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Development of an Index on Sustainable Development of SHG Members and their Level of Sustainability

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Abstract

Self Help Groups, as micro financial institutions emerged as an impetus for community action. An index of Sustainable development of SHG members was developed in this research study. The relevancy rating was obtained from 45 judges in the concerned area. All those components with the relevancy coefficient of 0.75 above were selected for the inclusion in the Sustainable development index. The level of sustainable development among members and non-members showed a significant difference at one per cent level of significance as indicated by chi-square analysis. The mean index value of SHG members among different components ranged from 7.65 to 12.66. While, among non-members the mean index value ranged from 4.25 to 8.10. The mean index values of all the components of sustainable development significantly differed among non-members at one per cent.

Keywords: Sustainable development, SHG members, relevancy, index

India is a country having vast population with persisting unemployment problem. In rural areas the poor are dependent on money lenders for their financial needs, either for social functioning, illness or any other emergency need in the family. Money lenders always exploit the situation. The formal credit system of banks by and large is beyond the reach of the poor, so rural employment generation is the greatest challenge for our country. Government has to make the rural people to realize that Self-help groups (SHGs) are facilitating rural employment generation. Encouragement and support by the government will solve the problem of rural unemployment which can be achieved by realizing the need for rural employment through SHGs.

The first initiative on the use of self-help groups (SHGs) concept for banking, finance and development was taken up by the National Bank for Agriculture and Rural Development (NABARD) in 1986-87 on a pilot basis, and since 1991 it is being implemented by the Reserve Bank of India. It is viewed as a good means from the perspective of SHG members, who do not have direct access to bank loans, and also from the viewpoint of financial institutions in terms of loan recovery success, since members with loans will experience neighborhood (group) pressure to repay the loans. In many of the cases, microcredit has helped the SHGs to start self-employment projects in groups.

Sreedhar (2012) reported that SHG-Bank linkage programme helped 167 lakh (45.21%) household members up to 2002-2003 then during the 2007-2008 it was only 130 lakh (22.41%) household members are benefited through the SHG-Bank linkage programme. The linkage programme helps the poor people to get micro-credit from formal financial institution to improve their standard of living and economic conditions.

A self-help group, is an informal association of individuals who come together voluntarily for promotion of economic and social objectives and it has been viewed as a major development tool for meeting the rural credit requirement and helping in poverty alleviation (Bi and Pandey, 2011). In India, the need for rural credit was recognized even before independence. Several efforts were made by the government to bring the rural sector under formal financial system and to meet its credit needs (Bharamappanavara, 2013).

Women Self-Help Group is an informal association of 15-20 women, who voluntarily come together for the business of saving and credit and it is a significant instrument in the process of empowerment. It is a homogeneous group of the poor voluntarily coming together to save whatever amount they can save conveniently out of their earnings, to mutually agree to contribute to a common fund and to lend to the members for meeting their productive and emergent needs. Self-help groups have been able to mobilize small savings either on weekly or monthly basis from persons who were not expected to have any savings. They have been able to effectively

recycle the resources generated among the members for meeting the emergent credit needs of the members of the group. With this background the study is taken Development of an Index on Sustainable Development of SHG Members and their Level of Sustainability.

METHODOLOGY

Operationalization and measurement of Sustainable development of SHG members

Sustainable developement of SHG Members is operationally defined as the best combination of livelihood security, entrepreneurial behavior, women empowerment, group dynamics and standard of living of farm households.

Livelihood security: The livelihood security is operationally defined as the ability of the SHG members to spend income on all basic and other necessities which are essential to their livelihood, as per the requirement and thus by the attaining the secured livelihood.

*Entrepreneurial behavior:*The Entrepreneurial behavior is operationally defined as the ability of the SHG members to take risk, decisions and manage resources towards maximization of profit with an urge to excel others.

Group dynamics: It is the sum total of forces among the members of SHGs based on the sub-dimensions such as participation, membership, influence and style of influence, decision making procedure, group atmosphere, interpersonal trust, maintenance functions and empathy in SHG.

