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Changing behaviour of self help group members: Pathway for sustainable rural livelihoods in Eastern India

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ABSTRACT

The study evaluates the behaviour construct of self help group (SHG) members. Data were solicited from randomly selected 100 SHG members of Patna district, Bihar, India at two point of time (in before and after situation), i e during 2008 and 2013. The behaviour construct developed, consisted of 30 items, for which Cronbach's alpha coefficient of reliability was observed as 0.82. Data were solicited on three-point continuum, viz. *No Change*=1, *Slightly Changed*=2 and *Highly Changed*=3. The mean values of two situations (before and after situation) were compared (*z*-statistics) to observe the behavioural change among the SHG members. An improvement of 34.91% between pre (46.09%) and post evaluation (81%) and a significant improvement in behaviour of SHG members was observed, which exemplifies the impact of SHG approach in instilling a positive behavioural orientation. Positive behaviour could play a great role in tackling the issues of rural poverty for improving sustainable livelihood security in eastern India. To achieve this rural livelihoods must assimilate the vital facets like (i) formation and stabilization of SHGs, (ii) pro-poor financial and credit support system, (iii) market-driven and decentralized extension system, (iv) diversification towards high-value enterprises, (v) technological intervention and impact assessment, (vi) media-mix for technology transfer, (vii) frequent educational tour/visits and interaction with other SHGs and research institutes, (viii) developing leadership skills, and (ix) strong political will. Nevertheless, extension system needs to be re-oriented and revitalized with new agricultural knowledge base in emerging technologies and methodologies.

Key words: Behaviour, Eastern India, Livelihood Security, Self-help group

Bihar is one of the poorest states in India with high poverty incidence (42.6%). Per capita net domestic product has been estimated to be $ 446, which is about one-third of the corresponding national average ($1220) and less than one-fourth of Haryana ($2052), one of the richest states in India (GOB 2011). Rural poverty illustrates a great range in neighboring state, i e Jharkhand (20% to 76%) which is carved out from the Bihar (Singh *et al.* 2011, Singh *et al.* 2012) with a towering income diversity, i e ₹ 6 378 to ₹ 14 871 (Meena *et al.* 2011, Meena *et al.* 2012). Eastern India is one of the most fertile regions, feeding nearly one-third (33.64%) of Indian population and 40.08% population live below poverty line (BPL). This region has high pressure to sustain the livelihoods of nearly 604 person/km^2. Majority (82.95%) lives in rural areas with small and highly scattered land holdings that limit the adoption of modern agricultural practices. Thus, sustainable rural livelihoods of a majority of the disadvantaged people in the region, i e 163.15 million BPL families, schedule castes (17.33%) and scheduled tribes (8.91%) are at the stake (Bhatt *et al.* 2013).

In developing countries, Swanson (2006) clearly mentioned that building social capital is critical to agricultural development strategies aimed at reducing rural poverty. Of late, SHGs have been recognized as reliable and efficient mode of technology transfer, but it needs positive attitude of SHG members as a prerequisite (Meena *et al.* 2003, 2008). Training programme had significant impact on knowledge level of SHG members while the experience and family size had contributed significantly (Meena *et al.* 2006, Singh and Meena 2012). The Government of India and state authorities alike have increasingly realized the importance of devoting attention to the economic betterment and development of rural poor. Now-a-days, SHGs are playing a great role in technology dissemination (Meena *et al.* 2008, Khan *et al.* 2010, Meena and Singh 2011). In spite of the rapid growth of SHGs in India, the full potential of utilizing SHGs remains unexploited. The present study was thus undertaken to measure the behaviour of the SHG members in Bihar state, India.

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MATERIALS AND METHODS

The study was conducted at behavioural construct. For measuring the behaviour of SHG members, data were solicited on three-point continuum, viz. *No Change*=1, *Slightly Changed*=2 and *Highly Changed*=3. The instrument used consisted of 30 items, for which Cronbach's alpha coefficient of reliability was observed as 0.82. The minimum and maximum possible scores were 30 and 90, respectively. The data were solicited from randomly selected 100 SHGs members from 10 SHGs of Patna district. The data were recorded at two points of time, i e before (year 2008) and after (year 2013) joining the SHG. The mean values of two situations (before and after situation) were compared (*z*-statistics) to observe the behavioural change among the SHG members. The overall change in behaviour of SHG members was also measured and categorized based on mean value and standard deviation. The socio-economic attributes of SHG members and their measurement techniques have been depicted in Table 1.

Table 1 Demographic attributes of SHG members, Patna district, Bihar, India (N=100).

