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Factors Determining Beneficiaries Of MGNREGA: An Application Of Factor Analysis (A Micro Level Study In Vilupuram District Of Tamilnadu)

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Abstract

The MGNREGA afford a balanced source of income and livelihood security for the poor, vulnerable and marginalized. MGNREGS provides income directly to the unskilled workers in the rural areas. The MGNREGS has exposed a important development in different aspects. The number of households connected with MGNREGA works has been increasing always, the number of days for which employment has been provide have also increased. Another important aspect of MGNREGS is the increasing involvement of women in it. It not only provide employment to them but by give wage rate equal to that of a man, it has empowered the women economically as well as socially. This paper analyse the factors determining beneficiaries of MGNREGA in Tamilnadu

1.1 Introduction

MGNREGA although notify on 7 September, 2005, was implemented in all the rural districts of India in April 2008. It is the biggest employment providing programme continually in progress in a country for the development of its rural areas. It aims at providing 100 days of guaranteed wage employment in a financial year to every rural household whose adult members volunteer to take on unskilled manual work. MGNREGA is diverse from the earlier employment programmes launch by the Government of India.

MGNREGS provide income directly to the unskilled workers in the rural areas. The MGNREGS has exposed a important development in different aspect. The number of households connected with MGNREGA works has been increasing constantly, the number of days for which employment has been provide have also increased. Another significant aspect of MGNREGS is the increasing contribution of women in it. It not only provides employment to them but by openhanded wage rate equal to that of a man, it has empowered the rural poor economically as well as socially.

MGNREGA itself contains a number of specific provisions aimed at safeguard gender parity in the program. These stipulations specifically seek to address some of the obstacles that have traditionally prevented women from engaging in work outside the home. In response to the challenge of finding childcare services, MGNREGA specifies that, in cases where there are at least five children accompanying women to a worksite, one of the female workers must be designated to provide childcare on site[3]. In order to challenge the general preference for male

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workers in manual labor employment, MGNREGA stipulates, as mentioned above, that at least one-third of workers must be women.

Developing the design of wage employment programmes more efficiently to fight poverty, the Government of India formulated the NREGA in 2005, a paradigm shift from earlier programmes. By means of its legal outline and rights-based approach, NREGA aim at attractive livelihood security by providing at least 100 days of guaranteed wage employment in a financial year to every rural household whose adult members volunteer to do unskilled physical work. It was later renamed as MGNREGA but is still commonly known by the name of NAREGA. The other prominent feature of the MGNREGA Scheme is to provide necessary facilities like drinking water, shade, first-aid box and crèche at the worksite. It not only provides employment but also focus on inclusive growth, transformation of natural resources, generating productive assets, protecting the environment, empowering the rural women and reducing rural-urban migration with the multiple objectives of behind income and consumption through wage works, creating durable assets. Therefore, this paper analyse the factor influencing beneficiaries of MGNREGA in Villupuram District of Tamilnadu.

1.2 Research Methodology

The study was carried out in Villupuram District of Tamilnadu confined to three gram panchayats viz., Agoor, Asoor and Deevanur of Mailam Block in Villupuram District based on primary data. Using purposive sampling was adopted for selection of study area and random sampling method was adopted for the selection of sample respondents in the study area. A sample of 150 sample beneficiaries was selected from three panchayats (i.e 50 sample from each Panchayats).. Data Collection Data was collected from primary data through questionnaire surveys. The qualitative data was analysed and interpreted based on the information collected from the field.

1.3 Analysis of data and Results

The collected primary data is used to explain the factor influencing beneficiaries of MGNREGA in the study area by using Factor analysis. The primary purpose of factor analysis is to reduce the original number of explanatory variables to a smaller number of independent factors in terms of which the whole set of variables can be understood. These factors are groupings of the original variables into clusters. Each cluster consists of a linear combination of the initial variables, which is formed from the original observed variables by the following mathematical principles.

- variables that are most obviously inter correlated are collective within a single factor
- The variables allocated to a given factor are those that are nearly independent of the variables allocated to the other variables or factors.
- The factor are derived in a manner that maximize the percentage of the total variance of the original variables a attributable to each successive factor (given the inclusion of the proceeding factors) and
- The factors are derived so as to maximize the correlation between them.

Factor analysis, thus provides a simpler, more compact explanation of the regularities apparent in the original phenomenon. Its primary merit lies in its power to simplify the statistical data arising from complex and comparatively unexplored areas of scientific endeavours. Therefore, factor analysis is an appropriate tool to identify

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the service quality dimensions of technology adoption in banks in the study area. The fundamental equation of factor analysis is

$$Z = AF + U$$

Where,

A = factor is the factor pattern matrix giving regressions or loading of each variable to the independent factors

F = contains the hypothetical factors

U = is the diagonal matrix of unique variances and

Z = represents the standardized observations of the selected indicators

The crux of the problem is to find "A' such that AA' will produce the correlation matrix R*. In mathematical parlance, the problem is to analyze the matrix "R' for its resting roots and its vectors. If "V' is the matrix of the normalize resting vectors of R* and if Lδ is a diagonal matrix of the resting roots of R*, then it can be written as

$$R^* = VL\delta \quad V'$$

Therefore

$$R^* = AA'$$

$$AA' = VL\delta \quad V'$$

$$= VL\delta/2 \quad L\delta/2\, v'$$

Where,

L δ /2 are a similar diagonal matrix of square roots of latent roots.

