An Empirical Analysis of Determinants of Effectiveness of Women's Self Help Group

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Abstract

Factors determining the group performance of women-led self-help groups (SHGs) in Anekal taluk have been studied following the stratified random sampling technique. It has been observed that age of members and caste composition do not have a significant relationship with performance of SHGs. Whereas Education has positive and significant relationship with performance of SHGs. Groups with collective decision making, proper record keeping, good banking knowledge and unity among members positively and significantly affect performance of SHGs The women of self help groups performing in Anekal taluk are around 30 years of age, with middle school level education. Self help groups are basically formed to collectively resolve the problems faced by women. It can only be possible when women unite to co-ordinate and co-operate with each other to make their life better than ever.

Key words: Keywords: Self Help Groups, Team, Women empowerment

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1.0 Introduction

More than 60 years after independence a very large fraction of India's population continues to be poor,of which more than 75% reside in villages (Government of India, 2007). Government have introduced many schemes at centre and state level to eradicate poverty, but has not been able to achieve the goal of poverty alleviation.[1] Over the last two decades India has undergone a drastic change due to phenomenal growth in the non-governmental sector.[2] However, the gains from rapid economic growth have not been evenly distributed (Suryanarayana, 2008). One of the main reasons why poverty perpetuates is lack of easy access to credit. Sudden illness, accident, or marriages are the major sources of credit constraint faced by the poor. Additionally, bad harvest and economic shocks, respectively, contribute to impoverishment in rural and urban India. In effect the poor people are left with little, if any, resources to participate meaningfully in economic activities.

When the stream of income is not constant, people finance the shortfall in their income through loans. Commercial banks traditionally lend either if the borrower can offer future stream of income or existing assets as collateral. Since the poor people neither own any significant assets nor have a steady stream of income they cannot access credit from formal institutional sources like commercial banks. It leads them to informal money lenders who take advantage by charging usurious interest (Basu & Srivastava, 2005)."Provision of thrift, credit and other financial services and products of very small amount to the poor in rural, semi-urban and urban areas" are necessary for raising their "income levels and improve living standards" (RBI, 2009). In other words, access to credit is essential for poverty alleviation (Pitts & Khandker, 1998). So, special institutions are needed till the poor become

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[1]Major schemes include Jawahar Rojgar Yojana (JRY), Employment Assurance Scheme (EAS), Indira AwasYojana (IAY), Training of Rural Youth for Self-Employment (TRYSEM), Development of Women and Children in Rural Areas (DWCRA), Integrated Rural Development Programme (IRDP), and Swarnjayanti SwarozgarYojana (SGSY) (Planning Commission, 2009).

[2] "A voluntary organization established to undertake social intermediation like organizing SHGs of micro entrepreneurs and entrusting them to banks for credit linkage or financial intermediation like borrowing bulk funds from banks for on-lending to SHGs" (RBI, 2009).

capable of accessing the usual banks. Microfinance Institutions (MFIs) or micro credit institutions are such institutions, which have emerged as a solution to this problem (RBI, 2009). It seems that MFIs have indeed managed to penetrate the informal credit market. For instance, Bhusal (2011) observes that "almost everywhere, one of the most fascinating aspects of microfinance institutions (MFIs) is that they have virtually replaced the traditional and often oppressive money lending system practiced for ages".

Still the main reason for which formal banks deny poor loans remains, i.e., the risk of default due to problems related to adverse selection (giving loan to wrong person) and moral hazard (lack of effort). Microfinance groups can look after this problem, but it will lead to high transaction cost. Self help groups (SHGs) [3]have overcome this problem to an extent through peer monitoring(Aghion & Gollier 2000).It plays a vital role in socio-economic development at the micro-level in four ways: poverty alleviation, women empowerment, skill development at rural level, and building of social capital (Ghate, 2006; [4]Puhazhendhi & Satyasa, 2001;Borbara & Mahanta, 2001).A great majority of SHGs consist of women (Nimboodiri & Shiyani, 2001; Suman Bery, 2008;Krishnan,2010).

Evidence shows that, rural poor women are the biggest sufferer (with respect to literacy, scarcity, starvation, infanticide, discrimination, employment opportunities, credit, and land distribution) than the rural poor men.According to Fernando (2006:23), despite the fact that women constitute approximately 50% of the world's working population and do roughly 67% of the world's work, they earn only 10% of the world's wages, and hold 1% of its wealth."In India 86% of women compared to 74% of men work in agriculture. Women work for longer hours and for fewer wages as compared to men" (Thakur & Tiwari, 2007).

