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Evaluating the MGNREGA Derived Water Management Programs: A Study of Mewat District, Haryana

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ABSTRACT

The water management has been playing a very significant role in rural development. Present study highlight an active role of various water management programmes which have undertaken under MGNREGA in a Mewat district which is situated under the foothills of Aravali in the six block of Mewat district, Haryana. In this study, various water management programmes like groundwater recharging, election of check dames, soil conservation works etc. have been executed under the rural development for 12 villages. In order to analyse the impact of water management programmes, a composite index method was applied to get the desired results. Further, the findings of the study shows that there is a significant impact of all these water management programme in terms provide a sustainable employment for the BPL households and also been proved conducive to execute the rural development in terms of taking structural measures for developing the rural infrastructure and the drought management measures in the 12 villages of Mewat district.

Keywords: Water management, MGNREGA, rural development, drought management, risk cover

INTRODUCTION

The water management is an integral part of rural development. On the other hand, in the national rural employment guarantee programme, known as Mahatama Gandhi National Rural Employment programme Act which was came in to existence in the year 2005.In this national scheme, where there is 60 % of the development projects are relating to earth work and most of the water management works are covered under MGNREGA. The review of literature on MGNREGA gives a holistic insight on various problematic areas of rural development in terms of water management, soil conservation, waste land management and drought management in the rural areas. In this context, the review of literature helps the researcher to follow an appropriate research design to explore the new vistas of research in water management and a supplementary role in rural development. Mishra Kumar Sushanta (2011) conducted a study on asset creation under MGNREGA. The study shows that there is significant impact of assets created through MGNREGA on rural households.

However the productive value of these assets could be enhanced with further monitoring activities In this context, the periodic review of rural development programmes in India. The study revealed that MGNREGA provides an alternative source of livelihood which will have an impact on reducing migration, restricting child labor, alleviating poverty, and making villages self-sustaining through productive assets creation such as road construction, cleaning up of water tanks etx (Panda& Majumdar, 2013)

Further, Rao Mallikarjuna (2013) reviewed the performance of MGNREGA and exposed that MGNREGA serves as an effective safety net for the unemployed especially during famine and drought. It has enabled them with sufficient purchasing power and they are at least able to support their basic necessity i.e. food. MGNREGA is not only giving rural livelihoods but also involving them in other non-agricultural work. Chhetri Madan (2015) studied the rural poverty alleviation through MGNREGA in the state of Sikkim. The study highlighted that MGNREGA has benefited agricultural labourers directly as the scheme pressured minimum agricultural

Statement of the Problem: The water management and rural development both are strongly correlated to each other. Present study highlights an active role of various water management programmes which have undertaken under MGNREGA in a 12 villages which situated under the foothills of Aravali in the Mewat district, Haryana. In this study, various water management programmes like groundwater recharging, election of check dames, soil conservation works etc. have been executed under the rural development for 12 villages. In order to analyze the impact of water management programmes, a composite index method was applied to get the desired results. Further, the findings of the study shows that there is a significant impact of all these water management programme in terms provide a sustainable employment for the

BPL households and also been proved conducive to execute the rural development in terms of taking structural measures for developing the rural infrastructure and the drought management measures in the 12 villages of Mewat district.

Objectives of the Study:

1. The study is aimed at review the water management in terms of rural development,
2. To examine the role of MGNREGA in rural development across the Mewat district

MATERIAL AND METHODS

The ranges of the 'Likert scale' have used by allotting the weightage as, 1. Strongly disagree (Index value below 1.5), Disagree (Index value between 1.5 to 2.5). Undecided (Index value greater than 3.5 confirm the significant impact of MGNREGA and confirm the degree of the participation of the villagers in the drought management program; derived by MGNREGA. The formula is given follows:

$$\textbf{WMI} = \frac{(W_1 f_1 + W_2 f_2 + W_2 f_3 + \text{---------} + Wn\ fn)}{(f_1 + f_2 + f_3 + \text{-------} + f\,n)} = \frac{\sum W_1 mi}{\sum f_1}$$

Whereas, W_1 is the assigned the weightage for a particular class under the 'Likert scale' which shows varied degree of 'very low' or 'very high' scale and f_1 is the corresponding frequency of that particular class; as shown in this study, i.e. under the degree of the community participation in the drought management program; undertaken under MGNREGA in the five different classes, like 'Very High', 'High' 'Medium' 'Low' and 'Very low'. The correspondingly weightage has given as 5, 4, 3, 2 and 1 respectively.

This scale lies within the range 1 to 5. Similarly, in terms of the benefits which have benefited the villagers, belonged to BPL families which have categorized as 'Very High', High, Medium Low and Very low the for the BPL MGNREGA workers. Further, the corresponding weight was given as 5, 4, 3, 2 and 1 respectively. The 'WMI' Weightage Mean Index'is lie within the range of the numerical values 1 to 5 which has allotted in accordance with the objectives of the study.

