

An analysis of factors influencing empowerment of rural women through Deendayal Antyodaya Yojana – National Rural Livelihood Mission (SGSY)

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Abstract. *Self-employment plays a prominent role in the improvement of the condition of unemployment. Those members who are engaged in self-employment are in a much better situation compared to wage-earning women members. The findings are based on 2 surveys conducted in 2005 and 2009 with the same members of Self Help Groups (SHGs), and the data collected from North Twenty-Four Parganas in the Southern region of West Bengal state of India. This study also analyzed economic and social demographic factors affecting the probability of both factors related to employment and empowerment.*

Keywords: women empowerment, self-help groups, self-employment, bivariate Probit, rural development.

JEL Classification: E24, H53, R58.

1. Introduction

Empowerment of women can be explained as resources and pre-conditions which assist the process that enhances the ability of women to take decisions and make their independent choices. These choices will influence outcomes which will have a direct impact on their welfare. Empowerment of women requires more active involvement in all activities, whether related to the private or public sphere of life either by an equal or full level of participation in social, economic, political and cultural decisions (Khaki, 2017, pp. 1040-1042).

The empowerment of women is a crucial factor in the economic development of any country, more specifically in developing and underdeveloped countries. Following the Millennium Development Goals (MDGs), the Indian government implemented the National Policy for Empowerment of Women in the year 2001, which created a feasible environment for the development, empowerment and promotion of the social and economic status of women to make them capable of utilizing their full potential along with supportive social and economic policies. To economically empower women, the concerned policy kept its focus on the micro-credit structure to create a provision of production and consumption-related credit facilities for women entangled in poverty. Earlier, adopting this policy, the Indian government implemented Swarnjayanti Gram Swarozgar Yojana (SGSY) on 1st April 1999, which is also based on a micro-credit structure (Sud, 2003, pp. 4085-4087). This policy also puts an emphasis on Self Help Groups (SHGs) to create self-employment opportunities for poor rural people. This scheme attempted to associate poor rural women with institutional credit-granting institutions by using SHGs as a medium. This scheme included many dimensions of women's empowerment like institutional credit facilities, technical and non-technical training, technology, marketing and infrastructural facilities. Thus, these aspects empower poor rural women to act independently in all areas of eradication of poverty. Although financial facilities are the major determinant of the well-being of poor women and their families socially and economically, it will not be sufficient to empower poor women automatically, but it should be coupled with other related interventions like health and education, which can create radical changes which will bring real empowerment.

Many types of research have been done on the matter of microfinance schemes and the empowerment of women and some studies have indicated a positive influence of these microfinance schemes to uplift women while some studies have shown negative aspects of microfinance (Pati, 2009, pp. 277-280). Data from southern India was collected through a survey of various households when compared with the lending of credit by an institutional bank to individual rural women and men under the Integrated Rural Development Program (IRDP) along with the support of Non-Governmental Organizations (NGOs) which creates provision of credit facility to women. It indicates lowering domination of males in the decision-making process and increasing involvement and giving an important role in the decision-making process to women. This is noticed after the joining of SHGs by women. The long-term impact of groups on women of various things, such as long-term involvement in groups, regular meetings of the group, and rigorous training, has provided strong support to reinforce the positive effects. The data of various SHGs collected from 5

Indian states analyzed by the National Bank for Agriculture and Rural Development (NABARD) also indicated that factors which help to reinforce latent empowerment of women members of SHGs are control of managerial activities, changes in behaviour and economic aspects.

However, a few research studies also revealed mere participation in schemes related to microfinance will not work in favour to empowering of rural women. Two main advantages of credit facilities to members of SHGs are the creation of assets and lower risk (Ray, 2008, pp. 212- 2014), but there is not strong enough evidence of guaranteed empowerment of women. Most of the time, the credit allocated to them is utilized to add to the income and assets of households. This leads to the dis-empowerment of women due to the absence of ownership in assets of the family, so just being a member of SHGs and availing of credit facilities will not improve the level of empowerment of women.