Measurement of different components of Sustainable development of SHG members

Sustainable development	Empirical measurement
Livelihood security	Scale developed by Mamathalakshmi (2013)
Entrepreneurial behaviour	Scale developed by Mahantesh Shirur (2015)
Group dynamics	Scale developed by Prasanna Kumar (2009)
women empowerment	Scale developed by Savitha (2005)
Standard of living	Scale developed by Vinaykumar (2008)

Women empowerment: Empowerment of women is operationally defined as the individual perceived sense of psychological power and actual change in power which leads to individual decision making.

Standard of living: It is operationally defined as it is the degree of wealth and material comfort available to SHG members.

The methodology in developing the procedure to measure the Sustainable development of SHG Members is based on the behavioral measurements procedure suggested by Guilford(1954). The steps followed for the development an index on sustanable development of SHG members is as follows ;

Identification of components

Based on a thorough review of literature, five components *viz.,* livelihood security, entrepreneurial behaviour, group dynamics, women empowerment and standard of living were identified to measure the sustainable development of SHG members.

Working out Relevancy weightage, Relevancy percentage and Mean relevancy score

The components were mailed to 100 experts in the agricultural extension and other related fields to critically evaluate the relevancy of each component viz., Most Relevant (MR), Relevant (R), Somewhat Relevant (SWR) and Not Relevant (NR) with the score of 4, 3, 2 and 1, respectively. A total of 45 judges returned the questionnaires duly completed were considered for further processing. From the data gathered, Relevancy Weightage, Relevancy percentage (RP) and Mean Relevancy Score (MRS) were worked out for all the components by using the formula.

$$R.W. = \frac{MR \times 4 + R \times 3 + SWR \times 2 + NR \times 1}{\text{No. of judges responded} \times \text{Maximum score}}$$

$$R.P. = \frac{MR \times 4 + R \times 3 + SWR \times 2 + NR \times 1}{\text{No. of judges responded} \times \text{Maximum score}} \times 100$$

$$MRS = \frac{MR \times 4 + R \times 3 + SWR \times 2 + NR \times 1}{\text{No. of judges responded}}$$

Components rated as relevant with a relevancy weightage (RW) of 0.75 or more, relevancy percentage of more than 75 per cent and Mean

TABLE I
Relevancy weightage of Sustainable development of SHG members index components

Components	Relevancy Percentage	Relevancy weight age	Mean Relevancy score
Livelihood security	87.14	0.87	3.48
Entrepreneurial behaviour	90.63	0.90	3.34
Group dynamics	87.63	0.87	3.50
Women empowerment	90.27	0.90	3.60
Standard of living	87.49	0.87	3.49

Relevancy Score of more than 2.25 were considered and retained for the next step. In this step, all the 5 components were retained for development of sustainable the development of SHG members p Table I.

Computation of Scale Values

In order to compute the scale values for each of the identified components, their relative importance in the Sustainable development of SHG members was worked out by adopting normalized ranking method recommended by Guilford (1954).

Responses of 45 experts in agricultural extension and other related fields' working in SAUs, ICAR institutions and Karnataka State Department of Agriculture was considered for analysis. The judges were requested to give rank order based on the relative importance of the component to the five selected indicators of sustainable development. After receiving ratings from the judges, they were used in calculation of scale values.

It is apparent that, all the five dimensions will not contribute equally towards the Sustainable development of SHG members. Hence, the variation in contribution of each dimension for the Sustainable development of SHG members must be represented by assigning different weightage to each of the dimension. Hence, the judges' rating was sought to calculate the scale values for each dimension of the Sustainable development of SHG members.

