

## **MGNREGA and Agriculture in Kashmir Valley: A Case Study of District Budgam**

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### **Authors' contributions**

*This work was carried out in collaboration between both the authors. Author MM designed the study, managed the literature searches and wrote the first draft of the manuscript. Author GMB managed the analyses of the study. Both the authors finalized manuscript.*

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### **ABSTRACT**

The paper attempts to evaluate the impact of MGNREGA on agriculture in general. The study also attempts to find whether there is any association between the level of improvement in agriculture brought in by MGNREGA and the type of land (irrigated or Un-irrigated) in district Budgam of Kashmir valley. The study is based on primary survey. The sample constitutes both beneficiaries and non-beneficiaries of the scheme. The results of the study reveal that majority of the respondents own farm lands having marginal landholdings. It was found that MGNREGA has overall improved the agriculture in the region. The results of the study also reveal that MGNREGA has been more effective in improving agriculture in those areas where irrigation facility is already available compared to those which are still depended on rainwater. It is recommended that more and more land should be brought under irrigation to make MGNREGA more fruitful for the rural community.

*Keywords: MGNREGA; agriculture; irrigated land; un-irrigated land.*

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## 1. INTRODUCTION

India is predominantly a rural country with 66% of its population living in rural areas [1]. Around 70% of India's labour force reside in rural areas which constitute 46% of the country's national income [2]. The transformation of the rural economy is considered as an important source of economic growth for the entire economy. It is a well-known fact that we have not been able to bring the annual growth in the agricultural sector more than 3.2% in comparison to the rest of the Asian countries (with similar climate conditions). This has caused the concentration of poverty in our agricultural sector to a large extent. This sector has been suffering from the problems like disguised unemployment, low productivity, high dependency, poor infrastructure, dependence on monsoons, price fluctuations, and fragmentation of landholdings [3]. In some states these problems have caused farmer distress which sometimes force farmers to commit suicide.

### 1.1 Introduction to MGNREGA

The "Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)" was propelled to "uphold the commitment" of the "Government of India" towards the "livelihood security" of the rural population in the country. It was in the monsoon session of parliament, 2005, the Act was passed. The Act was initially called as "NREGS". It received the consent of the president of the Republic of India on 5<sup>th</sup> of September 2005. The Act was notified on 7<sup>th</sup> day of September 2005. It was initially made operational on 2<sup>nd</sup> of February 2006 in its first phase among those two hundred districts of the nation which were most backward districts in nature. The coverage of this programme was further expanded to 130 more districts of India on 1<sup>st</sup> of April 2008, and finally, this Act was made operational in all the districts of the country barring those districts which have 100% urban population. The Act aims to provide employment as a "source of income" to the unskilled workers of rural India. In addition to the employment generation, one of the main aims of this Act is to create high yielding and long-lasting assets in rural areas to improve the living standards of the rural community. The programme is a federally funded and is a "right based Act" which gives villagers a right to demand employment at any time in a year.

The rationale for programmes like MGNREGA is based on the proposition that the government

has an active part to play in promoting rural welfare in the country. The state itself plays the role of "market maker" for the rural labour. The programme has been hailed for being one of the most radical welfare initiative of the government of India at a time when the people across the world were struggling to retain their jobs in a jobless growth paradigm and global capitalism was experiencing crisis [4].

### 1.2 MGNREGA in Jammu and Kashmir

The erstwhile State of Jammu and Kashmir (now a Union territory) was the 6<sup>th</sup> largest state of India constituting 6.76% of country's total geographical area and ranks 29<sup>th</sup> in terms of population of the country with 125.41 lakh souls. The state had three regions- Jammu, Kashmir and Ladakh comprising of 22 districts in total. The state was further divided into 82 Tehsils, 86 towns and 6551 villages as per 2011 Census. For administrative purposes, there are 320 community development blocks in the state" [5].