This study is built on primary data collected 2 times, first in the year 2005 to 2006 and secondly in the year 2009 to 2010, but with the same sample of members of SHGs set up under the SGSY scheme from the West Bengal Region and North twenty-four Parganas, India. Under the 1st survey, data was gathered regarding the structure of occupation and economic and social attributes of SHGs' members, but no data was gathered regarding the empowerment of women. After four years, the same SHGs were interviewed again who was around 6 years older at that particular time, to collect information about empowerment and economic and social attributes of the selected sample size of SHGs (Dasgupta, 2009, p. 24). The data obtained from 2 successive surveys make the understanding of different aspects of employment of members of SHGs and its relationship with the empowerment of women over time. Empowerment has an interconnection with the status of employment of a person, but it is also influenced by a few similar economic and social demographic factors which influence both factors. One hypothesis adopted in this study states about the possibility of being empowered and simultaneously employed at the time of the 2nd survey is in conjunction resolved by a pattern of occupation noticed in the 1st survey. To analyze this particular hypothesis, a bivariate Probit regression was applied which separates demographic factors related to economic and social aspects affecting the probability jointly of SHGs' members being employed and empowered and also the impact of various explanatory variables on employment and empowerment of women. It was important because existing studies have not attempted to analyze the factors affecting the probability jointly of being employed and empowered.

Another hypothesis formulated is demographic factors related to economic and social aspects and also training provided to members impacted their indicators of empowerment when they were engaged in SHGs under the SGSY scheme for a time duration of around greater than 6 years. To analyze the concerned hypothesis, we applied logistic regression in many sets to find out those factors impacting members' empowerment indicators (Pathak and Pant, 2008, pp. 477-486).

The remaining study is structured as follows: A description of the design of the survey and other related variables included in the study through the survey is performed in the 2nd section. The problems encountered while measuring levels of empowerment of women are

included as the sample is done in the 3rd section. The 4th section deals with empirical findings and the final section represents the conclusion of this research study.

2. Survey of members of SHGs

The data collected was collected 2 times from the same district after a pre-defined period in the North Twenty-Four District of southern West Bengal. 1st time data collection data was collected for a period started from October in the year 2005 to March 2006, and data was again collected for the 2nd time from the previously sampled members of SHGs from October in the year 2009 to March 2010 (Panda et al., 2012, pp. 243-247).

During the 1st time of data collection, data was obtained from members of SHGs who are beneficiaries of the SGSY scheme using a simple random sampling method through 3 steps. North Twenty-Four District of southern West Bengal was split into 5 sub-areas such as Barasat, Bongan, Basirhat, Bidhannagar and Barackpur. Due to the categorization of Bidhannagar as an urban area, it was eliminated from this survey. From the remaining 4 sub-areas 6 different blocks were selected on a random basis, and one gram panchayat was selected from every selected block. The chosen gram panchayats are Kashimpur from the Barasat region, Dulduli from the Hingalgang area, Palla from the Bongaon area, Makalgacha from the Hasnabad area, Nimdaria-Kdalia from the Basirhat region and Panpur-Keutia from Barackpur area. 4 SHGs were chosen on a random basis from every region of gram panchayat as per the data given by the District Rural Development Committee (DRDC) of North Twenty-Four District of southern West Bengal (from Hingalgang only 7 SHGs were chosen from the region of Hingalgang as they contain lower than 8 SHGs' members out of selected 3 members of SHGs). Consequently, only 51 SHGs were chosen out of 400 members. Although it was revealed that 1 SHG containing only male members, this SHG was eliminated from further analysis because this study has focused its aim on analyzing the impact of SHGs on poor rural women (Belavatagi, 2005, p. 416). At the first time of primary data collection, data was collected from 295 female members of 37 SHGs belonging to four split-ter sub-regions of the North Twenty-Four District of southern West Bengal. In 2nd time the survey was conducted in the year 2009 when all the sampled SHGs were around 6 years older compared to 1st time the survey allocated institutional credit. At the time of the 2nd survey, 276 members out of 295 sampled members of SHGs included in the 1st survey were tracked down. Out of these 276 members, 5 women members were falling in the category of single females so they were eliminated from the current research study, as these women are not falling into the category specified in the objectives of this study as an influence on single women will be different from those on women who are married in terms of decisions regarding employment, usage pattern in the long term and indicators of empowerment. That is why the data of only about 271 women members included those who belonged to matured 37 SHGs.