Attributes	Categories	%
Age (years)	Young (< 27)	12
	Middle (27 to 45)	80
	Old (> 45)	8
Education	0=Illiterate	22
	1=Primary	51
	2=Metric	12
	3=Senior secondary	3
	4=Graduate	8
	5=Master degree	4
Background	1=Rural	94
	2=Urban	6
Gender	1=Male	53
	2=Female	47
Contribution/month/ member (in ₹)	<1	
	1-50	90
	> 50	10
Income (in ₹)	<400	4
	400-891	84
	>1891	12
Membership (in years)	< 1 year	
	1-6 years	61
	> 6 year	39
Main occupation	1=Agriculture	61
	2=Dairying	3
	3=Fisheries	2
	3=Labor work	12
	4=Private service	2
	5=Household work	13
	6=Private shop/ business	7

Hypothesis

H_0: There is no difference in behaviour of SHG members in before and after response.

H_1: There is significant difference in behaviour of SHG members in before and after response.

RESULTS AND DISCUSSION

Behaviour of an individual varies significantly when working in a group. However, the results of this study have been discussed under different sub-heads below.

Demographic characteristics of SHG members

Study reveals that most SHG members were in the range of 27 to 45 years of age however, members above 45 years (8%) with rich experience also joined the SHG activities. Nearly 50% SHG members had primary level education. About one-fifth (22%) members were illiterate followed by matriculates (12%), graduates (8%), and those holding masters degree (4%). Majority (94%) of SHG members had rural background and 90% of them contributed less than ₹ 50/ month/person in the group's account. The earning from SHG activities ranged from ₹ 400 to ₹ 1 891. Only one-tenth members earned more than ₹ 1 891/month. Most of the members were having less than 6 years experience, however, 39% had more than 6 years' experience in SHG activities. About 61% SHG members were engaged in agriculture as their main occupation followed by household work and manual labor work (Table 1). It is evident from the Table 1, that the income of SHG members are not very high hence, it is felt that SHG members should be given better training on management and technical aspects and should be provided with market information and infrastructure so that they could scale-up their production and become competitive in the market (Joy *et al.* 2010).

Behaviour of SHG members

Behaviour of SHG members was measured on a 3-point continuum. The scale consisted of 30-statements. The comparison scores with the *"z"* values have been presented in Table 2.

Change in behaviour of SHG members

Behaviour is the tendency or disposition to act in certain ways toward something. For measuring the behaviour of SHG members, data were solicited on three-point continuum namely; *No Change*=1, *Slightly Changed*=2 and *Highly Changed*=3. The overall mean value of before situation ranged from 1.51 to 1.85 however it increase in after situation and ranged from 2.08 to 2.65. Through comparison of both situations, a significant improvement was observed (Table 3). The *"z"* value is significant at 0.05% level of confidence (*df*=99). They experienced improvement in various issues. As members of SHG, they learnt about the flexibility in planning of a programme. They also observed change in

Table 2 Change in behaviour among SHG members, Patna district, Bihar, India (N=100)

Behavioural statements	After		Before		'z'
	Mean	SD	Mean	SD	value
Flexibility in planning of programme	2.50	0.50	1.77	0.42	10.30*
Group behaviour	2.62	0.60	1.83	0.37	10.64*
Skill improvement	2.16	0.42	1.74	0.44	6.93*
Risk taking behaviour	2.11	0.31	1.70	0.46	7.19*
Creativity	2.20	0.40	1.65	0.47	9.56*
Positive attitude	2.43	0.50	1.72	0.45	11.09*
Problem solving ability	2.29	0.46	1.72	0.45	9.14*
Supportive behaviour	2.31	0.46	1.70	0.46	8.28*
Application of marketing strategies	2.08	0.27	1.59	0.49	9.06*
Targets setting	2.30	0.46	1.51	0.50	12.65*
Respects others views	2.65	0.48	1.65	0.47	13.53*
Ability to read the newspapers and printed material	2.32	0.47	1.56	0.49	13.52*
Interpersonal communication	2.11	0.31	1.67	0.47	7.66*
Working atmosphere	2.34	0.48	1.76	0.42	8.48*
Meetings frequency	2.55	0.50	1.82	0.38	10.99*
Regularity of members	2.56	0.50	1.64	0.48	13.30*
Meeting with scientists/experts/ bank officials etc.	2.27	0.45	1.78	0.41	7.62*
Knowledge level	2.21	0.41	1.69	0.46	8.08*
Helped to motivate others	2.36	0.48	1.68	0.46	10.23*
Equal right to all groups	2.18	0.39	1.79	0.40	7.11*
Self confidence	2.37	0.49	1.71	0.45	8.45*
Leadership qualities	2.44	0.50	1.64	0.48	10.64*
Friendly relations	2.59	0.49	1.58	0.49	13.55*
Trust on others	2.60	0.49	1.70	0.46	13.06*
Group cohesiveness	2.11	0.31	1.85	0.35	5.61*
Selection of alternatives	2.21	0.41	1.67	0.47	8.85*
Visit frequency to research institutes	2.36	0.48	1.84	0.36	9.30*
Information receiving pattern	2.32	0.47	1.76	0.42	9.47*
Group discussion	2.49	0.50	1.77	0.42	12.26*
Knowledge regarding financial aspects	2.47	0.50	1.73	0.44	11.20*
Overall					32.86*