This flagship scheme was extended to the erstwhile state of Jammu & Kashmir from February 2006 in firstly in three districts of the state namely "Doda, Poonch and Kupwara". At present, this scheme is operational in the entire region. The number of households granted job cards is 12.35 lakhs and employment provided is 379.25 lakh person-days during the financial year 2017-18. In addition to this 330.5 lakh man-days of work has been generated in the state since the launch of the scheme.

It is a fact that "72.63% of the population lives in rural areas" [6]. Agriculture and allied activities support around 70% of the population directly or indirectly. This makes any rural development programme equally relevant to this part of the country as to other states of India.

## 2. MGNREGA AND AGRICULTURE

Rural income and employment have been largely dependent on the agricultural sector, which makes this sector the foundation of the rural economy. The happiness of the rural people is dependent on the prosperity of agriculture. It absorbs the majority of the workforce and provides livelihood to the millions. In Kashmir too, MGNREGA has brought a lot of hope and optimism in rural people's lives [7]. So, it becomes quite important to assess the impact of MGNREGA on this sector to get a broader view of the effect of this programme on the lives of the

rural population. The current study tries to find out some important links between MGNREGA and Agriculture. MGNREGA is basically an employment generation program, but eventually, it has displayed potential for augmenting agricultural activities with its main focus on irrigation [8] particularly in case of small and marginal farmers [9]. In this study, the respondents were directly asked about the impact of MGNREGA on their agriculture as far as their farm production and productivity is concerned.

### 3. LITERATURE REVIEW

We can't imagine happiness among the rural people without a flourishing agriculture sector. The prosperity of millions of Indians lies in the progress of the agriculture sector as majority of the people, directly or indirectly, dependent on this sector. The beauty of MGNREGA lies in the fact that it not only creates gainful employment for the rural labour, but also creates some durable assets which in turn help agriculture to flourish. In this way the benefits of MGNREGA are multifold. MGNREGA is benefiting agriculture sector in multiple ways especially when the farm size is so small that a common farmer finds it difficult to make investments in projects like irrigation, water and soil conservation etc. Esteves et al. [10] after studying four districts from four different states, concluded that MGNREGA decreases the agricultural vulnerability among the rural masses due to improvements in works related to water and land development. Ranaware, Das, Kulkarni & Narayanan [11] provide evidence from Maharashtra that MGNREGA works significantly improve agriculture, and benefit a wide range of small and marginal farmers. Sitarambabu et al. [12] finds that MGNREGA has significantly led to increase in wages for agricultural wages in Anantapur and Mahbubnagar districts of Andhra Pradesh. Banerjee & Saha [13] carried out a study among the most backward districts of Jharkhand, Chhattisgarh and Orissa, all of which suffer from Maoism. The study finds that MGNREGA has dual objectives of developing these areas and bringing peace to these areas by way of income and employment creation and also the impact that community assets have on the agriculture in terms raising farm productivity and farm wage rate. Prasad [14] in Uttar Pradesh found that farmers are resorting to agriculture mechanization, use of family members as labour and hiring and engaging labour from outside the village. Whereas, Varshney, Goel, & Meenakshi

[15] finds that post MGNREGA farmers are switching to less labor-intensive crops leading to a change in crop pattern. Reddy [16] does not find any evidence for the reduction in the cultivation area either because of increase in wages or labour insufficiency in agricultural peak season.

#### 3.1 Objectives

- To analyse the impact of MGNREGA on agriculture.
- To analyse the association between the levels of improvement in agriculture by MGNREGA with respect to the type of land (irrigated or un-irrigated).

#### 3.2 Hypotheses

- There is no significant association between the levels of improvement in agriculture (by MGNREGA) with respect to the type of land (irrigated or un-irrigated lands).

