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Existing sustainable livelihood system of Rewa district of Madhya Pradesh, India

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ABSTRACT

The present study was carried out during 2018-19 in Rewa district of Madhya Pradesh. The study was conducted in 5 villages of Rewa block was selected due to higher concentration of NRLM beneficiaries. The National Rural Livelihood Mission (NRLM) project has been running in the district since 2015 for strengthening the sustainable livelihood. The aim of the studies to know the existing sustainable livelihood system of small and marginal farmers in relation to before and after NRLM programme. Sustainable livelihood was measured through four different indicators viz., human capital, physical capital, natural capital, social capital and financial capital. To measure the human capital, physical capital, natural capital, social capital and financial capital. A total of 120 NRLM beneficiaries were selected randomly as respondents. The data collection was done by the use of interview schedule through personal interview. The majority (45%) of the respondents had medium sustainable livelihood while 30.83% showed low sustainable livelihood, whereas 24.17% of them had high sustainable livelihood index.

Key words: NRLM beneficiaries, Sustainable livelihood, Rewa district

Introduction

In India, agriculture and allied activities support livelihood of nearly 70% of rural population. It has been observed that land based sustainable livelihoods of small and marginal farmers are increasingly becoming unsustainable, so they are forced to look at alternative means for supplementing their sustainable livelihoods. Sustainable livelihoods have been increasingly recognized as an important constituent of sustainable development during the past decade. In India, the study of rural poverty and sustainable livelihood approach has a wider scope and connotation.

The sustainable livelihood approach assumes that any development intervention for the rural people should be congruent with their existing live-

lihood strategies and ability to adopt. A sustainable livelihood comprises the capabilities, assets and activities required for a mean of living.

Since independence Government of India and Government of various states have made lots of efforts for development of sustainable livelihoods of households. Improving the sustainable livelihoods of the people, major programmes like the Community Development Programmes, Integrated Rural Development Programme (IRDP), Swarnajayanti Gram Swarajgar Yojana (SGSY) and recently in the year 2011 National Rural Livelihood Mission (NRLM) have been launched by the Government of India. In this backdrop, it has been felt essentially important to critically assess the sustainable livelihoods of the small and marginal farmers to get insight in to the strengths and weaknesses of them in

its endeavor and commitments for enhancing sustainable livelihood diversification.

Sustainable livelihood was measured through four different indicators *viz.*, human capital, physical capital, natural capital, social capital and financial capital. To measure the human capital, physical capital, natural capital, social capital and financial capital a teacher made test was developed. Improvement in human capital was measured by considering the education, health and employment generation. Physical capital was measured by considering the accumulation of physical assets like house, household articles, entertainment materials or farm equipment's. Social capital was measured based on the improvement of the social status both at home and outside in terms of respect and contacts. Financial capital was measured based on the access to financial sources and accumulation of the financial capital in terms of savings and food security was measured based on the availability of the food grains, vegetables and milk during the crop season and also off season. All sub indicators were determined for measuring Sustainable Livelihood.

Materials and Methods

The present study was conducted in Rewa district of M.P. since the National Rural Livelihood Mission (NRLM) project has been running in the district since 2015 for strengthening the sustainable livelihood. Presently the NRLM (National Rural Livelihood Mission project) is in operation in all the nine blocks of Rewa district, namely Rewa, Raipur Karchuliyan, Sirmour, Teonthar, Jawa, Gangeo, Mauganj, Hanumana and Naigarhi. Out of these blocks, Rewa block was selected on the basis of higher number of beneficiaries under NRLM project. A cluster of villages consisting five villages namely, Kitvariya, Karhiya, Bisar, Bhitwa, Mandhi of Rewa block was selected due to higher concentration of NRLM beneficiaries.

In this block, the majority of the beneficiaries of NRLM have been found to be involved in income generating activities *viz.* vegetable production, masala processing, agarbatti making, tailoring, kirana stores, vermicomposting, goatry, dairy enterprise etc. for their livelihood. From these selected villages a village wise list of beneficiaries of NRLM will be prepared. Out of this, list members of NRLM beneficiaries (30%) was selected through proportionate random sampling method. The head of fam-

ily of these NRLM beneficiaries was selected as respondent. Thus finally the sample was consisted of 120 respondents.

To assess sustainable rural livelihoods four important livelihood capital *viz.*, human capital, physical capital, natural capital, social capital and financial capital were considered in the present study and incorporated in the sustainable livelihood index.

Human capital

The score obtained by the respondents for each statement were summed up to obtain the human capital score. The human capital index is the ratio of actual score obtained by the respondent and maximum possible score. The formula used is as follows.

$$\text{Human capital index} = \frac{\text{Actual score obtained by the respondent}}{\text{Under human capital}} \times 100$$

$$\text{Human capital index} = \frac{\text{Actual score obtained by the respondent}}{\text{Maximum possible score}} \times 100$$

Physical capital

The score obtained by the respondents for each statement were summed up to obtain the physical capital score. The physical capital index is the ratio of actual score obtained by the respondent and maximum possible score. The formula used is as follows.

$$\text{Physical capital index} = \frac{\text{Actual score obtained by the respondent}}{\text{Under physical capital}} \times 100$$

$$\text{Physical capital index} = \frac{\text{Actual score obtained by the respondent}}{\text{Maximum possible score}} \times 100$$

Social capital

The score obtained by the respondents for each statement were summed up to obtain the social capital score. The social capital index is the ratio of actual score obtained by the respondent and maximum possible score. The formula used is as follows.

$$\text{Social capital index} = \frac{\text{Actual score obtained by the respondent}}{\text{Under social capital}} \times 100$$

$$\text{Social capital index} = \frac{\text{Actual score obtained by the respondent}}{\text{Maximum possible score}} \times 100$$