The above data which are collected 2 different times contained demographic and social and economical information of selected members of SHGs, which is based on sex, age, religion, caste, education and the number of members in the family, dependents in the family, occupation details of husband, details of occupation, level of saving, the average income

of the family (Sharma et al., 2012, pp. 84-85), amount of agricultural land, the income of members of SHGs and amount spent on medicines, food and family. Further details were collected in the 2nd survey regarding indicators of empowerment and the health of economic status of families.

On analyzing data related to occupation, the selected sample was distributed into 3 distinct groups namely animal husbandry (breeding of cattle and farming related to poultry-related activities), Self-employed (members of SHGs engaging in the production of baskets, making cigarettes for local area consumption (beedis), handicraft activities, sewing activities, activities related to handicraft activities, activities related to fisheries and horticulture), labour employed on wage (members of SHGs employed in non-agricultural and agricultural activities to earn some wages). Table one indicates the pattern of occupation of members of SHGs in the year 2005 and year 2009.

Table 1. Classification of members of SHGs based on occupational structure

Occupational Structure	Labor (2005)	Self-Employment (2005)	Activities Related to Animal Husbandry (2005)	Gross Value
Self-employment (2009)	2	49	14	65 (23.98%)
Labour (2009)	20	8	15	43 (15.87%)
Unemployed housewives (2009)	51	49	51	151 (55.72%)
Husbandry of Animals (2009)	5	1	6	12 (4.43%)
Gross Value	78 (28.77%)	107 (39.51%)	86 (31.72%)	271 (100%)

Source: Survey based on primary data used in this study.

An important feature indicated by table one is that 1st survey revealed a full employment rate among that whole number of respondents, around 55.72% out of the total selected SHG members have changed toward engagement at home as housewives and were not falling under the status of employment at the time of 2nd survey while most of the members who fell in the category of self-employment in the year 2005 are still in a situation of employment in the year 2009. The succeeding study studies in the section of 'Factors Determining levels of Empowerment and Status of Employment', will indicate patterns of occupation structure and the presence of benefits of non-monetary nature such as the effect of effective and training programme influencing regularity of current status of employment and regularity of employment (Kumar et al., 2015, p. 7).

Table 2. Few prominent variables and statistics of descriptive nature

	Value of Mean	Value of Standard Deviation
Yearly price-adjusted income of the family (₹) for the year 2005	5,582.80070	2,562.08027
Yearly price-adjusted income of the family (₹) of the year 2009 *	5,704.60	4,472.7900
The current age of members of SHGs at the time of 2 nd survey	37.33	7.89
Number of members in the family	2.89	2.02
Agricultural land owned by the family (in Kottah) **	8.72	26.476
The total value of the wealth of the family at the time of 2 nd survey	31,083.34	61,245.755
Gross observations: 271		

*Observations showed that the income of the family rose enormously measured on a constant price basis through the T-test at the time of the second survey.

** One cottage (Kottah) = seven twenty sq. ft. = zero point zero sixty seven sq. Ft.

Source: Survey based on primary data used in this study.

Tables 1 and 2 indicate that even though levels of income of SHG members have risen in a significant manner, a majority number of SHG members had fallen into the category of unemployment at the time of 2nd survey.

3. Empowerment dimensions

This segment states problems concerning quantification regarding the level of empowerment of members of SHGs. This problem has two different aspects that are a measurement of the level of empowerment SHGs' female members concerning pre-specified components and spotting dimensions and components regarding the empowerment of women. At the time of spotting components concerning the empowerment of women is specific to the context and also specific to a country, while the 2nd issue is kind of more methodological.

Some researchers provide helpful and practical empowerment definitions: "Enhancement in abilities of people to make choices in life of strategic nature which they were unable to make before empowerment."