### 4. DATA AND METHODOLOGY

#### 4.1 Sources of Data

In order to analyse the Impact of MGNREGA on agricultural in the district, Primary data has been used. The data was collected with the help of well-structured interview schedule. In order to get a better picture, we not only interviewed beneficiaries of the scheme (workers) but also non-beneficiaries (common villagers) were also interviewed during the field survey.

#### 4.2 Study Area

The survey for the present study was carried out in district Budgam of Kashmir valley during the summer of 2019. District Budgam was selected for the field survey because of its overwhelming rural population. The district has 105177 households out of which 97773 households, i.e. 92.96% reside in rural areas which makes the district rural in character. The district has a population of 7.5 Million. The density of population stands at 537 persons per Sq. Km.

#### 4.3 Sampling

The present study used the purposive stratified random sampling technique. Administratively district Budgam comprises of 17 community development Blocks and 6 municipal committees. Since our study is related to rural

areas, we confine ourselves to CD Blocks only. Out of the 17 blocks, 6 blocks were selected on the basis of the highest, middle and lowest concentration of job cardholders and from each block, two villages were selected randomly. Thus, the total number of villages selected was 12. From each village, ten beneficiaries of MGNREGA were purposively selected. In this way, our sample comprised of 120 sample beneficiaries. In addition to this, an equivalent number of non-beneficiaries were also selected from the chosen villages.

#### 4.4 Methods

This study is quantitative in nature and apart from its descriptive approach; Chi-square test was used to find out the association or affiliation between the type of the land (on the basis of availability of irrigation facility) and improvement in agriculture brought in by the implementation of the programme. According to Hejase & Hejase [17], “descriptive statistics deals with describing the data by condensing it into simple representative numerical quantities [frequencies and percentages] or plots that can provide better understanding of the collected data” (p.272) In addition, Kendal’s tau of association was used to figure out the strength of the relation between the two. In order to get a better picture of the impact of MGNREGA on agriculture sector we have consulted both beneficiaries as well as non-beneficiaries in our sampled villages. This was done not only to get rid of any type of bias but to increase the validity and to get a broad-based

feedback about the scheme. Firstly, we tried to find the distribution of land ownership among beneficiaries as well as non-beneficiaries followed by the distribution of landholdings among the respondents who owned the land. This was followed by the distribution of different types of land among the land-owning respondents on the basis of access to irrigation facilities in the farmland and finally the response of the respondents about the impact of MGNREGA on their farms has been reported in the analysis.

#### 5. EMPIRICAL RESULTS

It is a well-known fact that MGNREGA will become really effective only when it will help to regenerate the productivity of small farms. In order to know the impact of the MGNREGA on agriculture, respondents were asked about the level of improvement in their respective farmlands in terms of production and productivity brought in by the assets created.

Table 1 shows the distribution of land ownership among the sampled beneficiaries as well as non-beneficiaries. It can be seen from the table that about 80.8% of sample beneficiaries own the land whereas 19.2% do not own any type of agricultural land. It was also found that 60.8% of the non-beneficiaries do own land and 39.1% of them do not own land. Out of the total sample of 240, 70.8% own land and 29.1% do not own land. Here land includes both agricultural and horticultural lands.

**Table 1. Distribution of land ownership among the respondents**

Land ownership	Beneficiaries	Non-Beneficiaries	Total
Own land	97 (80.8)	73 (60.8%)	170 (70.8)
Do not own any land	23 (19.2)	47 (39.1)	70(29.1)
Total	120 (100.0)	120 (100)	240 (100)

Source: Field Survey  
Percentages are shown in brackets

**Table 2. Distribution of the size of land holdings among the respondents who own land (both beneficiaries and non-beneficiaries)**

Size of Land Holdings	Frequency	Percentage
1 to 5 kanals	132	77.47
6 to 10 kanals	33	19.36
11 to 15 kanals	2	1.35
16 to 20 kanals	2	1.35
21 to 25 kanals	1	0.45
Total	170	100.0

Source: Field Survey

Table 2 throws light on the distribution of landholdings among the respondents who own the land. It can be noticed from the table that 77.47% of respondents who own land have their land holdings between the range of 1 to 5 kanals and 19.36% have land holdings between the range of 6 to 10 kanals. It is quite evident from the data that about 99 per cent of landowners are marginal farmers whose land holdings are less than 20 kanals (1 hectare). Only one respondent reported to possess land measuring above 20 kanals.

