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Impact of Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA) on the Livelihood Security of the Beneficiaries in West Bengal

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ABSTRACT

The study was conducted in two districts namely, Burdwan and South Dinajpur of West Bengal, with 200 MNREGA beneficiaries as respondents to assess the impact of MNREGA on their livelihood security. Significant changes were found in food security, income security, habitat, health and environmental security of the respondents after working under MNREGA. Majority of the respondents (82.5%) were found under medium livelihood security category. Whereas 80.5 per cent of the respondents were found under low livelihood security category before implementation of MNREGA. The Study showed that a majority of the respondents shifted from low to medium livelihood security category after commencement of MNREGA in the study area.

Keywords: Livelihood security, Food security, Income security, Habitat security, Educational security, Health security, Social security, Environmental security.

INTRODUCTION

The concept of 'sustainable rural livelihood' is a central to the debate about rural development, poverty reduction and environmental management. The United Nations Conference on Environment and Development (1992) had put forward the idea of sustainable livelihoods as an approach to maintain or enhance resource productivity, secure ownership, or the access to the resources and income/earning activities as well as to ensure adequate and sustainable flows of food and cash to meet basic needs. The risk of livelihood failure determines the level of vulnerability of a household to income, food, health and nutritional security. So a livelihood comprises capabilities, assets (resources, claims and access) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation (Chambers and Conway, 1992).The household livelihood security has been defined as an adequate and sustainable access to income and resources to meet basic needs including adequate access to food, potable water, health facilities, educational opportunities, housing and time for community participation and social integration (Frankenberger, 1996). One of the major goals of the Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA), a centrally sponsored flagship programme for rural employment generation, started form 2nd February, 2006 is to ensure livelihood security to the rural people. The programme has its unique approach to provide purchasing power to the rural poor by guaranteeing at least 100 days of wage employment to the rural households when other employment opportunities are lean. Central Government is making large public expenditure under MNREGA. Under such circumstances it is pertinent to assess how far the programme has been successful in achieving its desired goals in terms of securing livelihood of the rural people. Hence, a study was taken up to assess the impact of MNREGA on the livelihood security of the beneficiaries of the programme.

METHODOLOGY

West Bengal was selected purposively for the study. Two districts, namely Burdwan and Dakshin Dinajpur, were selected randomly. From each of the districts two blocks were randomly selected. Katwa-I and Katwa-II were selected form Burdwan district and Gangarampur and Tapan blocks from Dakshin Dinajpur district. From each block two Gram Panchayats (GP) were randomly selected and from each GP one Gram Sabha (GS) was selected randomly for the study. The study was conducted in total eight Gram Sabhas. Twenty five beneficiaries from each of the eight Gram Sabhas were selected randomly, constituting a sample of total 200 MNREGA beneficiaries as respondents. *Before-After* method was applied to assess the impact of MNREGA on the livelihood security of the beneficiaries. In order to measure the livelihood security of the respondent's household, a livelihood security index (LSI) of Baby (2005) was used with required modifications. Regarding the livelihood security index Swaminathan stated that Sustainable Livelihood Security Index would be a useful tool to test whether the necessary conditions for sustainable development; ecological security, economic efficiency and social security are present in a region

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(MSSRF, 1992).

The components of the LSI for the present study were as follows:

i. **Food Security:** It was operationalized as the availability and access to balanced food at household level.
ii. **Income Security:** It was operationalized as the access to regular and satisfied employment.
iii. **Habitat Security:** It included housing with basic amenities.
iv. **Educational Security:** It included the educational level of the family and access to educational facilities including higher education.
v. **Health security:** It comprised the health status of the family and access to health-care facilities.
vi. **Social Security:** It included social participation and social status of the family.
vii. **Environmental Security:** It included pollution-free environment, access to water resources, eco-friendly farm management and protection from flood and drought conditions.

Baby (2005) identified seven different dimensions of livelihood security and weighted based on their perceived significance in determining the livelihood security of rural household. Household food security emerged as the most important dimension, followed by income security, habitat security, health security, environmental security, social security and educational security in their descending order of significance. Scale values of the components of livelihood security index (LSI) are as follows.