Researchers recount empowerment as a process which indicates changes in 3 dimensions which are inter-related Agency (which helps to make decisions regarding choices and it is the central part of the process), Achievements (these are the results of choices made), and Resources (This help to shape the condition which is considered while making choices) (Shylendra and Bhirdikar, 2005, pp. 205-207).

Researchers also indicated that they conder only two factors more important for the empowerment of women's agency and various resources and these are known by many names and forms such as power, voice, awareness, and control. Few researchers also considered resources, not as a factor measure of empowerment, but they are considering it as a kind of catalyst for women's empowerment or a favourable environment for the empowerment of members in an easy manner. Many researchers in various empowerment-focused studies considered agency as the closest factor for capturing the capability to make choices of strategic nature and those decisions which influence prominent consequences of life. Empowerment of women requires simultaneous growth in various other dimensions such as social and cultural, economic, legal, interpersonal/familial, psychological and political. Although every dimension contains various sub-dimensions in which empowerment of women can also be done. Different researchers adopt various empowerment components which are most of the time specific to the context and particular country.

This presently succeeding research study is the opposite of the backdrop which this study adopted the successive components concerning the empowerment of women and the components are awareness of political activities, couple interaction, participation in political activities, awareness regarding legal activities, making of decisions regarding domestic activities, self-esteem and movements related freedom (Roy, 2014, pp. 6-7).

Researchers recognized that components related to awareness about legal and political activities regarding the resources and capabilities of women. Other indicators adopted in this concerned study are related to the agency of women. These indicators are elaborated on in table three in detail. A few indicators such as freedom regarding vote casting, freedom regarding income spending, freedom regarding purchasing of necessities of a household, freedom regarding decisions concerning health, education and issues concerning nutrition of children, and decisions regarding measures of family planning, are the indicators adopted by some other studies.

This research study also adopted a few indicators which are more prominent concerning West Bengal. Various other research indicated the role of movements concerning land reforms in West Bengal state to help in getting land to poor rural peoples. These lands are settled by the government through the typical process of ownership deeds (pattas) and pattas which are issued jointly to some couples in case both married, then they both can apply for the ownership of land. Consequently, rights of property are given to poor rural people through joint pattas. A 2009 report of District Human Development (DGD) which is based on south twenty-four Parganas stated that in West Bengal state about 15.6% share out of aggregate patta owners owned by holders of joint patta and single women. We inquired from members of SHGs concerning the distribution of the patta program in the state of West Bengal and surveyed them about awareness regarding joint pattas' existence to find insights into their awareness concerning legal activities (Pandey and Gupta, 2022, pp. 19-27).

In the state of West Bengal, the system used is the 3 tier system of panchayat concerning the local level of self-governance. It has adopted the decentralization method democratic system, apex level is of Zila Parishad working at the district level, the next preceding level is of panchayat samitis operating at the block level acting as 2nd tier, and after that Gram Panchayats (GPs), these members are chosen through voters who will select members of Legislative Assembly of State for a tenure of a duration of 4 years. The members who are engaged in Gram Panchayat include around 7 to 25 members. They are chosen from various villages and may be a candidate for separate political parties, previous literature also indicates the prominent role of Panchayati raj in various poverty reduction and rural developmental activities in any particular state region. A conducted interviews of members of SHGs regarding the significance of the system of Panchayati raj in any state region and awareness regarding their participation in parliament of village meetings.

Gram Sabha and Sansad, are 2 added tiers, which are implemented at the level of gram panchayat by the government of West Bengal in the year 1994, to reinforce decentralization in rural areas and to fix the transparency, inclusiveness, and accountability in the governance of local regions. At the level of the village, it is obligatory in the case of gram Sansad to hold meetings two times a year along with a one-tenth attendance at the forum by members. Gram Sansad must give advice and guide the member's gram regarding the schemes and programs for social justice economic growth and development in the area of gram panchayat (Dasgupta, 2021, pp. 223-229). The terms for identification of various government scheme beneficiaries, the gram Sansad is liable and accountable for it, for doing economic growth and development in village area as per its jurisdiction. These are prominent insights to find out the level of awareness among members of SHGs regarding these institutions.