Table 3 throws light on the land ownership of sampled beneficiaries with respect to the availability of irrigation. The data shows that 77.05% of respondents possessed irrigated land

while as 22.94% of landowners possessed un-irrigated land.

Table 4 and Fig. 1. explains the responses of both beneficiaries as well as non-beneficiaries about the impact of MGNREGA on the farm sector. The table shows that approximately 57% of respondents communicated that there has been a high improvement in agriculture due to the implementation of MGNREGA, and about 18.3 per cent reported moderate improvements in agriculture. The table also reveals that about 17.5 per cent of respondent didn't notice any improvement in the agriculture due to the implementation of MGNREGA and approximately 8 per cent of respondents did not know anything about this phenomenon.

**Table 3. Distribution of landowners with respect to irrigated and un-irrigated land for the whole sample**

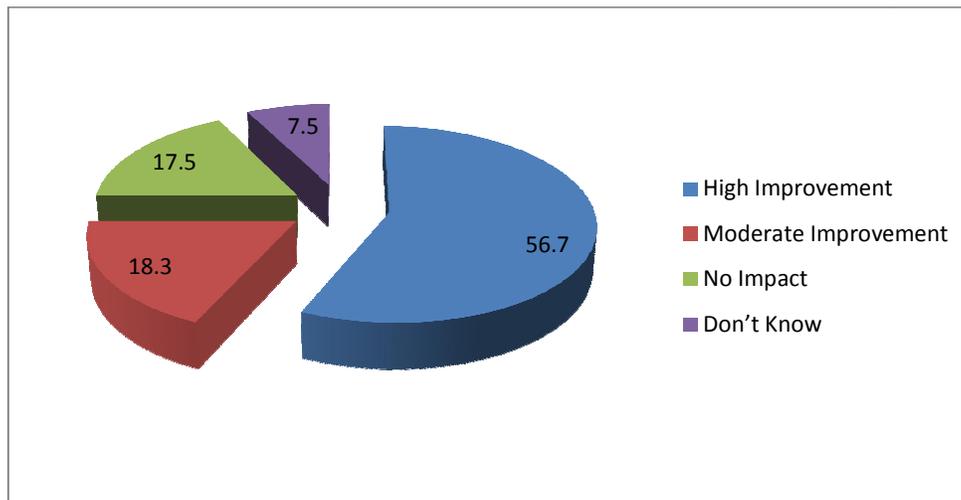
Category	Frequency	Percentage
Un-irrigated	39	22.94
Irrigated	131	77.05
Total	170	100.0

Source: Field Survey

**Table 4. Improvement in agriculture by the implementation of MGNREGA (for whole sample)**

Degree of Improvement	Frequency	Percentage
High Improvement	146	56.7
Moderate Improvement	44	18.3
No Impact	42	17.5
Don't know	18	7.5
Total	240	100.0

Source: Field Survey



**Fig. 1. Improvement in agriculture**

Further, when we confine our analysis about the impact of MGNREGA to only those respondents who own land, our sample reduces to 170 respondents, and we get two categories of respondents. First are those who own irrigated land or whose major portion of land has been provided irrigation facility and the second category include those respondents whose land has not been provided irrigation facility yet. It includes higher Karewa land of district Budgam where irrigation facilities have not been provided yet due to tough terrain. Table 5 and Fig. 2. will explain further.