Rural poor women work to earn livelihood rather than for entrepreneurial activity. They are motivated by the requirement and not the reward of their hard work. They work at very low

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[3] "SHGs are essentially groups of poor that work together to relax their credit constraint and are established with the motive of empowering the ignored and neglected section of the society (women, the children, small farmers, etc) who are left behind in the process of development" (NSSO, 2007).
[4] "The biggest merit of SHG model is its empowerment and emancipation of millions of rural poor women (31 million in 2006) from which half comes in the category of below poverty line" (Ghate, 2006).

wages because they have few if any alternate options (Islam, 2007).Because of poverty men migrate in search of employment leading to high resentment and divorce, rural women engage in production, reproduction and family management simultaneously Islam (2007).[5]Thus women are affected in three ways: as poor people they are like poor men, as women they face cultural and social problems, and as a homemaker they face economic constraints (Jazaery et al 1992, 289). Because of the above reasons, most of the SHGs are increasingly working towards empowerment of women which will lead to overall economic development of the society (Kabeer, 2005; Shylendraet.al, 2009).But obviously "Only one intervention such as microfinance or adult education cannot dramatically empower women who were affected by many factors (such as, educational opportunities, the upbringing, family support, marital status, age and even ethnicity)" (Bhusal, 2011).

With the formation of SHG, individuals with similar socio-economic background can come together and can face problems collectively. General awareness and self confidence of members increases and they are able to interact with external agencies. Membership inculcates the habit of saving regularly, which can be used for future contingencies, thereby increasing their credibility. So, steady membership of SHG group enhances creditworthiness, which in turn helps members to improve their household's income. Consequently, they secure greater decision power over themselves and their family (Johnson & Rogaly, 1997; Amin, Becker & Bayes, 1998; Kabeer, 2000; Tilekar et al 2001; Dadhich, 2001; Shylendra et al 2009). So, SHGs contribute positively in the emancipationof women both economically and socially and are are an important vehicle for development.

Smooth functioning of SHGs requires better co-ordination and team work. But it needs to be noted that formal teams in formal sector differ from informal teams (SHG) in informal sector (discussed later) for the following reasons:First, women who join SHG(s) are largely illiterate so we cannot directly apply the framework to deal with formal sector teams that generally employs literates. Second, unlike the formal sector where the command structure is very clear, SHGs are amorphously structured. Third, initially most of the participants of SHGs have little, if any, exposure to outside environment, equally little experience of working in

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[5]In a world survey on the role of women in development, it was found that in 1990 around 20% of rural households are headed by female in developing countries (Thakur & Tiwari, 2007).

teams outside the family, and entrepreneurial experience. The purpose of my research is to explore and study the important determinants of effectiveness of SHGteams.Since team effectiveness cannot be measured directly we have to rely on proxies like creditworthiness, longevity of group, successful investments, turnover rate of members, etc. Field survey data from Anekal taluk of Bangalore Urban district will be used to shed light on whether factors like age, education, caste/religious heterogeneity, and internalmanagement of team affairs like nature of decision-making, mode of record keeping, maintenance of bank accounts, etc affect a SHG team's effectiveness. We will use OLS method of regression to study the impact of various determinants on performance of SHGs.To the best of myknowledge this is one of the few very papers thatstudythe determinants of effectiveness of women SHGs through field study.

Rest of the discussion will proceed as follows: In Section 2, we will discuss nature of SHGs. Section 3 describes the data and methodology and Section 4 provides the analysis of data. The last section discusses the results and provides concluding remarks and suggestions for future work.For abbreviations used in the paper see Table 1.

Table 1 about here

2.0 Self Help Groups

Since SHGs are essentially teams we will begin with a discussion on teams in general and then locate SHGs in the larger set of teams. When a small group is differentiated from a crowd by unity of purpose, such a group is called team. According to Cohen & Bailey (1997),

A team is a collection of individuals who are independent in their tasks, who share responsibility for outcomes, who see themselves and who are seen by others as an intact social entity embedded in one or more larger social systems (for example,

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business unit or the corporation), and who manage their relationships across organizational boundaries.