This study also adopted indicators of psychological nature to figure out the status of self-sufficiency economically after becoming a member of SHGs formed under the SGSY scheme which focuses on giving support to poor rural people, to get them into a situation of self-sufficiency. Lastly, through indicators related to family and its members, this study

inquired about their perception concerning their status in their own family compared to the status of their husband. The measurement was done through certain indicators like have any women faced any domination by members of the family, and those women who have been dominated by their family members and husbands will have higher chances of lower status compared to their husbands.

3.1. Empowerment measurement

To measure empowerment as per the pre-defined indicators through making indices. This technique is dependent on arbitrarily random weights, the score was earmarked by researchers to the selected answers by chosen sample regarding questions based on empowerment. A study utilized the same technique earmarking scores to the various answers given by a selected sample of members of SHGs. This used method is questioned based on its subjective nature. Some researchers indicated some unsuitable weightings of arbitrary nature.

Few studies adopted the model of factor analysis for analyzing latent variables of women empowerment, which is not appropriate in the case of considering empowerment indicators as discrete and binary variables. To find out the influence of credit facilities on empowerment on empowerment of women. Researchers also used data from the household of the selected sample based on a cross-sectional basis along with responses of binary in nature concerning the attitude of women members. Some studies also employed ordinal longitudinal and subjective data reported by members of SHGs and this data is used through a general model of the structural equation to analyze the changes that occurred empowerment of women of the whole SHGs. The current research study has not used longitudinal data. The set of binary responses is reported by female members in the time duration from the year 2009 to the year 2010, which is indicated in table three regarding various dimensions of empowerment of women members (Chava et al., 2020, p. 4).

Table three shows about few prominent features. The female members selected as samples in the present study have an age of no less than six years, majority of the respondents have given answers in an affirmative way to the questions provided which are based on a few indicators such as movements concerning freedom, freedom to make an expenditure out of your income at your own will, freedom to buy necessity goods of your choice, but some respondents also reported in a non-affirmative way such as 62.36% are not independent after becoming a member of SHG, 40.59% are not free to make decisions related to birth control without husband's permission. Political awareness levels were also found to be very low among all the members of SHGs sampled.

Table 3. Various dimensions concerning empowerment of women and pattern of response

Various dimensions concerning empowerment	Predefined questions	Respondents who answered affirmatively	Respondents who answered negatively
Awareness Regarding Political Activities	Have you any awareness regarding politics and also attending gram Sansad meetings?	132 (48.71)	139 (51.29)
Interaction of Couple	(a) - are your status and role equivalent to your husband's?	236 (87.07)	35 (12.93)
	(b) - are you free to make decisions related to birth control without your husband's permission?	161 (59.41)	110 (40.59)

Various dimensions concerning empowerment	Predefined questions	Respondents who answered affirmatively	Respondents who answered negatively
Awareness Regarding Legal Activities	Do you have any knowledge regarding women's legal rights which empower them for a buying a joint patta from a land?	177 (65.30)	94 (34.70)
Participation in Political Activities	Do you have the freedom on casting a vote of your choice?	168 (61.91)	103 (38.09)
Decision Regarding Domestic Activities	(a) - do you have the freedom to make an expenditure out of the income of your own will? (b) - do you have the freedom to buy the necessary goods of your choice? (c) - have you liberty in deciding the health, nutrition and education of your children?	239 (88.18) 263 (97.05) 226 (83.38)	32 (11.82) 8 (2.95) 45 (16.62)
Self Esteem	Are you independent after becoming a member of SHG?	102 (37.64)	169 (62.36)
Movements Concerning Freedom	Do you have the freedom to visit any house of your relative as per your will?	197 (72.68)	74 (27.32)

Source: Report of survey of the year 2009.

This study further introduced ten questions based on dummy variables, each variable assigned a value of one in case members provided positive answers to the inquired questions. The ten dummy variables adopted in this study are birth control, the status of a family, vote, gram Sansad, information of joint patta, spending of income, purchase on an independent basis, to make decisions concerning children, movements concerning freedom and self-dependency. The introduced dummy variables were assigned a value of one in case members of SHGs gave positive answers to the asked questions shown in table three.