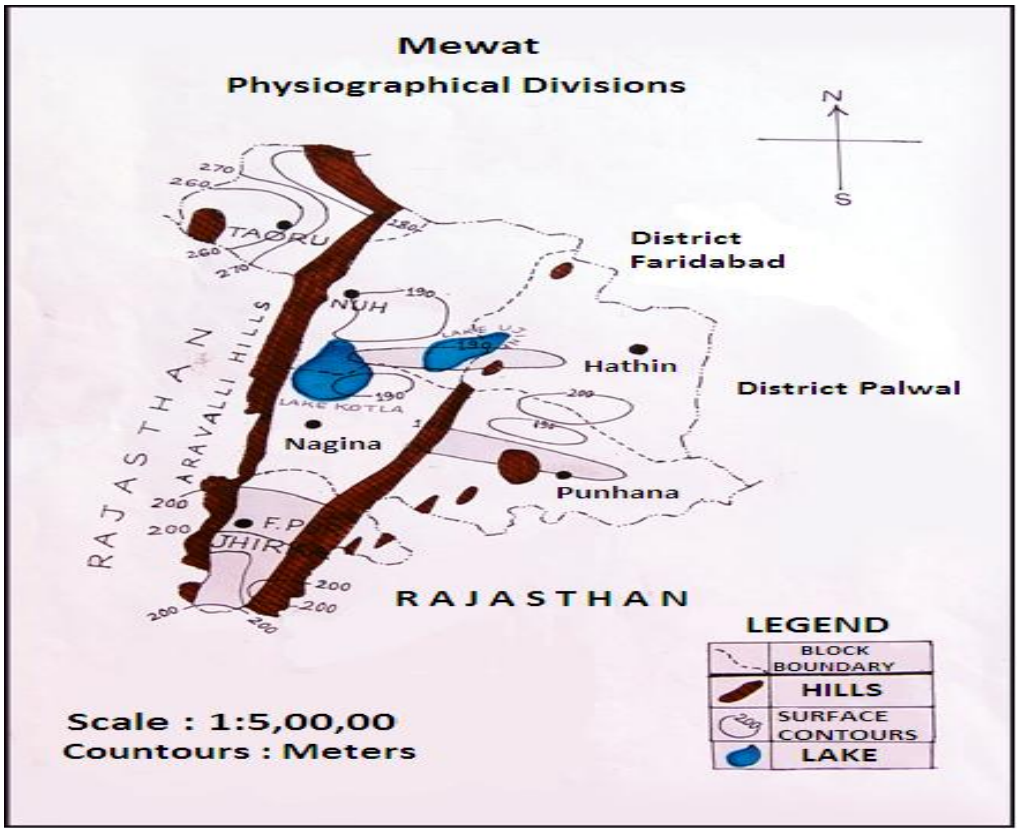
The Study Area: The area of 12 sample village of Mewat district of Haryana, selecting at least two villages from one block from six blocks of Mewat. There are 6 and it is situated under the foothills of Aravalli hills, locally known as Kala Pahar. There are total population 300 respondents which have taken from each sample village, taken for the study. The sex ratio of the Mewat district is 881 female per 1000 male. The child sex ratio (0-6 yrs) of the village 700 numbers; whereas 366 (52.28 %) are male 334 (47.72 %) are female. The population density of the village is 4 inhabitants per hectare.

The literacy rate are 45.85 %, whereas 61.25 % are male and female are 28.37 %, shows a considerable gender inequality in the village literacy rates. The SC population of the village is 105, whereas the male are 58 (55.24 %) and female are 47 (44.76%) persons (Census of Haryana, 2011).

The agricultural production and the productivity are far better than that of the surrounding village. The total work force of the Ghaghas is 920; whereas 744 (80.86 per cent) are male and 176 (19.14 per cent) are female. The total marginal workers are 981; whereas; 322 are male and 659 are marginal workers are female in the village. Agriculture labours are 27%; whereas there are 12% males and 15% female agricultural workers. There are 390 cultivable lands in the 12 sample villages. The household industrial labours are 10; % whereas the male workers are 6 % and the female workers are 4%. The non- workers are 11598; with 900 are male and 698 are female.

However, there are 6 sample villages which has locational advantages with its location near to the Aravalli hills; as a result, in the rainy reason the continuous recharging of the groundwater has turned sweeter which is fit for drinking and the irrigation purposes.