In other words, "[a] team is a group organized to work together to accomplish a set of objectives that cannot be achieved effectively by individuals" (NBSA nd). According to Cohen &Bailey (1997), a variety of teams are found in organisational settings:

1. Work teams
2. Parallel teams
3. Project teams
4. Management teams

Each of these types of teams can be permanent or temporary. But teams'canalso be classified according to structure of team and the sector in which they are operating. Tiwari (2010) provides a scheme for classifying teams. Following Figure 1 we can say that there are four types of team:

1. Formal sector – Formal team
2. Formal sector – Informal team
3. Informal sector – Formal team
4. Informal sector – Informal team

Figure 1 about here

We will be concerned with informal teams (WSHGs) in unorganized/informal settings. SHG teams in unorganized setting can also be called as credit teams, a temporary or permanent group of people who come together voluntarily to solve common problem, i.e., credit. RBI defines SHG as follows:

"a registered or unregistered group of entrepreneurs having homogeneous social and economic background voluntarily, coming together to save small amounts regularly, mutually agree to contribute to a common fund and to meet their emergency needs on mutual help basis." (RBI, 2009)

whereas RDD of TN Government describes SHG as follows:

"a group of rural poor who have volunteered to organize themselves into a group for eradication of poverty of the members."(DSVP, RDD, TN)

Also, NSSO (2007), which assignsNIC code 65994 to SHGs, defines SHGsas:

"a voluntary gathering of people who share a common problem, condition or history."

In simple words, SHG is a small informal group of say 10-20 members (especially women) with homogeneous socio economic culture who voluntarily come together and save approximately Rs.10-Rs.50 on monthly basis and apply for small loans for consumption or small income generation activities (IGA) and take collective responsibility to make repayment on time (Shylendra et al, 2009; Ghate, 2006; Mohapatra, 2009; NSSO, 2007; Ghadoliya, 2005; Tiwari, 2009a & b).

In India the concept of SHG started after the intervention of International Fund for Agriculture Development (IFAD)in 1988-89. The Government of Tamil Nadu through its DWCW (Mahalir Thittam), along with the Indian Bank as their credit partner, adopted the concept in Tamil Nadufor the development of women. Women empowerment came about

through literacy programs and entrepreneurial income generation activities. Economic independence is the first step towards women's empowerment and empowerment leads to emancipation.

2.1 WomenSelf HelpTeamEffectiveness

Though women SHGs are formed to reduce credit burden, effective and efficient functioning is beneficial for the longevity of group and that depends on the harmonious functioning of teams.According to Mahajan (2011), "one of most common myth about microfinance in India is that credit is what builds enterprise, whereas the truth is that entrepreneurship and management are more important."Due to illiteracy,[6] lack of exposure to outside world, lack of entrepreneurial experience, informal structure,etc. groups faces problem of smooth functioning in long run and come to an end, as a result of non co-operation, conflicts, lack of co-ordination, lack of proper record keeping, misunderstanding etc.[7]According to Joy et al (2008) socio-economic factors like age, economic motivations, attitude towards self employment, risk orientation influence group performance, group cohesion, leadership, team spirit, group decision-making and regularity in maintenance of records. Lin and Nugent (1995) argue that socioeconomic homogeneity of the group ensures feasibility of collective action.

Team effectiveness cannot be measured directly so alternate measures of team effectiveness needs to be taken. According to Cohen and Bailey (1997) measures of team effectivenessinclude (a) performance effectiveness assessed in term of quality and quantity of output, (b) members' attitude, and (c) behavioural outcome. In our study, we consider the following measures of team effectiveness: (a) longevity of group, (b) turnover rate of members, (c) creditworthiness, and (d) successful investments.

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[6]SHGs led to economic empowerment of women but lack of education creates hurdle in their overall development (Ghadoliya, 2005).

[7] The main cause for failure of cooperative movement in India was problem in managing teams (Rath, 2009).

3.0 Survey Data

3.1 Area of Survey

The field study has been conducted in 30 villages of Anekal, a taluk of Bangalore district of Karnataka.[8]Anekal lies in the southern part of the Bangalore metropolitan area, around 40 kilometers from downtown Bangalore. It is one of the fastest growing towns around Bangalore. According to 2001 census of India, Anekal has a population of 33,160.Out of which female are 48% of the population. As per 2001 census, the literacy rate of female is around 44%.