Financial capital

The score obtained by the respondents for each statement were summed up to obtain the financial capital score. The financial capital index is the ratio of actual score obtained by the respondent and maximum possible score. The formula used is as follows.

$$\text{Financial capital index} = \frac{\text{Actual score obtained by the respondent}}{\text{Under financial capital}} \times 100$$

$$\text{Financial capital index} = \frac{\text{Actual score obtained by the respondent}}{\text{Maximum possible score}} \times 100$$

Food security

The score obtained by the respondents for each statements were summed up to obtain the food security score. The food security index is the ratio of actual score obtained by the respondent and maximum possible score. The formula used is as follows.

$$\text{Food security index} = \frac{\text{Actual score obtained by the respondent Under food security}}{\text{Maximum possible score}} \times 100$$

Overall sustainable rural livelihood of the respondent before and after NRLM programme were also worked out by adding all the above five index. The mean of the five index represented the sustainable rural livelihood of the respondent.

Results and Discussion

Table 1 shows that existing sustainable livelihood system of the small farmers before and after NRLM programme. Sustainable livelihood index of the selected assets of small farmers before NRLM may be arranged in descending order as human capital (35.28), food security (32.03), physical capital (26.89), social capital (22.65) and financial capital (20.34).

Sustainable livelihood index of the selected assets of small farmers after NRLM may be arranged in descending order as human capital (56.66), food security (53.52), physical capital (51.12), social capital (43.03) and financial capital (37.04).

Table 2 shows that existing sustainable livelihood system of the marginal farmers before and after NRLM programme. Sustainable livelihood index of the selected assets of marginal farmers before NRLM may be arranged in descending order as human capital (31), food security (30.19), physical capital (29.51), social capital (26.69) and financial capital (18.22).

Sustainable livelihood index of the selected assets of marginal farmers after NRLM may be arranged in descending order as human capital (52.84), food security (48), physical capital (45.12), social capital (39.75) and financial capital (33.28).

Table 3 indicates the existing sustainable livelihood system of total respondents. Before the NRLM programme sustainable livelihood index of the assets may be arranged in descending order as human capital (33.14), food security (31.11), physical capital (28.20), social capital (24.67) and financial capital (19.28). Whereas after the sustainable livelihood as-

Table 1. Existing sustainable livelihood system of small farmers

S. No.	Assets of sustainable livelihoods	Mean Sustainable livelihood index of small farmers	
		Before NRLM	After NRLM
1.	Human capital	35.28	56.66
2.	Physical capital	26.89	51.12
3.	Social capital	22.65	43.03
4.	Financial capital	20.34	37.04
5.	Food security	32.03	53.52
Overall mean sustainable livelihood of small farmers		27.44	48.27

Table 2. Existing sustainable livelihood system of marginal farmers

S. No.	Assets of sustainable livelihoods	Mean Sustainable livelihood index of marginal farmers	
		Before NRLM	After NRLM
1.	Human capital	31.00	52.84
2.	Physical capital	29.51	45.12
3.	Social capital	26.69	39.75
4.	Financial capital	18.22	33.28
5.	Food security	30.19	48.00
Overall mean sustainable livelihood of small farmers		27.12	43.80

sets after the programme may be arranged in descending order as human capital (54.75), food security (50.76), physical capital (48.12), social capital (41.39) and financial capital (35.16).

Dhakad (2014) found similar that after the NRLM programme all the selected aspects of sustainable livelihoods viz human capital, food security, physical capital, financial capital and social capital of NRLM beneficiaries were significantly higher than that of before programme. Kumar (2014) concluded that compared to other sustainable livelihood components, human capital had least sustainable livelihood index value in all production systems. Thus, the livelihood promotion among ethnic people needs a paradigm shift focusing on sustainable LPS to keep pace with ever increasing food requirement and future challenges in area.

With a view to test the significant difference between before and after program in relation to each sustainable livelihood assets "t" test was applied. It may be inferred that after the NRLM programme all the selected assets of sustainable livelihood viz. hu-

Table 3. Existing sustainable livelihood system of the respondents

N = 120

S. No.	Assets of sustainable livelihoods	Mean Sustainable livelihoods index		S.D	“t” value
		Before programme	After programme		
1.	Human capital	33.14	54.75	3.86	9.10*
2.	Physical capital	28.20	48.12	4.01	6.14*
3.	Social capital	24.67	41.39	3.64	5.85*
4.	Financial capital	19.28	35.16	2.83	7.66*
5.	Food security	31.11	50.76	3.48	8.14*
	Overall mean sustainable livelihoods index	27.28	46.03		

* Significant 5 % level of significance

Table 4. Distribution of respondents according to their existing sustainable livelihood index

S. No.	Sustainable livelihood index	Number of respondents	Percent
1.	Low	37	30.83
2.	Medium	54	45.00
3.	High	29	24.17
	Total	120	100

man capital, food security, physical capital, financial capital and social capital for livelihood were significantly higher than that of before program because calculated “t” value of these assets were found to be higher than tabulated “t” value.

The data in the Table 4 show that out of 120 respondents, 45.00% indicated medium sustainable livelihood, while 30.83% showed low sustainable livelihood, whereas 24.17% of them had high sustainable livelihood index.

The study revealed that higher percentage of respondents (45.00%) had medium sustainable livelihood.

Conclusion

It can be concluded that the overall mean score of all the selected assets of the respondents after NRLM programme were found higher than that of before

NRLM programme. The majority (45%) of the respondents were have medium sustainable livelihood while 30.83% showed low sustainable livelihood, whereas 24.17% of them had high sustainable livelihood index.

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