Components	Scale values
Food security	11.53
Income security	9.56
Habitat security	8.78
Educational security	5.01
Health security	7.91
Social security	5.18
Environmental security	6.66

The livelihood Security Index (LSI) for each respondent was calculated using the following formula:

$$LSIi = \frac{\sum U_{ij}.\ S_j \times 100}{\text{Total Scale Value}} \quad ; i= 1\text{-}200, j= 1\text{-}7$$

Where

LSI_i = Livelihood Security Index of i^{th} respondent

U_{ij} = Unit score of the i^{th} respondent on j^{th} component

S_j = Scale value of the j^{th} component

Total scale value= 54.63

$$\text{Where Uij} = \frac{Y_{ij}\ \text{Min}_{yj}}{\text{Max}_{yj}\ \text{Min}_{yj}}$$

U_{ij} = Unit score of the i^{th} respondent on j^{th} component

Y_{ij} = Value of i^{th} respondent on the j^{th} component

Max_{yj} = Maximum score on the j^{th} component

Min_{yj} = Minimum score on the j^{th} component

Index score of livelihood security of the respondents as follows

Livelihood Security of the respondents	Index score
Very low	0-20
Low	20-40
Medium	40-60
High	60-80
Very high	80-100

RESULTS AND DISCUSSION

The mean score obtained by the respondents on the components of livelihood security index is given in the table below. From the result it is evident that there was a change in the mean scores for every components of livelihood security index before and after MNREGA.

Table 1: Mean score obtained by the respondents on the components of livelihood security index before and after MNREGA

n=200

Particulars	Before MNREGA	After MNREGA
Food Security	6.12	8.44
Income Security	7.16	7.51
Habitat Security	8.93	9.97
Educational Security	5.99	6.03
Health Security	3.16	3.41
Social Security	3.42	3.44
Environmental Security	12.62	14.15

Mean score obtained by the respondents on food security before MNREGA was 6.12 and after MNREGA it was 8.44. Some changes were found in the food habit of the respondents in the study area. Many traditional water-bodies had been renovated under MNREGA. Dead ponds and canals were full of water, as a result of fish production of the area had increased many folds. The local residents consumed it as well as they sold it to the market and got some extra income. According to the respondents, frequency of milk and egg consumption had also

increased after MNREGA started in the study area as they had some extra money to afford that.

Mean score obtained by the respondents on income security before and after MNREGA was 7.16 and 7.51 respectively. After commencement of MNREGA in the study area, people were getting regular employment opportunities. It had been reported by many, that some parts of the country were facing shortage of agricultural labours, because of the MNREGA works. But it was a different picture in the South Dinajpur district of west Bengal. Labourers used to get Rs. 81 per day as wage under MNREGA. So the land lords had to pay them more (Rs. 120 to Rs. 130) to hire them in agricultural season to work in their fields. Therefore, agricultural laborers were getting more income in agricultural seasons.

Mean score obtained by the respondents on habitat security before MNREGA was 8.93 and after MNREGA it was 9.97. Sanitation facilities were provided to the SC/ ST community people under MNREGA scheme. Some of the respondents constructed a portion of their house 'pucca' after working under MNREGA. Transport facilities were ensured to them, as rural connectivity was given prior importance in MNREGA works in the study areas.

Mean score of obtained by the respondents on educational security before and after MNREGA was 5.99 and 6.03 respectively.

Mean score obtained by the respondents on in case of health security before MNREGA was 3.16 and after was 3.41. The basic health-care facilities under MNREGA helped a lot to the poor people. Basic medication and first aid facilities, they could availed for their family members at the MNREGA sites.

Mean score obtained by the respondents on social security before MNREGA was 3.42 and after MNREGA it was 3.44. Changes were not been observed that much in case of social security before and after MNREGA. Only a few respondents became the member of the Village Nirman Committee, which helped to formulate work plan of MNREGA for the locality.

Mean score obtained by the respondents on environmental security before and after MNREGA was 12.62 and 14.15. Because of the land development activities under MNREGA, soil and water erosion were controlled in the farms. Since drinking water facilities were available, the problem of clean drinking water was met. Some of the respondents had installed deep tube-well in their house with the money they earned working in MNREGA. As the water-bodies had been renovated, problem of irrigation water at the time of drought was under control.

From the results it is evident that changes had occurred in food security, income security, habitat security, educational security, health security, social security and environmental security of the respondents before and after MNREGA in the study area. An effort was made to find out whether the changes in the mean scores of the above mentioned components were statistically significant or not, by using paired t-test . The result of the paired t-test is displayed in table-2.

Table 2: Paired t- test value to test the significance of the mean difference of the components of livelihood security

n=200

Particulars	Paired Difference		t-value (calculated)
	Mean	SD	
1. Food Security	2.32	0.991	33.10*
2. Income Security	0.350	0.573	8.628*
3. Habitat Security	1.045	0.892	16.554*
4. Educational Security	0.040	0.196	2.380
5. Health Security	0.250	0.434	8.145*
6. Social Security	0.015	0.121	1.741
7. Environmental Security	1.525	0.912	23.622*

From the result of the paired t-test it was found that changes in the mean scores of food security, income security, habitat security, health security and environmental security were statistically significant with 199 degree of freedom and one per cent level of significance as the calculated t-value of the above said components were more than the table value, *i.e.* 2.576.