In Anekal,52 WSHGs with 850 members are associated with Sanghamitra Rural financial services (SRFS).Stratified random sampling technique has been adopted for the survey.10% members of the SHGs under considerationwereselected for the study.The sample SHGs have been divided into three strata based on the number of members of SHG. The three strata formed according to number of members: (i) 10-14,[9] (ii) 15-17, and (iii) 18-20. 85 SHG members from 45 SHG(s) were selected for the study.

3.1.2 Sanghamitra Rural financial services (SRFS)

SRFS,a leading Bangalore-based MFI in India, was established in Jan 1, 1995. It operates in Karnataka, Tamil Nadu, and Andhra Pradesh with 55 branches.[10] With the mission to provide

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[8] "Karnataka is among one of the states that have a high concentration of SHGs & strong microfinance network. Karnataka 1, 26, 495 SHGs (Rural – 1, 19, 799&Urban – 6, 696; less than 4% establishments rest OAE)" (NSSO Report 528 & 529, 2006-07).

[9] Initially, four strata had been formed. Strata I and II were merged because of fewer no. of members in each.

[10] In general South Indian states have higher number of SHGs. Share of Andhra Pradesh is high (48%) followed by Tamil Nadu (13%) due to state specific factors (government support of the state, special efforts taken by NABARD, other program supporting SHG movement, socio-cultural environment, and interest and ability of the banks to link SHGs) (Mohapatra, 2009).

financial services to the poor households, it provides fundto SHGsfor income generation activities, and consumption purposes. SRFS specifically provide loans to women SHGs.[11]A credit officer (CO) is appointed in the villages to provide proper assistance and guidance to members as and when needed. Before providing loan to SHG SRFS ensuresthat the group members are not the members of any other group and also no two members of same family are members of the same SHG and that no active member of the group has taken loan from any other microfinance institution or informal institutions. If in any case it is found that any member of the particular group has taken multiple loans, the SRFS discontinues assistance to that group.Also, the tenure of any amount of loan is not less than 1 year in any condition and members are given ample time (1 to 1½ month) even after due date in case of non repayment.[12]

3.1.3Department of Women and Child Development (DWCD)

DWCD is a government organisationcreated in the year 1994. Before thatit was a part of Social Welfare Department (SWD). It is headed by a Minister. It provides grants, trainings and other services especially to poor women. Aaganwadi centres are created in taluks for motivating women to form SHG. Meetings of SHG are also held in centres. Aaganwadi teachers play the role of counsellor for SHG members. Vocational trainings are also organised for SHG members.

3.2 Sources of data

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[11] "99% of all SHG's in South India consist of women. It is still not common in North India" (Krishnan, nd).

[12] Recommendations made by Malegam committee on microfinance headed by Y. H. Malegam , accepted on 19th June 2011 by RBI: "(a) A borrower can be a member of only one Self-Help Group (SHG) or a Joint Liability Group (JLG). Not more than two MFIs can lend to a single borrower. (b) A Credit Information Bureau has to be established to avoid multiple lending and over borrowing. (c) For loans not exceeding Rs. 15,000, the tenure of the loan should not be less than 12 months and for other loans the tenure should not be less than 24 months, however there would be no prepayment penalty."

Both Primary and secondary sources wereused to collect data for this study. For primary data direct personal interviews were scheduled with respondents, i.e.,female members of SHG. Apart from that informal discussions were also held with Manager andCOs of SRFS. A detailed questionnaire was designed in such a manner that it was able to capture both quantitative and qualitative informationto study the group performance of SHG. Thequestionnaire was divided into three divisions. The first division consisted of questions related with general group information followed by team information and leader's information. Team information was further sub-divided into six sections which dealt with questions related with personal information, group performance, leader related information from team members, work, financial performance, andsocio economic performance. After a pilot survey involving two SHG members, the questionnaire was finalized.HDPI - II (2004-05) Household questionnaire was also referred.The survey was carried out between March 2011 and May 2011by the researcher along with her team.[13]For Secondary datawe have referred to relevant existing literature, facts from NSSO Report 528, and 529 (2006-07), HDPI - II (2004-05) Household questionnaire, RBI, and NABARD.

Information collected from field survey contained both quantitative and qualitative data. The data includes personal information on age, education, caste, religion, marital status, family background, land holding (in acres) and group information on date of formation, age of group, loan details, benefits/grants received by government, record keeping, collective decision making, etc. To check whether other caste affects group performance, we have taken percentages of SC/ST and general members in each group. We use dummies for record keeping, collective decision making, and group unity and bank formalities. We have taken$d_1, d_2$and d_3 dummies, which control for other factors that could vary across the strata which could not be accounted for. Table 2 describes the variables.