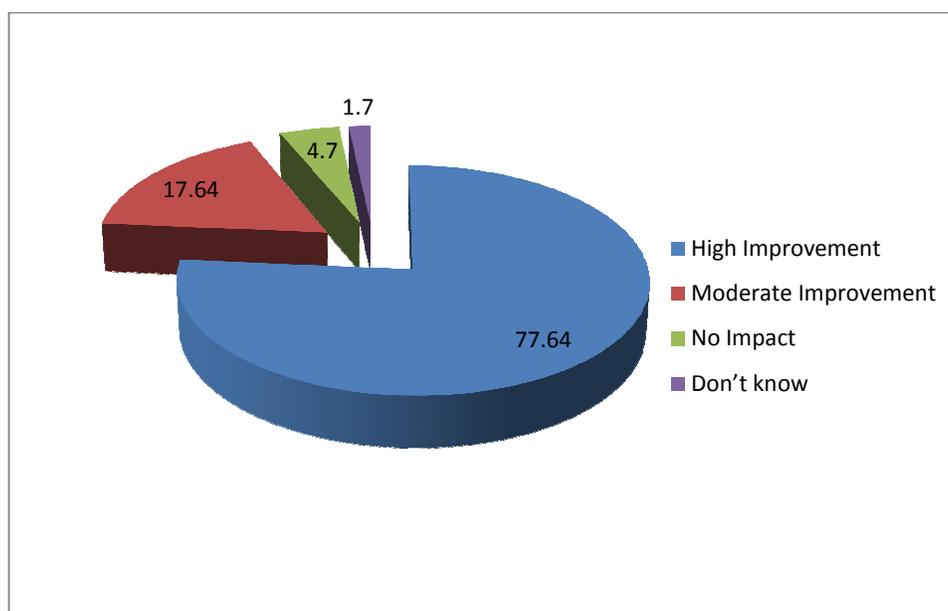
Table 5 reveals the improvement in agriculture for those responds who own land. The total number of such respondents is 170. The table shows that out of the total respondents, 77.64% reported high improvements in their farmland in terms of production and productivity due to the implementation of MGNREGA. The table also shows that 17.64% of respondents responded with moderate improvement in their farmlands, and 4.7% of respondents reported that there is no impact of MGNREGA on their farmlands.

Table 6 and Fig. 3. reveal the impact of MGNREGA on agriculture with respect to the type of land. The table shows that out of those 132 respondents, who think that MGNREGA has highly improved the agriculture, 102 respondents (77.27%) are those who own irrigated land, and

34 respondents (22.72%) are those who own un-irrigated land. Further, the table shows that out of the total respondents who think MGNREGA has moderately impacted the agriculture 81% own irrigated land whereas 18.51% own un-irrigated land. The table also reveals that out of those respondents who do not see any impact of MGNREGA on agriculture 62.5% own irrigated land and 37.50 own un-irrigated lands.

So, it can be inferred from Table 6 that the link between MGNREGA and agriculture is stronger in irrigated land as compared to un-irrigated lands. It was observed during the field survey that the improvements in irrigation brought in by MGNREGA have a direct impact on production and productivity of the farms which make a visible impact of irrigated fields. On the other hand, those farmlands where irrigation is not possible mainly due to the tough terrain, the impact of MGNREGA on agriculture has been too effective. This phenomenon was observed in upper areas of district Budgam where agriculture has not benefited much from MGNREGA.

Further in order to test the association between the improvement in agriculture due to several kinds of assets created under MGNREGA and the type of land (i.e. whether the land is irrigated or un-irrigated) chi-square has been used and in order to find out the strength of the association Kendall's tau has been calculated (see Table 7).