In the fourth table, regression of binary logistics was applied to analyze the formulated hypothesis which says economic, social, and factors of demographic nature impact the indicators of empowering women members belonging to different households. Some dummy variables were also eliminated from regression analysis regarding independence concerning daily purchasable goods of household's needs as about six per cent of female members gave non-affirmative answers to the given questions (Gupta and Nair, 2020, p. 3). Various independent variables incorporated in this study are education, religion, age of members of SHGs at the time of 2nd survey, members in the family of the respondent, and the dummy variable for training in which 1 will indicate training received is productive and after becoming a member of an SHG, agricultural land owned by families, at the level of gram panchayat and village same ruling political party. The final dummy variable adopted talks about the environment of politics among the village of members. Appendix two shows the relationship among many explanatory variables included in this study. In every logistic regression, independent variables were selected as per least values concerning information basis.

Table four indicates that religion has a remarkable influence on various aspects of the empowerment of women. Comparatively to those members who belonged to the Hindu religion, women belonging to the Muslim religion are less probably knowledgeable regarding joint patta or casting their vote. Contrasting to, the majority of Hindi members,

are not privileged regarding movements concerning freedom or liberty of making decisions regarding their children, and the status of female members in the family is less probably equivalent to the social status of their husbands. So it can be concluded that women belonging to the Muslim religion are not so much empowered compared to Hindu members, but data shows Muslim members are probably found to be empowered in terms of self-dependence after becoming a member of an SHG as compared to Hindu members (Goswami et al., 2021, pp. 164-165). The data found in the primary survey revealed that about 29.18% of members belonging to the Hindu religion are self-dependent after becoming a member of SHGs, comparatively about 39.02% of respondents belonging to the Muslim religion accepted the role of SHGs making them self-dependent. These outcomes indicate that members of an SHG can boost the confidence of Muslim women simultaneously with the presence of social hindrances.

Table 4. To find out factors affecting various empowerment dimensions through logistic regression

	Awareness regarding legal activities		Awareness regarding political activities		Decision regarding domestic activities		Self esteem	Movements concerning freedom		Interaction of couple	
	Dummy variable of patta land	Dummy variable gram Sansad	Dummy variable of vote	Dummy variable of spending of income	Dummy variable of the decision of children	Dummy variable of self-dependency	Dummy variable of liberty to movement	Dummy variable of the status of family	Dummy variable of birth control		
Dummy variable of education	0.07	0.36	0.1	0.26	0.33	0.51	0.12	- 0.05	-0.23		
Religion	- 1.09	0.08	- .69**	- 0.53	0.92**	0.58**	- 0.81*	- 0.85***	0		
Total number of members in the family	-0.02	0.08	0.07	- 0.31***	- 0.03	- 0.03	0.32***	- 0.03	- 0.23		
Age	-0.02	0.02	0.03	0.03	0.04	0.02	- 0.02	0.08*	0		
Dummy variable of agricultural land ownership	0.68***	-	-	-	-	-	- 0.79**	-	-		
Dummy variable of training	1.36*	-	1.32*	- 0.33	- 0.47	1.12*	- 0.36	- 0.57	0.86*		
constant	0.68	- 1.21	- 0.74	1.25	2.39	- 2.97	1.08	4.87	1.19		
Common party	-	1.08*	-	-	-	-	-	-	-		
Homer chi ² (eight) Lemeshow	6.8	12.87	9.18	1.12	3.87	11.2	6.08	7.2	12.29		
Pseudo R ²	0.23	0.12	0.11	0.10	0.10	0.16	0.16	0.16	0.09		
Sig.	0.52	0.08	0.32	0.85	0.76	0.06	0.62	0.39	0.55		
BIC	401	415.32	352.56	198.86	329.19	267.22	462.65	213.67	358.01		
AIC	352.78	375.96	384.01	324.41	302.73	243.22	242.33	206.12	409.01		

* at a 1% level of significance;

** at a 5% level of significance;

*** at 10% level of significance.

Source: Results of Logistic regression which are obtained through primary data used in this study.