Table 2 about here

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[13] The team of survey consisted of researcher, two local management trainees, and CO of Anekaltaluk who were conversant with regional languages along with Hindi and English.

3.3 Problems faced in field survey

The researcher faced many problems during field study. Firstly, researcher had to restrict to small sampledue to logistical reasons.Secondly, researcher faced the problem of time constraint. The female members handle home and work simultaneously. So, they donot want to waste time in unnecessary lengthy talks. Also, they take time to become comfortable with outsiders that too male. To overcome this researcher first tried to make them comfortable and then assured them to take their minimum time and also gave them freedom to decide the meeting time as per their convenience.Thirdly, communication was also the big problem for researcher in survey villages because respondents were only conversant with their regional languages i.e. Kannada and Telugu and researcher was with hers (Hindi and English).Fourthly, certain ethical issues were also addressed during survey. The consideration of these ethical issues was necessary for the purpose of ensuring the privacy as well as the safety of the participants. Among the significant ethical issues that were considered in the research process include consent and confidentiality. In order to secure the consent of the selected participants, the researcher relayed all important details of the study, including its aim and purpose.The confidentiality of the participants was also ensured by not disclosing their names or personal information in the research.

3.4 Summary Statistics

Basic characteristics of members of SHG are given in Table 3.0, whereas Table 3.1, 3.2, and 3.3 provides summary statistics of the data for different strata.SHGs in sample havebetween 10 and 20 members. 95 per cent members are married and 77 per cent members belong to the OBC category. Maximum heterogeneity in terms of caste and marital status was found in Strata III followed by Strata II and I approximately.As of 31[st]March 2011, these SHGs have been in existence for 1 to 9 years have received loan between 1 and 5times. If we go through table 3.1, 3.2, and 3.3, we can see that the average number of linkages per year was

highest in Strata I followed by Strata II and III.The groups in Strata I received more grants (4) compared to Strata II and III (1), whereas the grants per linkage is highest forStrata III followed by Strata I and II.It was found that members of Strata II received maximum amount of loan followed by strata III and I. The average age of women in sample SHGs isaround 32 years with primary school level education. The average education was highest for Strata I as compared to Strata II and III.The average land holding per member(in acres) also shows the same picture. But the average number of children per family was highest in Strata III followed by Strata I and II. In general, SHGs belonging to Strata I aremore homogeneous in terms of caste and marital status, consists of fewer members with fewer children but more landholding per family compared to Strata II and III. Further, SHGs belonging to Strata Ialso received more grants and went through more number of loan cycles (linkages per year).

4.0Analysis

4.1Model

Model:

$$y_i = a + \beta_j x_{ij} + \delta_k d_k + \varepsilon_i$$

where,

y_i = loan per member per linkage for i-th SHG

x_{ij}= j-th explanatory variable (age, education, caste, record keeping, bank formalities, group unity and collective decision making) for i-th SHG

d_k =k-th dummy variable

The explanatory variables areaverage age, average education, percentage of SC/ST members, collective decision making, record keeping, bank formalities, and group unity.

Though the sole purpose of SHG is not credit,still it is the main purpose for which women, who join SHGs.If a group has moremembers then each member's share of loan will decrease and vice versa. Also, small teams are more easily manageable as compared to big teams. So, there should be negative relationship between team size and loan per member per linkage.

Younger membersare more energetic and vice versa. A group consists of young members will be more effective thana group with old aged members. But older members are more experienced. So, the effect of age on loan per member per linkage could be either positive or negative.

Education is the basic requirements to have a better understanding of things. Teams consisting of more educated members are expected to be more effective and vice versa.So, loan per member per linkage should increase with education.

Given differences between castesespecially in villages on a variety of issues including touchability and inter-dining, it is expected that teams consisting of varied castes will be less effective.So, caste diversityis supposed to have negative bearing on performance of group.

Teams in which decisions are taken collectively by all the members are more likely to be effective. So, there shouldbe a positive relationship between collective decision making and loan per member per linkage.

Maintenance of proper records leads to reduction in confusion and conflicts. Therefore, teams that maintain proper records are more likely to be effective. So, there should be a positive relationship between proper records keeping and loan per member per linkage.

