
| Langate | 2541 | 381,150 | 7,623 |
| Poonch | 2805 | 420,750 | 8,415 |
| Surankote | 3339 | 500,850 | 10,017 |

*Source: Field Survey*

To know whether the average wage earnigs vary across socio-economic status of beneficiary households, *a hypothesis was framed that the wage earnings remain same across socio-economic status of beneficiary rural households*. The hypothesis was tested for  social groups, income status, type of house owned, land ownership, gender and educational status of beneficiaries.

**Null Hypothesis**

**H02: There is no significant difference in average wage earnings across socio-economic status of workers**

H02a: There is no significant difference in average wage earning across social groups (SC, ST, OBC and Gen.).

H02b: There is no significant difference in average wage earnings between AAY, BPL and APL workers.

H02c: There is no significant difference in average wage earnings of respondents across type of house owned.

H02d: There is no significant difference in average wage earnings of beneficiaries across size of land ownership.

***Dependent Variable:*** *Average Wage*
***Independent Variable:*** *Socio-economic Status*

**Null Hypothesis**

**H02a: There is no significant difference in average wage earning across social groups (SC, ST, OBC and Gen. category respondents)**

The distribution of average wage earnings by beneficiary households across various social groups in the study area is presented below in table 18. The average wage earning by SC workers was Rs 12650 & ST workers was Rs 11075 which was highest by any social group among the respondents. The average wage earnings by GEN. category participating households was Rs 8645 which was lowest among the respondents.

**Table 18** Distribution of Average Wage Earnings By Social Groups

| Social Groups | Mean (Rs) | Std. Deviation | Minimum (Rs) | Maximum (Rs) |
|---|---|---|---|---|
| SC | 12650 | .386 | 9750 | 15000 |
| ST | 11075 | .417 | 6450 | 15000 |
| OBC | 8053 | .713 | 3450 | 15000 |

| | | | | |
|---|---|---|---|---|
| GEN | 8032 | .818 | 600 | 15000 |
| Total | 8645 | .016 | 600 | 15000 |

*Source: Field Survey*

The homogeneity of variances test was conducted for verifying the equality of variances assumption of One Way ANOVA. The variance for wage earnings among SC, ST, OBC and GEN. Category participating households in MGNREGS is same with *Sig. =.088*

**Table 19** Test of Homogeneity of Variances

*Wage Earnings*

| Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|
| 2.209 | 3 | 196 | .088 |

A One Way Analysis of Variance (ANOVA) & Post Hoc test was conducted to find the difference in wage earnings between various social groups such as SC, ST, OBC & GEN. Category beneficiary households. The results of the tests are explained in the tables 20 & 21. The participant workers were divided into four social groups; SC, ST, OBC & GEN. Category workers. There was a statistically significant difference in average wage earning scores for four groups (SC, ST, OBC & GEN.) with $F (3, 196) = 15.575$, $p =.001$. The effect of social group status on difference in average wages earned by participating households in the scheme is large calculated using Eta squared with effect size .192 *(Cohen, 1998)*.

Therefore, the null hypothesis that there is no significant difference in average wage earnings between various social groups is rejected and alternative hypothesis is accepted.

**Table 20** One Way ANOVA Social Groups & Wage Earnings

| | Sum of Squares | Df | Mean Square | F | Sig. | Eta Squared |
|---|---|---|---|---|---|---|
| Between Groups | 339960331.145 | 3 | 113320110.382 | 15.575 | .000 | .192 |
| Within Groups | 1426072656.355 | 196 | 7275880.90 | | | |
| Total | 1766032987.500 | 199 | | | | |