With this advantageous position the cropping and irrigation intensity is far better than that of surrounding villages. The location of the Mewat district with its physiographic features are is shown in a map as follows:



RESULTS AND DISCUSSION

Water management is an integral part of rural development and the rural development schemes are executed by the Gram Panchayat, under the MGNREGA program. However, the study area which has taken the 12 sample village, which is attributed with some of advantageous position in terms of its natural recharging of the groundwater of this sample village, as a result, the MGNREGA derived rural development schemes have been implemented in an effective way. In this context, the earth relating rural development micro-projects like recharging of groundwater through sock-pits, erecting the check dams on the downstream during the rainy season, soil conservation works, water harvesting works, soil fertility management works on Panchayat land, participating in soil survey programme, and other structural water management measures, taken under MGNREGA programe in the study area. The response on impact on MGNREGA derived rural development scheme which has worked out and tabulated as follows:

Distribution of Respondents son Impact of MGNREGA derived water management programmes for rural development in the Mewat district, Haryana (2022-23)

Sr. No	Perception	Very low	Low	Medium	High	Very high	No opinion	Total No of Respondents
1	The check dam's impact for retaining downstream water in the year	60 (20)	80 (26.67)	80 (26.67)	40 (13.33)	40 (13.33)	0 (0)	**300 (100) (Medium)**
2	Impact of the Soil-conservation program in sample villages	55 (18.33)	85 (28.33)	75 (25)	65 (21.67)	20 (6.67)	0 (0)	**300 (100) (Medium)**
3	The impact of ground water recharge through old	55 (18.33)	75 (25)	54 (18)	55 (18.33)	61 (20.33)	0 (0)	**300 (100)**

	wells in the village							**(Medium)**
4	Impact of water harvesting in the sample village.	67 (22.33)	77 (245.67)	63 (21)	54 (18)	39 (13)	0 (0)	**300** **(100)** **(Medium)**
5	Impact of the soil fertility management in the Panchayat land	71 (23.67)	67 (22.33)	68 (22.67)	66 (22)	28 (9.33)	0 (0)	**300** **(100)** **(Medium)**
6	Impact of the social forestry in Panchayat land.	68 (22.67)	61 (22)	66 (20.33)	55 (18.33)	50 (16.67)	0 (0)	**50** **(100)** **(Medium)**
7	Impact of mixed tree plantation in the surplus land in the village.	66 (22)	63 (21)	59 (19.67)	63 (21)	49 (16,33)	0 (0)	**300** **(100)** **(Medium)**
8	Impact soil survey , conducted by the soil conservation department in the village	63 (21)	70 (23.33)	65 (21.67)	56 (18.67)	46 (15.33)	0 (0)	**300** **(100)** **(Medium)**
9	The impact of the ground water recharge through sock pits in the sample villages	73 (24.33)	68 . (22.67)	66 (22)	55 (18,33)	38 (12.67)	0 (0)	**50** **(100)** **(Medium)**
10	Overall impact of MGNREGA derived drought management by in the sample village	74 (8)	62 (24)	68 (36)	48 (16)	48 (16)	0 (0)	**50** **(100)** **(Medium)s**

Source: Field survey *Percentages are given brackets

The worked out figures on the response of the households of the study area of the Ghaghas village shows the subjective views on the various water management programmes which have implanted by the Gram Panchayats of 12 sample villages in an effective way. In these water management programmes, undertaken under MGNREGA have shown a varied impact, depend upon the prevailing socio-economic and physiographic conditions of the study areas. There were 300 respondents, belonged to BPL families who have worked under MGNREGA, who have given their objective and subjective view on this empirical study, carried out in MGNREGA. The impact of the water management schemes, which have undertaken by MGNREGA and implemented by Gram Panchayats of 12 sample villages, which showed their views as very low, low, medium, high and very high by the respondents. On the basis of this empirical study a significant impact was observed under the field conditions which have concluded as follows:

FINDINGS AND CONCLUSIONS

On the basis of MGNREGA derived water management programmes by taking some of the structural measures which has a significant impact on the drought management and other rural development programmes in the 12 sample villages of of Mewat district. In this water management and other water harvesting programme which is an integral part of the rural development has shown an obvious impact. Out of 300 BPL households of the 12 sample villages of the Mewat district, show that the individual water management programmes, undertaken by MGNREGA had a medium level impact on the agricultural production and make available the water for the drinking purposes of the study areas of Mewat district. Apart from rural employment in the earth relating work some of the structural measures like check dames, groundwater recharging through sock pits and old wells have been used the groundwater, as a result, a sustainable groundwater supply of the water has been made available for drinking and irrigation purposes in the study area of all the 12 sample village.

Another impact of MGNREGA is quite visible that a significant numbers of rural –urban migration was not been noticed during the last one year in the village. According to the villagers belonged to the study areas who have pointed out with their subjective views with varied level of impact of various structural measures on the water management which have taken under MGNREGA in the study of the Nuh (Mewat) district. The overall impact had a medium level of impact of MGNREGA derived water management programs which have undertaken for the rural development, by the Gram Panchayat, of the 12 sample Village of the six blocks block of Mewat district, Haryana.

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