The changes in the mean score of educational security and social security before and after MNREGA were found statistically insignificant with 199 degree of freedom and one per cent level of significance as the calculated t-value of the above said two components were less than the tabulated t-value *i.e.* 2.576.

An attempt was also made to assess the impact of MNREGA on the livelihood security of the beneficiaries.

Table 3: Distribution of the respondents on the livelihood security before MNREGA

n=200

Mean	**34.03**
Standard deviation	**6.979**
Range	**10.63 to 53.54**

Categories	Frequency	Percentage
Very Low (0-20)	5	2.5
Low (20-40)	161	80.5
Medium (40-60)	34	17
High (60-80)	0	0
Very High (80-100)	0	0
Total	200	100

The result revealed that the mean livelihood security score for the respondents before MNREGA was 34.03 with a standard deviation of 6.979. The livelihood security score before MNREGA varied from a range of 10.63 to 53.54.

Table 4: Distribution of the respondents on the livelihood security after MNREGA

n=200

Mean	47.12	
Standard deviation	6.721	
Range	32.58 to 67.34	
Categories	**Frequency**	**Percentage**
Very Low (0-20)	0	0
Low (20-40)	29	14.5
Medium (40-60)	165	82.5
High (60-80)	6	3
Very High (80-100)	0	0
Total	**200**	**100**

The mean livelihood security score for the respondents after MNREGA was 47.12 with a standard deviation of 6.721. The livelihood security score after MNREGA varied from a range of 32.58 to 67.34.

The Changes were found on livelihood security of the respondents before and after MNREGA. Majority of the respondents (80.5%) were found to be under low livelihood security category before MNREGA. However, after working under MNREGA, majority (82.5%) of them were found under medium livelihood security category. Hence majority of the respondents shifted from low livelihood security category to medium livelihood security category after MNREGA.

Paired t-test was applied to find out whether the change in the livelihood security of the respondents before and after MNREGA was statistically significant or not.

Table 5: Pair t- test value to test the significance of the mean difference of the livelihood security before after MNREGA

n=200

Particular	**Paired Difference**		**t-value (calculated)**
	Mean	**SD**	
Livelihood Security	10.30	4.971	37.246*

The result of the paired t-test in Table 5 showed the change in the livelihood security of the respondents before and after MNREGA was statistically significant with 199 degree of freedom and one per cent level of significance as the calculated t-value (37.246) exceeded the table value i.e. 2.576

CONCLUSION

The results indicated that significant changes were found in the food security, income security, habitat security, health security and environmental security of the respondents. Regarding the food consumption pattern of the respondents in the study area, it was observed that people were very reluctant about pulse and fruit consumption. So, some awareness campaign could be organized to make people aware about the nutritional security and benefit of ballanced diet. Significant change was not found on the educational security of the respondents before and after MNREGA. Educational institutions could be included in the institutional mechanism of MNREGA. Sarba Siksha Abhiyan could be merged with it to some extent. Educated village youths could be appointed as skilled labour under MNREGA, so that, they can teach the illiterate MNREGA beneficiaries at night schools. In case of social security also, no significant change was found before and after MNREGA. Social participation of the respondents was found very negligible. Self Help Groups (SHGs), and Farmers Interest Groups (FIGs) could be formed with the interested and motivated MNREGA beneficiaries with proper need assessment and local Krishi Vigyan Kendras (KVKs) could be involved to provide them required training and education.

REFERENCES

Ashley, C., Start, D. and Slater, R. (2001). Policy Guidance Sheets for ODI Livelihood Options Study, Overseas Development Institute, London.

Baby, S. (2005). Livelihood security of rural community-A critical analysis. Ph.D. Thesis, IARI, New Delhi.

Borton, J. & Shoham, J. (1991). Mapping vulnerability to food insecurity: tentative guidelines for WFP offices, Mimeo. Study commissioned by the World Food Programme, Relief and Development Institute, London.

Carney, D. (1998). Implementing the sustainable rural livelihoods approach. Paper presented to the DFID Natural Resource Advisors' Conference. Department for International Development, London.

Chambers, R. and Conway, G. (1992). Sustainable rural livelihoods: Practical concepts for the 21st century. *IDS Discussion Paper No*. 296, Institute of development studies, Brignton.

MSSRF, (1992). M.S. Swaminathan Research Foundation, Annual Report. Madras, India.

Frankenberger, T. (1996). Measuring household livelihood security: An approach for reducing absolute poverty. Food Forum (Newsletter) No. 34, Washington, Food Aid Management: 1-6.