**Table 21** Post Hoc Test Multiple Comparisons DV= Wages Tukey HSD

| (I)Social Groups | (J) Social Groups | Mean Difference (I-J) | Std. Error | Sig. | 95% CI Lower Bound | 95% CI Upper Bound |
|---|---|---|---|---|---|---|
| SC | ST | 1574.194 | 1203.060 | .559 | -1543.18 | 4691.57 |
| | OBC | 4596.154* | 1221.674 | .001 | 1430.54 | 7761.77 |
| | GEN | 4617.883* | 1125.058 | .000 | 1702.62 | 7533.14 |
| ST | SC | -1574.194 | 1203.060 | .559 | -4691.57 | 1543.18 |
| | OBC | 3021.960* | 717.320 | .000 | 1163.24 | 4880.68 |
| | GEN | 3043.690* | 536.483 | .000 | 1653.55 | 4433.83 |
| OBC | SC | -4596.154* | 1221.674 | .001 | -7761.77 | -1430.54 |
| | ST | -3021.960* | 717.320 | .000 | -4880.68 | -1163.24 |
| | GEN | 21.729 | 577.018 | 1.000 | -1473.44 | 1516.90 |
| GEN | SC | -4617.883* | 1125.058 | .000 | -7533.14 | -1702.62 |
| | ST | -3043.690* | 536.483 | .000 | -4433.83 | -1653.55 |
| | OBC | -21.729 | 577.018 | 1.000 | -1516.90 | 1473.44 |
| *. The mean difference is significant at the 0.05 level. | | | | | | |

Post-hoc comparisons using the Tukey HSD test indicated that the average wage earnings score for Scheduled Caste workers (SC), (M=12650, SD= .386) is significantly different from the Other Backward Class workers (OBC), (M=8053, SD=.713) and General Category workers (GEN), (M=8032, SD= .818) but difference in average wage earnings for SC workers is not significantly different from Scheduled Tribe workers (ST), (M=11075, SD= .417). The average wage earnings score for ST workers is significantly different from OBC & GEN. Category workers but it is statistically not significantly different from SC workers. Similarly, the average wage earning score for OBC workers is significantly different from

SC & ST workers but it is not significant for GEN. Category households. The average wage earnings score for GEN. Category households is significantly different from SC & ST workers but there is no significant difference between average wage earnings of GEN. Category workers and OBC workers.

**Null Hypothesis**

**H02b: There is no significant difference in average wage earnings between AAY, BPL and APL workers**

The data on average wage earnings of participating rural household by income status is presented in table 22. The average wages earnings by BPL and AAY category households are Rs 10,202 & Rs 10,543 respectively, whereas, beneficiaries belonging to above poverty line have earned average wage of Rs 6,382 which is much less than the economically deprived sections of the rural sector. The higher benefits to economically weaker sections of the rural economy may be due to the lack of alternative sources of income which pushes these people to participate extensively in the Mahatma Gandhi National Rural Employment Guarantee Scheme at a meager wage rate of Rs 150. The other important point is that the self-targeting or demand driven mechanism of the scheme seems to be holding as higher proportion of employment man-days is enjoyed by economically weaker rural households.

**Table 22** Distribution of Average Wage Earnings By Income Category

| Income Category | Mean (Rs) | Std. Deviation | Minimum (Rs) | Maximum (Rs) |
|---|---|---|---|---|
| APL | 6382 | .53 | 3150 | 11700 |
| BPL | 10202 | .49 | 600 | 15000 |
| AAY | 10543 | .52 | 4800 | 15000 |

*Source: Field Survey*

**Table 23** Welch's Robust Test of Equality of Means Wage Earnings

| | Statistic[a] | df1 | df2 | Sig. |
|---|---|---|---|---|
| Welch | 79.403 | 2 | 70.730 | .000 |
| a. Asymptotically F distributed. | | | | |

The homogeneity of variances test was conducted for verifying the equality of variances assumption of One Way ANOVA. The variance in average wage earnings among APL, BPL and AAY participating households in MGNREGS was not same with *Sig. =.040.* Therefore, Robust test of Equality of Means was applied for conducting One Way ANOVA which was significant at *P=.000*

A One Way Analysis of Variance (ANOVA) test was conducted to find the difference in average wage earnings among participating households across income category groups. The result of the test is explained in the tables 7.9 & 8.0. The participant workers were divided into three groups; APL, BPL & AAY workers. There was a statistically significant difference in average wage earning scores for these three groups with $F (2, 197) = 71.742$, $p =.000$. The effect of income status on difference in average wages earned by beneficiary workers is large calculated using Eta squared with effect size .421 *(Cohen, 1998)*.