Therefore,

$$A = VL/2$$

The column sum of squares of the factor loading in 'A' will be equal to the latent roots. It will be able to see clusters of high loading on variables, which enables us to discover the underlying factors, which cause the motion of the variables.

Therefore, the Factor analysis is used as a tool for hypothesis testing and to find out the factor loading for each variable. Results for confirmatory factor analysis holding the Eigen values and sum of squares loadings for the factors are displayed in **Table 1.1.**

Table 1.1 Total variance explained

Components	Age	Gender	Education	Family size	Size of holdings	No. of days worked	income	Debt burden
Initial Eigen values								
Total	2.43	1.19	1.04	1.01	0.98	0.72	0.49	0.11
% of Variance	40.60	19.83	17.40	15.45	14.11	12.02	8.30	1.82
Cumulative %	40.60	60.44	77.84	71.54	82.87	89.86	98.17	100.00
Extraction Sums of Squared Loading								
Total	2.43	1.19	1.04	1.01	-	-	-	-
% of Variance	40.60	19.83	17.40	15.45	-	-	-	-
Cumulative %	40.60	60.44	77.84	71.54	-	-	-	-
Rotation Sums of Squared Loadings								
Total	2.35	1.16	1.14	1.12	-	-	-	-
% of Variance	39.28	19.45	19.11	19.01	-	-	-	-
Cumulative %	39.28	58.72	77.84	88.75	-	-	-	-

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Source: computed
Note: Extraction Method: Principal Component Analysis

Table 1.2 shows the results of principal component analysis. The table depicts Eigen-values for each factor which represents the percentage of variance contributed by the factor. The first four factors contribute to 88.75 per cent of the total variance and have Eigen-value greater than 1.0.

Table 1.2 Rotated Component matrix

Variables	Factors			
	Employment factor-1	Income factor- 2	Expenditure factor-3	Savings factor-3
Age	0.094	0.060	0.024	0.045
Gender	**-0.899***	**-0.848***	**-0.821***	**-0.701***
Education	**-0.803***	**-0.636***	**-0.601***	**-0.594***
Size of holding	**-0.943***	**-0.784***	**-0.711***	**-0.641***
No of days worked	-0.012	**-0.587***	-0.019	-0.011
Income	0.112	0.024	**0.744***	**0.674***
Debt burden	-0.065	-0.067	**-0.684***	**-0.604***
Family size	-0.089	-0.097	-0.213	-0.078

Source: computed
Note: Extraction Method: Principal Component Analysis
Rotation Method: Varimax with Kaiser Normalization
a. Rotation converged in 4 iterations * Significant at 1 per cent

Table 1.2 represents the extracted variables and their factor loadings, the results show that the first factor, exhibits heavy loading for gender (-0.899), education (-0.803) and size of holding (-0.943). Hence, it can be named as Employment factor. Second factor exhibits loading for gender (-0.848), education (-0.636), size of holding (-0.784) and no of days worked (-0.587) and it can be called as Income factor. Third factor exhibits loading for gender (-0.821), education (-0.601), size of holding (-0.711), income (0.744), debt burden (-0.684) and it can be called as Expenditure factor. Fourth factor exhibit for gender (-0.701), education (-0.594), size of holding (-0.641), income (0.674), debt burden (-0.604) and named as savings factor.

Therefore, employment factors viz., gender, education and size of holding are negatively influencing beneficiaries of MGNREGA, while in income factor viz., gender, education, size of holding and no of days worked are negatively influencing beneficiaries of MGNREGA. Moreover, expenditure and saving factors viz., gender, education, size of holding, debt burden are negatively influencing beneficiaries of MGNREGA, while in expenditure and savings factor viz., income is positively influencing beneficiaries of MGNREGA in the study area.

1.4 Conclusion

It could be observed from above discussion that the analysis which was based on the use of factor analysis showed that factors such employment gender, education and size of holding all have high level of co-variation. The results show that the first employment factor exhibits heavy loading followed by second income factor, third expenditure factor and fourth savings factor respectively. These factors will determine the beneficiaries of MGNREGA in the study area. Therefore, the factor analysis has revealed that gender, education and family size of the workers significantly influence the worker's employment under the Program. The annual income of the workers has increased with the implementation of the Program. Thus, MGNREGA has contributed to increase in the consumption expenditure reducing the

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debt burden of the beneficiaries. The study has shown that MGNREGA programme often poses the problem of labour scarcity for some of the agricultural operations linked to market wage rates. As a consequence, farmers have brought down their acreage under different crops, leaving the land fallow. Hence, the issue has to be debated to see that 100-day employment guarantee under MGNREGA be confined strictly to months when there is no harvesting or sowing activity.

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