On the second number, it was discovered that the environment related to politics in any village is ascertained by the choice of participation by members in meetings of gram Sansad which has an important role in making policies related to the development of the areas of gram panchayat of the member. The probability of a member of the group being involved in meetings of gram Sansad in case an elected member of the panchayat of that particular village is a part of the dominant party at the level of the gram panchayat.

The status of women members in their families is affected by age of a member of an SHG, in the case of the age of a member of the group, the less probability of having an equal level of status as the husband has compared to their wife. The members of the family are also influencing the level of freedom regarding spending out of her income, although the women members enjoy more mobility.

Additionally, those members of SHGs who have got training after becoming a member of SHGs and those members who know joint patta, to personally cast their vote, to make themselves more self-dependent, to make decisions related to birth control without their husband's permission, training play important in the empowerment of women as they gained more confidence (Kamala et al., 2018), awareness and improvement in independent behaviour. The dummy variable of agricultural land ownership was also made a part of 2 logistic regressions based on criteria of information. The findings revealed that female members who belong to those families who hold agricultural land have more knowledge regarding joint patta but the probability is lower to attend meetings of the group independently, the freedom to visit any house of your relative as per her will.

The examination demonstrates the negative influence concerning members' religious identification on different aspects of empowerment of women which are simultaneously depicting the agency of women despite having experience of 6 years in the engagement of the group. The impact of participation in the group on Muslim women is that it helped them to become more self-dependent compared to members belonging to the Hindu religion. The outcome of taking training through SHGs made them more self-dependent and confident and also enhanced their awareness level regarding political and legal rights. The further portion highlights the association between the status of employment and empowerment of women and also the pattern in the use of loans by the member of SHGs (Kamala Devi et al., 2018, pp. 281-292).

4. Various determinants of status of employment and level of empowerment

This part analyzes the pre-defined hypothesis in which the current status of employment and level of empowerment of female members are interconnected. The probability of a member of a group regarding employed and empowered is determined in conjunction, with and also few usual economic and social factors related to demographic characteristics which influence both factors.

Table 5. Statistics calculated from variable count

Counting		
Value of mean		6.124935
Value of median		5
Value of mode		5

Counting		
Value of minimum		0
Value of maximum		8
Value of percentile	31	4
	48	7
	69	6

Source: Primary data used in this study.

Table five indicates about the median value obtained is six, which means on an average basis about fifty per cent of members of the group gave a positive response to six selected questions. The goal was to find out the variable's set which influences the probability on a joint basis for being employed and empowered through a model of bivariate Probit. Consequently employed variable of binary nature "women empowerment" assumes equal value to unity if the count of variable alike to a single member of the group was found greater than six, the value of the median. The empowerment variable shows that individual members gave more positive answers regarding questions related to empowerment compared to those members who are average (Galab and Rao, 2003, pp. 1278-1280).

Table 6. Outcomes obtained from bivariate Probit regression

Dependent variable used women empowerment = one	Various independent variables used	Value of coefficients	Huge standard error obtained
	Size of group	0	0.12
	Dummy variable of Religion	0.23	0.31
	Dummy variable of education	0.34	0.28
	Number of embers in the family	- 0.13	0.10
	Age	- 0.11	0.08
	Dummy variable of training	0.64*	0.41
	Members self-employed in the year 2005	0.25	0.32
	Members working in animal husbandry in the year 2005	0.09	0.42
	Dummy variable of ownership of agricultural land	0.22	0.12
	Value of constant	- 0.39	0.73
Status of employment = one			
	Size of group	0.07**	0.16
	Dummy variable of Religion	0.46	0.12
	Dummy variable of education	0.24	0.10
	Number of members in the family	- 0.10	0.02
	Age	- 0.21	0.13
	Dummy variable of training	0.86*	0.28
	Members self-employed in the year 2005	0.79*	0.31
	Members working in animal husbandry in the year 2005	0.43**	0.32
	Dummy variable of ownership of agricultural land	0.28	0.33
	Value of constant	- 2.11	0.78
	Value of rho	0.37	0.16
	Value of anthro	0.51	0.21
	Value of rho through Wald test + Zero chi ² (1) = 13.3148	Probability is greater than chi ² = 0.0001	
	Value of AIC = 659.48	Value of Log pseudo-likelihood = - 298.87	

* at a 1% level of significance;

** at a 5% level of significance.

Source: Results of bivariate Probit regression which are obtained through primary data used in this study.