**Table 24** One Way ANOVA Income Category & Wage Earnings

| | Sum of Squares | df | Mean Square | F | Sig. | Eta Squared |
|---|---|---|---|---|---|---|
| Between Groups | 744228957.468 | 2 | 372114478.734 | 71.742 | .000 | .421 |
| Within Groups | 1021804030.032 | 197 | 5186822.487 | | | |
| Total | 1766032987.500 | 199 | | | | |

Therefore, the null hypothesis that there is no significant difference in average wage earnings between various income category groups such as APL, BPL & AAY workers is rejected and alternative hypothesis is accepted.

The practical significance of these results is also evident from the lack of significant difference in average wage earnings among the participating households belonging to poor (BPL) and poorest of the poor (AAY) sections of the rural sector. But, there is an existence of significant difference in average wage earnings of BPL & AAY workers from APL workers with former earning much higher than the latter.

**Table 25** Post Hoc Test Multiple Comparisons
DV= Wages
Tukey HSD

| (I) Rcard | (J) Rcard | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| APL | BPL | -3819.562* | 347.403 | .000 | -4639.98 | -2999.15 |
| | AAY | -4160.714* | 496.982 | .000 | -5334.37 | -2987.06 |
| BPL | APL | 3819.562* | 347.403 | .000 | 2999.15 | 4639.98 |
| | AAY | -341.153 | 494.151 | .769 | -1508.12 | 825.82 |
| AAY | APL | 4160.714* | 496.982 | .000 | 2987.06 | 5334.37 |
| | BPL | 341.153 | 494.151 | .769 | -825.82 | 1508.12 |
| *. The mean difference is significant at the 0.05 level. | | | | | | |

Post-hoc comparisons using the Tukey HSD test indicated that the average wage earnings score for APL workers (M=6382, SD= .53) is significantly different from workers belonging to BPL category (M=10202, SD=.49) and AAY category workers (M=10543, SD= .52). The average wage earnings score for BPL workers is significantly different from APL workers but it is statistically not significantly different from AAY income category workers. Similarly, the average wage earning score for AAY workers is significantly different from APL workers but it is not significant for BPL workers. This makes it clear that the biggest beneficiaries from MGNREGS are rural households belonging to economically weaker section of society.

**Null Hypothesis**

**H02c: There is no significant difference in average wage earnings of respondents across type of house owned.**

The data on average wage earnings by the type of house owned by participating households is given in table 26. The average wages earned by beneficiaries who own Pucca House is Rs 6,770, Semi-Pucca House owners earn Rs 7,796 and workers who own Kaccha House earn the highest average wage of Rs 10,000 from MGNREGS scheme. Therefore, there is an explict difference is average wages earned by workers across the type of house owned, which has been tested for statistical significance using One Way ANOVA and Post-hoct test.

**Table 26** Average Wage Earnings By Type of House Owned

| House Owned | Mean | Std. Deviation | Minimum | Maximum |
|---|---|---|---|---|
| PUCCA | 6770 | .47 | 3450 | 11700 |
| SEMI PUCCA | 7796 | .38 | 600 | 15000 |
| KACCHA | 10000 | .39 | 3150 | 15000 |

*Source: Field Survey*

The homogeneity of variances test was conducted for verifying the equality of variances assumption of One Way ANOVA. The variance in average wage earnings among PUCCA, SEMI PUCCA & workers owning KACCHA House in MGNREGS is same with *Sig. =.125*. The test result of homogeneity of variance test is given below in table 8.2.