Rating Scale: 1=No Change; 2=Slightly Changed; 3=Highly Changed; **Indicates that "z" value is significant at 0.05% level of confidence (df=99).*

their group behaviour as compared to individual behaviour and their skills also improved. Members looked forward on creativity aspects and formation of positive attitude. Problem solving ability increased with their supportive behaviour. They learnt about the application of marketing strategies and targets setting to achieve the groups' objectives. Respect others views were the result of mutual exchanges of ideas. Their ability to read the newspapers and printed material also improved. They also had the experience of interpersonal communication and working atmosphere within the group. Members knew more about the importance of increased meetings frequency and were aware about the regularity of members and meeting with scientists/experts/bank officials etc. Knowledge level of members increased and helped them to motivate others. Equal rights to all groups were clearly understood and their self confidence improved. They developed leadership qualities through the participation of group activities. Friendly relations were developed and it enhanced the trust on others. Members had the experiences of selection of alternatives. Visit frequency to research institutes was increased with information receiving pattern. They knew about the value of group discussion and knowledge regarding financial aspects. They experienced more group cohesiveness. Members organized themselves for risk taking behaviour. Overall, it is observed that there is a significant and positive improvement in behaviour of the SHG members in before and after situations (Table 2, 3). Therefore, the null hypothesis (H_0) is rejected and alternate hypothesis is accepted (H_1). The overall change in behaviour of SHG members was also measured and categorized based on mean value and standard deviation. The study reveals that the pre score was observed 46.09% while the post score was reached up to 81% (Table 4). An overall improvement of 34.39% was recorded in behaviour of SHG members. Recently, Government of Bihar has decided to focus on strengthening the SHG movement with manifold expansion of the women SHGs network by increasing their number to 1million by involving 12 million women in the next five years. The state rural development department has fixed this target under union government's flagship scheme, i e National Rural Livelihood Mission (NRLM) (Times of India, 26 June 2012). The World Bank supported NRLM is supposed to directly benefit some 350 million people in 12 states, which account for nearly 85% of India's rural poor, i e Bihar, Chhattisgarh, Gujarat, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu, Uttar Pradesh, and West Bengal. Another instance of growing importance of SHGs is from West Bengal, where the Chief Minister of the state, has decided to work out a medical insurance scheme for the state's estimated 0.31 million SHGs run by women, on the lines of those for unorganized labour (Times of India, 18 May 2012).

Present study shows a significant improvement in behaviour of SHG members which exemplifies in instilling

Table 3 *Z*-test for two sample means of behaviour construct

Instrument	Observation	After mean	Before mean	Df	'z' mean
Behaviour	100	2.35	1.70	99	34.83*

Table 4 Overall change in behaviour of SHG members, Patna district, Bihar (N=100)

Level of behavioural change	Category Mean±SD	Pre-situation (%) Mean=47.13 SD=4.09	Post-situation (%) Mean=70.46 SD= 6.13	Overall Pre-score	Overall Post-score	Improvement in behaviour (Post-Pre)
Highly changed	<(Mean-SD)	1	16	46.09%	81%	34.91%
Medium changed	Between (Mean-SD-Mean+SD)	97	63			
Less changed	> (Mean+SD)	2	21			

a positive behaviour. Thus, positive behaviour could play a great role in tackling the issues of rural poverty for improving sustainable livelihood security in eastern India. For that rural livelihoods must assimilate the vital facets like (i) formation and stabilization of SHGs, (ii) pro-poor financial and credit support system, (iii) market-driven and decentralized extension system, (iv) diversification towards high-value enterprises, (v) technological intervention and impact assessment, (vi) media-mix for technology transfer, (vii) frequent educational tour/visits and interaction with other SHGs and research institutes, (viii) developing leadership skills, and (ix) strong political will. Nevertheless, extension system needs to be re-oriented and revitalized with new agricultural knowledge base in emerging technologies and methodologies.

REFERENCES

Bhatt B P, Meena M S and Singh K M. 2013. Status and issues of agriculture in Eastern India. *In* a Souvenir published by ICAR Research Complex for Eastern Region, Patna on Agri Summit: 2013-A step towards second green revolution, pp 13–6.