**Fig. 2. Improvement in agriculture for those respondents who own land**

Table 7 shows the association between the improvement in agriculture and type of landholding. The total number of valid cases is 167 because we have excluded those sample beneficiaries who do not know about this phenomenon. In Table 7, the chi-square of association shows that there is a significant association between the level of improvement in agriculture brought in by MGNREGA and the type of land. In order to know the strength of the

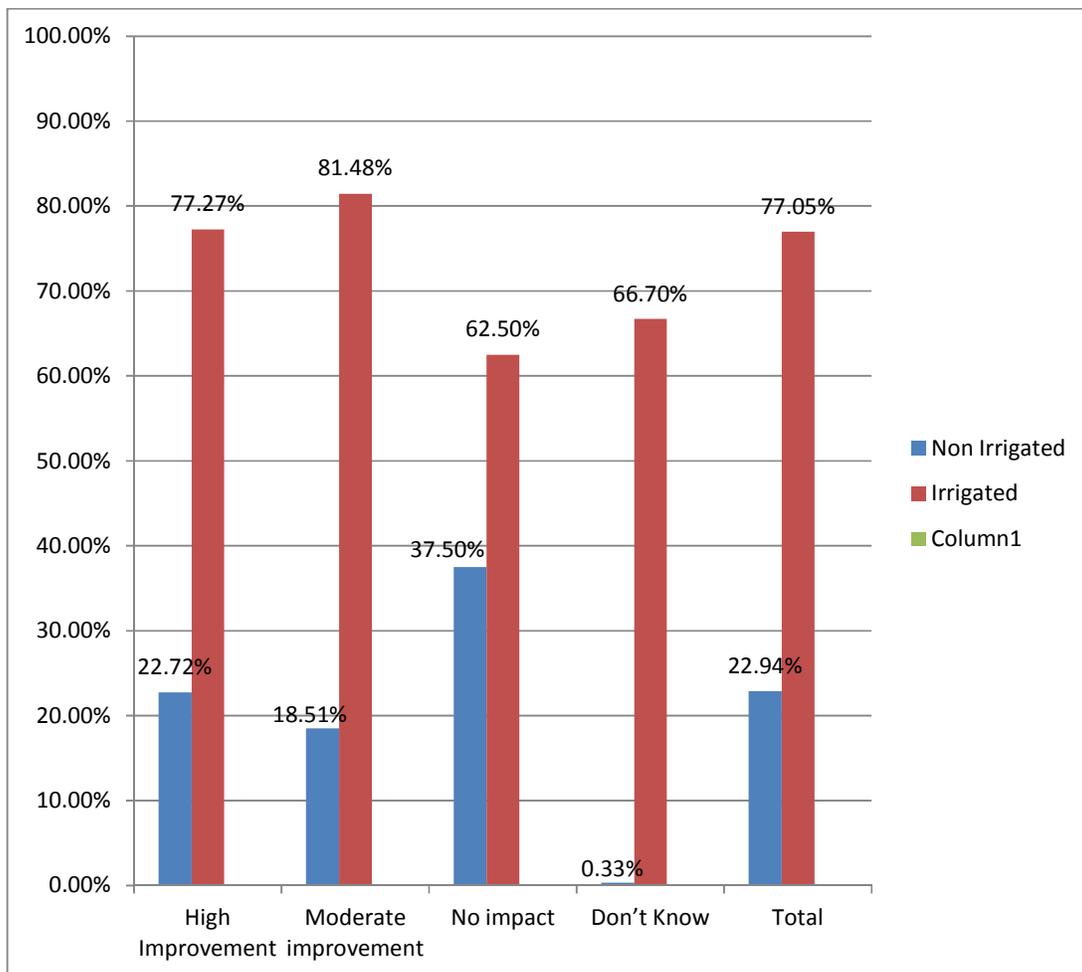
relation, Kendall's tau has been used, which is significant at 1% level of significance. Therefore, it can be inferred that there is a strong positive relationship between the type of land and agricultural improvement.