**Table 27** Test of Homogeneity of Variances

Wage Earnings

| Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|
| 2.099 | 2 | 197 | .125 |

A One Way Analysis of Variance (ANOVA) test was conducted to find the difference in average wage earnings among beneficiary households across type of house owned. The result of the test is explained in table 28. The participant workers were divided into three groups; Pucca, Semi-Pucca & Kaccha House owning workers. There was a statistically significant difference in average wage earning scores for these three groups with $F_{(2, 197)} = 22.601$, $p =.000$. The effect of house ownership status on difference in average wages earned by participating rural households is large calculated using Eta squared with effect size .187 *(Cohen, 1998)*.

**Table 28** One Way ANOVA Type of House Owned & Wage Earnings

| | Sum of Squares | df | Mean Square | F | Sig. | Eta Squared |
|---|---|---|---|---|---|---|
| Between Groups | 329598654.213 | 2 | 164799327.107 | 22.601 | .000 | .187 |
| Within Groups | 1436434333.287 | 197 | 7291544.839 | | | |
| Total | 1766032987.500 | 199 | | | | |

Therefore, the null hypothesis that there is no significant difference in average wage earnings of respondents across type of house owned is rejected and alternative hypothesis is accepted.

**Table 29** Post Hoc Test Multiple Comparisons DV= Wages Tukey HSD

| (I) House | (J) House | Mean Difference (I-J) | Std. Error | Sig. | 95% CI | |
|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound |
| PUCCA | SEMI-PUCCA | -1026.203 | 579.094 | .182 | -2393.77 | 341.36 |
| | KACCHA | -3230.549* | 568.488 | .000 | -4573.07 | -1888.03 |
| SEMI-PUCCA | PUCCA | 1026.203 | 579.094 | .182 | -341.36 | 2393.77 |
| | KACCHA | -2204.347* | 415.241 | .000 | -3184.97 | -1223.73 |
| KACCHA | PUCCA | 3230.549* | 568.488 | .000 | 1888.03 | 4573.07 |
| | SEMI-PUCCA | 2204.347* | 415.241 | .000 | 1223.73 | 3184.97 |
| *. The mean difference is significant at the 0.05 level. | | | | | | |

Post-hoc comparisons using the Tukey HSD test indicated that the average wage earnings score for workers who own Pucca House (M=6770, SD= .47) was significantly different from workers who own Kaccha House (M=10000, SD=.39) but the difference in average wage score for workers who own Pucca House was not statistically significant from workers who own Semi-Pucca House (M=7796, SD= .38). The average wage earnings score for workers who own Semi-Pucca House was significantly different from Kaccha House owning workers but the difference was not statistically significant from Pucca House owning workers. Similarly, the average wage earning score for workers who own Kaccha House was significantly different from both Pucca & Semi-Pucca House workers. Once again, the difference in average wages between these three groups reflects that there is a clear influence of the type of house owned on average wage earnings.

**Null Hypothesis**

**H02d: There is no significant difference in average wage earnings of beneficiaries across size of land ownership**

The data on distribution of landholding size of the respondents and their average wages is given below in table 30. The average wages earned by landless laborers is Rs 9,404 which is higher than marginal and small farmers' average wage earnings of Rs 7,450 and Rs 6,945 respectively. It is quite pertinent that the most vulnerable section of the rural economy; the landless laborers who rely heavily on daily wages and have no other alternative source of income benefit most from the MGNREGS in the study area. This once again highlights the relevance of the scheme for the most deprived segment of the rural sector, continuation and increasing the minimum daily wage component would go a long way in enhancing their quality of life.

**Table 30** Distribution of Average Wages By Size of Landownership

| Size of Land Ownership | Mean (Rs) | Std. Deviation | Minimum (Rs) | Maximum (Rs) |
|---|---|---|---|---|
| Marginal Farmers (Upto 2.5 Acres) | 7450 | .42 | 6000 | 13500 |
| Small Farmers (2.5 to 5 Acres) | 6945 | .65 | 3450 | 10650 |
| Landless Laborers | 9404 | .41 | 7000 | 15000 |

Source: Field Survey

The means plot below reaffirms the direction of the benefits under the scheme toward the economically marginalized segment in the labour market in rural agrarian economy. The average wage earnings for marginal farmers is higher than small farmers. After a steep dip in mean wages curve, makes a sudden spike for landless labourers. This is due to higher participation by landless labourer households in the scheme irrepective of low wage rate.