Teams consisting of members who are aware of banking are more likely to be effective. So, thereshould be a positive relationship between awareness of banking knowledge and loan per member per linkage.

Proper co-ordination and co-operation are needed for effective and smooth functioning of a team. Otherwise there will be conflict, resentment, and lack of interest, efforts and trust among members. So,the relationship between group cohesion and loan per member per linkage should be positive.

The above model is used to study the impact of various explanatory variables (discussed above) on group performance which is measured by loan per member per linkage (in Rs.).

4.2Results

The model in 4.1 is used to study the impact of various explanatory variables (discussed above) on group performance which is measured by loan per member per linkage (in Rs.)/ Age of SHG (in years). The estimated regression results are reported in Table 4.0, 4.1, 4.2, 4.3 and 5.0.

Table 4.0 shows that *education* has positive and significant impact on loan per member per linkage, where as *age* of members has positive relationship with loan per member per linkage but it is not significant. Table 4.1 shows that *collective decision making* has positive and significant impact on loan per member per linkage whereas *caste composition* has no bearing on loan per member per linkage. Also, *high group unity* is showing positive and significant impact on loan per member per linkage. Together they are showing the right relationship, but are insignificant. Table 4.2 shows that individually both *Record keeping* and *Who looks after Bank formalities* have positive and significant impact on loan per member per linkage. But together only *Who looks after Bank formalities (3)* is showing positive and significant impact on loan per member per linkage because if group members look after bank formalities together they have to necessarily maintain proper records. In Table 4.3,

only *Who looks after Bank formalities (3)* is showing positive and significant impact on loan per member per linkage. Table 5.0 shows that *bank formalities and group unity* is showing positive and significant impact on age of SHG.

5.0 Discussion and concluding remarks

In my field study, WSHGs are found lacking homogeneous socio-economic feature, (leading to weak coordination) where as literature poses a different picture (Emil, 2006; RBI, 2009). So it shows that effectiveness of team is an important determinant of successful SHG and should be studied more deeply.

We have studied our variables by dividing them into three categories: Team effectiveness, Collective decision making, Efficiency. We cannot take other variables separately because of degrees of freedom. We have small sample (45 groups) and if we will take all variables together, we will reduce our degrees of freedom.

We can conclude from our study that age of members and caste composition do not have a significant relationship with performance of SHGs. May be because demographic factors of group do not have direct effect on the performance of SHGs. Whereas Education has positive and significant relationship with performance of SHGs. Groups with collective decision making, proper record keeping, good banking knowledge and unity among members positively and significantly affect performance of SHGs.

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Figure 1: Typology of Teams

		Sector	
		Formal	**Informal**
Team	**Formal**	Quality Control teams in industry	Non-Governmental Organizations
	Informal	Knowledge sharing teams in industry, e.g., 5S teams, Six Sigma teams	**Self Help Groups**

Table 1: List of Abbreviations

Abbreviation	Full Form
AKMI	Association of Karnataka Microfinance Institutions
CO	Credit Officer
CEO	Chief Executive Officer
DSVP	
DWCD	Department of Women and Child Development
DWCW	Department of Women Child Welfare
HO	Head Officer
HDPI	Human Development Profile of India–II
IFAD	International Fund for Agriculture Development
IGA	Income Generation Activities
MFI	Microfinance Institutions
NABARD	National Bank of Rural Development
NGO	Non Governmental Organisation
NSSO	National Sample Survey Organisation
OBC	Other Backward Class
RBI	Reserve Bank Of India
RDD	Rural Development Department
SC/ST	Scheduled Caste/ Scheduled Tribe
SHG	Self Help Group
SHT	Self Help Team
SRFS	Sanghamitra Rural Financial Services
TN	Tamil Nadu
WSHG	Women Self Help Group