Rank values are a series, denoted by Ri, that are in exact reverse order to the ranks ri. Ranking the components based on their relative importance - Ranks were converted to rank values using the formula:

$$R_i = (n - r_i + 1)$$

Where, Ri is the rank value

n is number of items ranked

ri is the rank given by the expert for each dimension

The calculation of scale values consisted of working out the centile position 'p' based on the formula recommended by Guilford (1954), working out 'c' scale values based on Hull (1928), calculating 'R_j' value and finally determining the scale of (R_c) (Table II and III).

$$P = \frac{(Ri - 0.5)100}{n}$$

- P is essentially a centile value and represents the area under the normal distribution below the median of the interval assigned to the object.
- Where, Ri is the rank value and n is number of things ranked.
- The deduction of 0.5 from the rank value is simply to get the middle of the area for the dimension so ranked

$$R_c = 2.357 * R_j - 7.01$$

Schedule development, testing reliability and validity

For all the relevant five components, the questionnaire was prepared to elicit appropriate variability for Sustainable development of SHG Members. Pilot study was conducted among 30 respondents in non-sample area comprising five components in Sustainable development of SHG index to test the reliability and validity.

Testing for reliability

The coefficient of equivalence is the correlation between scores on parallel forms (P and Q) of the

TABLE II

Calculation of scale values for dimensions of Sustainable development of SHG members based on the judges rating

ri	Ri	C 1	C 2	C3	C4	C5	Total	P	C
1	5	26	5	6	7	1	45	90	6
2	4	7	12	3	13	10	45	70	5
3	3	6	11	8	12	8	45	50	4
4	2	6	11	8	8	12	45	30	4
5	1	0	6	20	5	14	45	10	3
Σfji		45	45	45	45	45			
Rj=Σfji C		239	196	175	202	178			
R=Rj/Σfji		5.31	4.36	3.89	4.89	3.96			
Rc *		5.51	3.26	2.16	3.57	2.31			

test, administered with a minimal time lag between testing. The responses for the odd (P) and even numbered items (Q) were obtained and the scores of both sets were used to calculate the coefficient of correlation (r).

r*(P)(Q)*= (XP)(XQ)/N – (XP) (XQ) / (SP) (SQ)

Where, P and Q are two different forms of the scale, X is the score of variable and S is the variance.

Spearman-Brown Prophecy formula was employed to know the reliability of the test of the original length from the values of split-half reliability.

rxx=2rhh/1+rhh

Where, rhh is the split-half reliability coefficientrxx is the estimate of the reliability of a test of the full length.

The rxx value of 0.9415 suggested high reliability of the scale.

Testing for validity

Validity of the scale was ensured by analyzing content validity. Since the items were based on extensive review of literature and relevancy analysis by the judges, the content validity was ascertained.Looking at the extensive literature and the nature of Sustainable development of SHG Members, five dimensions with suitable statements were finalized and were sent for relevancy analysis.

Then the ranking for each of the dimension were obtained from 45 judges to calculate scale values. Hence, the content validity was ascertained by using the following formula:

$$\text{Validity} = \sqrt{r_{11}}$$

Where

r_{11} =test reliability

The data were subjected for statistical validity, which was found to be 0.9703 for sustainable development index which is greater than the standard requirement of 0.75, hence the validity co-efficient was also found to be most appropriate and suitable for the tool developed.

The components of Sustainable development of SHG members were finalized based on the review of literature. The five components identified for the study assumed scale values ranging from 2.16 to 5.51indicating different weightage to be assigned to them based on the expert opinion arrived through judges rating. The scale values of respective components are given in Table III.

TABLE III

Sustainable development of SHG members and their respective scale values

Indicators of sustainable development of SHG Members	Final scale values
Livelihood security	5.51
Entrepreneurial behavior	3.26
Group dynamics	2.16
Women empowerment	3.57
Standard of living	2.31

RESULTS AND DISCUSSION

The present study shows that livelihood security with a maximum scale value of 5.51 is the most important component contributing for Sustainable development of SHG members. Livelihood security helps to know the ability of the SHG members to protect their capabilities, assets and activities which are essential for their livelihood.

Women empowerment (scale value of 3.57) emerged as the second important components.In recent years, women empowerment has become a subject of great concern for the nations all over the world especially in poor and developing countries. The progress of any nation is inevitably linked with social and economic plight of women of the particular country.