It was also noticed that members of the group who were engaged in business-related animal husbandry during the year 2005 were more probably employed in the year 2009 compared to those members who were employed as labourers during the year 2005. The findings of the survey revealed that eleven members of the group who were engaging in animal husbandry related activities during the year 2005, had moved to self-employment-related projects due to which they remain unemployed.

The survey conducted during this study revealed that all the members of the group engaged in availing credit-related activities when they were a member of SHGs. The latter analysis examines the kind of usage this loan was employed by members of SHGs from the year 2008 to the year 2009. The relationship among patterns in usage of loans and women empowerment variables (Mohapatra and Sahoo, 2016, pp. 60-69).

Table 7

		The pattern of Credit Usage				Gross value
		Members not availed of credit facility	Expenses of family	Business related to family or husband	Personal business	
Members who are empowered	1	43	70	41	32	187
	0	11	21	26	50	108
Gross value		53	91	67	82	
Chi-square of Pearson = 41.279				Sig = 0, df = 2		
Sig = 0	Phi = 0.233				Sig = 0	Cramer's V = 0.233

Source: Data report in the survey of the year 2009.

About 84% of credit users obtained loans in the year 2009 through SHGs, and as per the data, about 31% (who were employed somewhere) of the members of the group invested the credit into business-related activities. 71% of respondents from SHGs who belonged to the category of non-empowered members, were not able to control their loan amount and spend the credit money on unproductive activities such as fulfilling consumption-related needs of family or needs of working capital in any other person's business such as family and friends. Table number 7 indicates that around 39.02% of members who are empowered employed credit amount into their own business to expand it, while around 15.34% of members who did not fall into the category of empowered members. Consequently, those women who are empowered are in better condition to drive the usage of loans into more productive places. The outcome found through cross-tabulation among dummy variables of training and usage pattern of the loan indicated that female members who got training (61% of members) were in a condition to using their credit in extending their business, while the members who have not got any training were employing credit amount in unproductive activities such as transferring the credit amount to relatives. In adding these findings and results of bivariate Probit regression, this study concluded that those members who received proper training are more probable to be in the status of employment for a long period, and consequently they will become more empowered. These members are also in a situation to control the amount of credit and invest in their businesses for growth perspectives (Alemu et al., 2018, pp. 310-315).

So, the training of members of SHGs worked as a catalyst in making better the agency between female group members.

5. Conclusion

This study is based on data collected two times in the survey conducted to find out various aspects of employment which govern female members of groups (SHGs) created through the SGSY scheme. The findings of this study indicated that occupation choice is an important factor for continuity in terms of employment of members of groups, and also other factors of non-monetary nature such as training. The majority number of members of the group who were falling in the category of self-employment at the time of 1st round of the survey was also employed at the time of 2nd round of the survey. Additionally, it was also found that the current status of employment is ascertained by both factors such as the level of employment of members of the group, and another thing is employment in case the members have received full training under the SGSY scheme. Consequently, training may be considered as a resource which works as a catalyst in empowering the women members of SHGs or those conditions in which women empowerment will probably happen (Puhazhendhi and Satyasai, 2001, pp. 3-7), as well as it was also observed that female members who are getting training are utilizing loan in an optimum manner and this allocated credit is invested in productive activities related to own business.

This study also identified those factors which influence various indicators of the empowerment of women. The findings revealed that the religious image of members of the group influenced a few dimensions of the empowerment of female members. Those female members belonging to the Muslim community were seen as less knowledgeable regarding joint patta, casting individual votes as their choice, making decisions concerning children, having freedom in movement, and the status of women in their family are less probably equivalent to the status of their husband. Women members belonging to the Muslim community are more self-dependent after becoming a member of SHGs.

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Declaration of competing interest

All the authors associated with this study declare that they have no conflicts of interest concerning the publication and authorship of this research study.

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