GOB. 2011. Economic survey. Department of Finance, Patna, Government of Bihar.

Joy Lina, Prema A and Krishnan S. 2008. Determinants of group performance of women-led agro-processing self-help groups in Kerala. *Agricultural Economics Research Review* **21** (Conference Number): 355–62.

Khan M A, Singh K M and Meena M S. 2010.Women empowerment and transfer of agricultural technologies through self help groups. Technical Bulletin No. M-02/2010, ICAR Research Complex for Eastern Region, Patna, Bihar, pp 1–21.

Likert R. 1932. A technique for the measurement of attitudes. *Archives of Psychology* **140**: 44–53.

Meena M S, Brar R S and Meena H R. 2006. Impact assessment of training on food processing and preservation aspects. *Indian Journal of Extension Science* **1**(1): 128–30.

Meena M S, Jain Dilip and Meena H R. 2008. Measurement of attitudes of rural women towards self-help groups. *The Journal of Agricultural Education and Extension* **14** (3): 217–29.

Meena M S and Singh K M. 2011. Measurement of attitudes of rural poor towards SHGs in Bihar, India. Paper presented in international conference on innovative approaches for agricultural knowledge management: global extension experiences organized by International Society of Extension Education, Nagpur and Indian Council of Agricultural Research, New Delhi during 9-12 November 2011 at NASC Complex, New Delhi, p 402.

Meena M S, Bhagwat V R, Jain R K and Ilyas S M. 2003. Self-help Group: An effective instrument for transfer of technology. CIPHET Extension Bulletin-1, Central Institute of Post Harvest Engineering & Technology, Ludhiana.

Meena M S, Singh K M, Singh R K P, Kumar Abhay and Kumar Anjani. 2012. Dynamics of Income in Jharkhand: Evidences from Village Studies. Paper presented during the Annual Review Meeting of the project Tracking Change in Rural Poverty in Household and Village Economies in South Asia during November 6-10, 2012 at International Crop Research Institute for Semi-Arid Tropics (ICRISAT), Hyderabad.

Meena M S, Singh K M, Jha A K, Singh R K P, Kumar Abhay and Kumar Chunchun. 2011. Socio-Economic Determinants of Rural Poverty: An Empirical Exploration of Jharkhand State, India. Paper presented during 7th Asian Society of Agricultural Economists Conference organized at Hanoi, Vietnam during 12-15 October 2011.

Singh K M, Meena M S, Singh R K P and Kumar Abhay. 2013. Dimensions of Poverty in Bihar (September 13, 2011). Available at SSRN: http://ssrn.com/abstract=2017506 or http://dx.doi.org/10.2139/ssrn.2017506.

Singh K M, Singh, R K P, Meena M S and Kumar Abhay. 2011. Dimensions of Poverty in Bihar. Paper presented during 7th Asian Society of Agricultural Economists Conference at Hanoi, Vietnam during 12-15 October 2011.

Singh K M, Singh R K P, Meena M S, Kumar Abhay, Jha A K and Kumar Anjani. 2012. Determinants of rural poverty: An empirical exploration of Jharkhand State, India. Paper presented during the Annual Review Meeting of the project Tracking Change in Rural Poverty in Household and Village Economies in South Asia during 6-10 November 2012 at International Crop Research Institute for Semi-Arid Tropics (ICRISAT), Hyderabad.

Singh S and Meena M S. 2012. Empowerment of tribal farm women through improving household food and nutrition security in Dumka district of Jharkhand. Paper presented in International Conference on Extension Education in the Perspectives of Advances in Natural Resource Management in Agriculture (NaRMA-IV) organized by Directorate of Extension Education and Swami Keshwanand Rajasthan Agricultural University, Bikaner (Rajasthan) during 19-21 December 2012, p 63.

Swanson B E. 2006. Extension strategies for poverty alleviation: lessons from china and india. *Journal of Agricultural Education and Extension* **12**(4): 285–99.

Times of India. 2012. Bihar plans 10 lakh self-help groups to benefit 1.2 crore households (Available at:http://articles.timesofindia.indiatimes.com/2012-06-26/patna/

32423522_1_shgs-nitish-mishra-bihar).

Times of India. 2012. Mamata Banerjee seeks rural job breather for women. Available at: http://articles.timesofindia.indiatimes.com/2012-05-18/kolkata/31765022_1_shgs-nrlm-lakh-self-help-groups.

Yadav L, Varma S and Jayanti N V. 2006. Capacity building of farmwomen: SHGs approach. Paper Presented in International Conference on Social Science Perspectives in Agricultural Research and Development, Indian Agricultural Research Institute, New Delhi, 15-18 February, p 255.