Entrepreneurial behavior is the next important component with a scale value of 3.26. This is also an important factor contributing to successful entrepreneurship among the SHG members.

Standard of living and Group dynamics are the last two important components in the order of importance with a scale value of 2.31 and 2.16, respectively.

A glance of Table IV revealed that 44.45 per cent of SHG members belong to the high sustainable development followed by medium (31.11 %) and low (24.44 %) level. Whereas, 75.56 per cent of non-members had low level of sustainable development followed by medium (15.56%) and high (8.88 %) level of sustainable development. However, SHG members had more sustainable development than the non SHG members.

TABLE IV

Distribution of respondents according to sustainable development of SHG members and non-members (n= 180)

Categories	Sustainable development index				Chi-square
	SHG members (n_1= 90)		Non-members (n_2=90)		
	No.	%	No.	%	
Low	22	24.44	68	75.56	
Medium	28	31.11	14	15.56	49.51**
High	40	44.45	8	8.88	

Mean = 48.85 SD=13.14; ** Significant at 1% level

SHG members has exhibited relatively higher sustainable development, possible reasons might be their better education, more participation in group activities, maintenance of book for the savings details and constantly attending skill development trainings that helps in capacity building.

Non-members of SHG were less sustainably developed because they were less educated compared to SHG members and also e-literacy is less compared to SHG members. These are all the reasons for non-members were less in sustainable development. The findings were supported by the results of Lavanya (2010).

The chi-square test which was significant at 1 per cent level indicated that there was an association between SHG members and non-members with respect to their sustainability levels. The SHG members exhibited a higher level of sustainability when compared to non-members of SHG.

The data in Table V depicts the sustainable development indices obtained by the SHG members and non-members. As it is evident that, the SHG members had obtained a relatively higher mean livelihood security score 12.66 while non-members had a mean score of 8.10. In case of entrepreneurial behavior index, the SHG members had obtained a higher mean score of 7.65 followed by non-members who had scored 6.12. The SHG members had obtained a group dynamics mean score of 7.65 and non-members had a mean score of 4.25. Further, the SHG members had obtained relatively higher women empowerment mean score of 11.30 followed by 5.38. Whereas, standard of living got mean score in SHG members that is 8.13 and non-members had obtained 4.88 mean score

Further, the t-value showed a significant difference at 0.01 per cent level of probability, pointing to significant difference in the sustainable development indices between SHG members and non-members.

The present investigation revealed that SHG members had high indices score compare to non-members in all the five components.SHG members were relatively more stable in terms of higher education, getting good income, meeting and participating in social and political organization all these leads to SHG members more sustainably developed than the non-members.

TABLE V

Comparison of different components of sustainable development mean index value between SHG members and non SHG members

(n= 180)

Sustainable development components	No. of statements	Mean index value		't' test
		SHG members (n_1=90)	Non-members (n_2=90)	
Livelihood security	50	12.66	8.10	2.28**
Entrepreneurial behaviour	101	9.10	6.12	3.46**
Group dynamics	66	7.65	4.25	2.72**
Women empowerment	44	11.30	5.38	4.91**
Standard of living	40	8.13	4.88	3.32**

** Significant at 1% level; * Significant at 5% level

It can be concluded that the index developed on sustainable development of SHG members is found to be reliable and valid. The reliability value was found to be 0.9415 and validity value found to be 0.9703. livelihood security with a maximum scale value of 5.51 is the most important component contributing for sustainable development of SHG members followed by women empowerment (scale value of 3.57) and entrepreneurial behavior (scale value of 3.26). The sustainability level of members was significantly higher than non-members hence there is need to formulate more number of SHGs so that rural women derive the benefit and attain more sustainability. All the components of sustainable development were significantly differing between SHG members and non-members. Thus it could be concluded that SHGs have contributed for higher level of sustainable development among its members. SHGs are the viable institutions particularly among women folk in rural areas and need to be further strengthened to achieve overall development.

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