Since the Chi Square Statistic is significant at 1% of level of significance, we reject the null hypothesis and conclude that there is a significant association between the level of

**Table 5. Improvement in agriculture for those respondents who own land**

Degree in Improvement	Frequency	Percentage
High Improvement	132	77.64
Moderate Improvement	27	15.88
No Impact	8	4.7
Don't know	3	1.7
Total	170	100

Source: Field Survey



**Fig. 3. Improvement in agriculture with respect to the type of land**

**Table 6. Improvement in agriculture with respect to the type of land**

	<b>High improvement</b>	<b>Moderate Improvement</b>	<b>No Impact</b>	<b>Don't know</b>	<b>Total</b>
Non irrigated land	30 (22.72)	5 (18.51)	3 (37.5)	1 (33.3)	39 (22.94)
Irrigated land	102 (77.27)	22 (81.48)	5 (62.5)	2 (66.7)	131 (77.05)
Total	132 (100)	27 (100)	8 (100)	3 (100)	170 (100)

Source: Field Survey

**Table 7. Chi-square test**

	<b>Value</b>	<b>Df</b>	<b>Asymp. Sig. (2-sided)</b>
Pearson Chi-Square	64.903 <sup>a</sup>	2	.000
Likelihood Ratio	77.909	2	.000
N	167*		
Kendalls tau-b	0.770		.000

\* Excluding "Don't know" category

improvement in agriculture brought in by MGNREGA and the type of land (irrigated or un-irrigated).

## 6. DISCUSSION

Since agriculture is the major economic activity of rural people and a way of their life, MGNREGA through its creation of assets related to rural connectivity, water conservation, water harvesting, and land development has a profound impact on agricultural production [18]. During the field study, it was observed that 70 per cent of respondents owned land and almost all of them were marginal farmers with small landholdings reflecting their poor economic background. This study's results reveal that MGNREGA has been improving the overall agriculture in the district. The assets created under the scheme are helping farmers to reap more benefits from the agriculture, and thus achieving the broader objectives of 'convergence planning' under MGNREGA. Our results go hand in hand with those of Mishra & Mishra [19] the results also show us that MGNREGA has been more effective in improving those agricultural fields where irrigation facility is already available as compared to un-irrigated farms. This is mainly due to the timely de-silting and maintenance of irrigation canals under MGNREGA which ensures the irrigation well in time and results in increased production. It was also observed in the field that villagers themselves cleaning and maintaining irrigation canals for their fields and getting paid for it under the programme. In order to find out this empirically, Chi-square test was run to assess the association between the type of land and improvement in agriculture which was found to be significant and the relation between the two was found to be strong. In the

upper reaches of district Budgam where irrigation facilities have not been made available yet, MGNREGA has not been found too effective as far as agriculture is concerned. It also makes us to understand that it is through the expansion of irrigation that MGNREGA has the potential to improve our agriculture sector.

## 7. CONCLUSION

The study is an attempt to evaluate the impact of MGNREGA on agriculture in district Budgam of Jammu and Kashmir. The aim of the study is to see whether there is any association between the level of improvement in agriculture brought in by the implementation of MGNREGA and the type of land (irrigated and Un-irrigated). The study is entirely based on primary survey. In order to be free from any biases, our sample constituted both beneficiaries and non-beneficiaries of the scheme. The results of the study reveal that majority of the respondents own farm lands and have marginal landholdings. It was found that MGNREGA has improved agriculture in the region in general. It was also found that this programme has been more effective in those areas where irrigation facility is already available compared to those which are still depended on rainwater.

The present study is based on the responses collected in field. For future research, secondary data related to agriculture sector can be incorporated for a detailed study about the linkages between MGNREGA and agriculture.

## 8. POLICY RECOMMENDATIONS

Since MGNREGA has been found more effective in improving agriculture in the irrigated areas, the state must take steps to improve non irrigated

areas also. This can be done by bringing more and more agricultural land under irrigation by clubbing MGNREGA with other departments under “Convergence Scheme” which can eventually benefit the agriculture as a whole.

### COMPETING INTERESTS

Authors have declared that no competing interests exist.

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