The homogeneity of variances assumption was met for conducting One Way ANOVA. The variance in average wage earnings among Marginal Farmers, Small Farmers & Landless Laborers in MGNREGS is same with p =.610 which is more than alpha = .05. This is indicated by the Levene's test of Homogeneity of Variances, F (2,197) = .610

**Table 31** Test of Homogeneity of Variances
*Average Wages*

| Levene Statistic | df1 | df2 | Sig. |
|---|---|---|---|
| .496 | 2 | 197 | .610 |

A One Way Analysis of Variance (ANOVA) test was conducted to verify the statistical significance of the difference in average wage earnings between beneficiary households across size of land ownership status. The result of the test is explained in table 32. The participant workers were divided into three groups; Marginal Farmers (MF), Small Farmers (SF) & Landless Laborers (LL). There was a statistically significant difference in average wage earning scores for these three groups with F (2, 197) = 12.134, *p =.000.* The effect of Land Ownership Status on difference in average wages earned by participating rural households is large calculated using Eta squared with effect size .110 *(Cohen, 1998).*

**Table 32** ANOVA Between Wage Earnings and Size of Land Ownership

| | Sum of Squares | Df | Mean Square | F | Sig. | Eta Squared |
|---|---|---|---|---|---|---|
| Between Groups | 193699555.962 | 2 | 96849777.981 | 12.134 | .000 | .110 |
| Within Groups | 1572333431.538 | 197 | 7981387.977 | | | |
| Total | 1766032987.500 | 199 | | | | |

Therefore, the null hypothesis that there is no significant difference in average wage earnings of participating workers in the scheme across size of land ownership status is rejected and alternative hypothesis is accepted.

One Way ANOVA explains the overall difference in average wage earnings between various groups such as marginal farmers, small farmers and landless labourers. However, it will not reveal the sample (group) which contributed to overall significant difference in average wage earnings among these three groups. Therefore, Tukey's Post Hoc Test is run to confirm where the difference in average wage earnings occurred between groups. The result of the Post Hoc Test is presented below in table 8.8.

**Table 33** Post Hoc Test Multiple Comparisons DV: Wages Tukey HSD

| (I) Land Ownership | (J) Land Ownership | Mean Difference (I-J) | Std. Error | Sig. | 95% CI Lower Bound | 95% CI Upper Bound |
|---|---|---|---|---|---|---|
| MF | SF | 504.231 | 959.651 | .859 | -1762.05 | 2770.51 |
| | LL | -1953.969* | 432.020 | .000 | -2974.21 | -933.72 |
| SF | MF | -504.231 | 959.651 | .859 | -2770.51 | 1762.05 |
| | LL | -2458.200* | 928.434 | .024 | -4650.76 | -265.64 |
| LL | MF | 1953.969* | 432.020 | .000 | 933.72 | 2974.21 |
| | SF | 2458.200* | 928.434 | .024 | 265.64 | 4650.76 |

*. The mean difference is significant at the 0.05 level.

*MF: Marginal Farmers, --------------- SF: Small Farmers,-------------- LL: Landless Labourers*

Post-hoc comparisons using the Tukey HSD test indicated that the average wage earnings score for Marginal Farmers (MF) (M=7450, SD= .42) was significantly different from Landless Laborers (LL) (M=9404, SD=.41, p = 0.001) but the difference in average wage score for MF was not statistically significant from Small Farmers (SF) (M=6945, SD= .65, p = 0.859). The average wage earnings score for Small Farmers was significantly different from Landless Laborers (M=9404, SD=.41, p = 0.001) but the difference was not statistically significant from Marginal Farmers MF) (M=7450, SD= .42, p =0.859). Similarly, the average wage earning score for Landless Laborers was significantly different from both Small Farmers & Marginal Farmers. The difference in average wages between these three groups reflects that there is a clear influence of the land ownership status on average wage earnings score.

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