Table 2: Explanation of Variables

Explained Variable	Explanation
Loan (in Rs.)	Loan per member per linkage = Total loan taken / Total no. of linkages * Total no. of members
Explanatory Variables	**Explanation**
Age	Average Age
Education	Average Education
Record keeping	1if ledger books maintained, 0 otherwise
Caste	% of SC/ST and % of General
Bank Formalities	
Leader	(Reference)
One of the member	1 if one of the member looks after bank formalities, 0 otherwise
Either	1 if either one of the member or leader looks after bank formalities, 0 otherwise
Collective Decision Making	
Individual	1 if member take decisions individually, 0 otherwise
Collective	1 if member take decisions collectively, 0 otherwise
Through leader	(Reference)
Group Unity	
No	(Reference)
Somewhat	1 if group has medium co-ordination, 0 otherwise
Full	1 if group has good co-ordination, 0 otherwise
d_1	1 if C1 <no. of members≤ C2, 0 otherwise[C1= 9, C2= 14, C3= 17]
d_2	1 if C2<no. of members≤C3, 0 otherwise [C1= 9, C2= 14, C3= 17]
d_3	(Reference)

Table 3.0: Summary Statistics

Variables	Obs.	Mean	Std. Dev.	Min	Max
Dependent					
Loan per member per linkage	45	1929.82	1070.65	456.99	5111.1
Linkages per year	45	0.49	0.17	0.22	0.92
Grants per linkages	45	0.34	0.35	0	1
Age of SHG	45	4.80	1.81	1.08	9.83
No. of members	45	16.11	2.49	10	20
Independent					
Average age	45	32.80	2.62	26.47	37.95
Average education	45	5.33	1.48	1.73	9.07
Average land holding per member	45	0.67	0.78	0	3.27
Average children per family	45	1.83	0.38	1	3.05
% of Single women	45	1.72	4.08	0	15
% of Divorce women	45	0.38	1.46	0	6.67
% of Widowed women	45	2.59	5.13	0	20
% of Muslim members	45	7.61	20.77	0	100
% of SC/ST members	45	11.70	27.16	0	100
% of General members	45	2.48	14.92	0	100

Table 3.1: Summary Statistics Strata I (8 SHGs)

Variables	Obs.	Mean	S.D.	Min	Max
Dependent					
Loan per member per linkage	8	1810.44	847.08	456.99	3107.3
Linkages per year	8	0.58	0.16	0.27	0.78
Grants per linkages	8	0.42	0.36	0	1
Age of SHG	8	4.89	1.74	3.58	8.92
No. of members	8	12.75	1.49	10	14
Independent					
Average age	8	33.03	2.65	28	36
Average education	8	5.51	1.77	3	8
Average land holding per member	8	0.81	0.75	0	1.64
Average children per family	8	1.76	0.24	1.42	2.18
% of Single women	8	0.89	2.52	0	7.14
% of Divorce women	8	0.00	0.00	0	0
% of Widowed women	8	0.00	0.00	0	0
% of Muslim members	8	0.89	2.52	0	7.14
% of SC/ST members	8	14.29	34.99	0	100
% of General members	8	0.00	0.00	0	0

Table 3.2: Summary Statistics Strata II (23 SHGs)

Variables	Obs.	Mean	S.D.	Min	Max
Dependent					
Loan per member per linkage	23	1808.58	1153.36	565.84	5111.1
Linkages per year	23	0.49	0.15	0.25	0.73
Grants per linkages	23	0.20	0.24	0	1
Age of SHG	23	5.39	1.88	2.75	9.83
No. of members	23	15.39	0.58	15	17
Independent					
Average age	23	32.57	2.64	26.47	36.94
Average education	23	5.39	1.62	1.73	9.07
Average land holding per member	23	0.78	0.86	0	3.27
Average children per family	23	1.75	0.37	1	2.47
% of Single women	23	0.80	2.76	0	11.76
% of Divorce women	23	0.29	1.39	0	6.67
% of Widowed women	23	3.70	6.27	0	20
% of Muslim members	23	13.21	28.08	0	100
% of SC/ST members	23	4.86	11.20	0	40
% of General members	23	4.64	20.83	0	100

Table 3.3: Summary Statistics Strata III (14 SHGs)

Variables	Obs.	Mean	S.D.	Min	Max
Dependent					
Loan per member per linkage	14	2197.21	1063.21	833.33	4166.7
Linkages per year	14	0.44	0.18	0.22	0.92
Grants per linkages	14	0.52	0.42	0	1
Age of SHG	14	3.78	1.33	1.08	7.08
No. of members	14	19.21	0.97	18	20
Independent					
Average age	14	33.03	2.71	28.94	37.95
Average education	14	5.11	1.09	3.25	6.94
Average land holding per member	14	0.42	0.64	0	1.8
Average children per family	14	1.99	0.44	1.17	3.05
% of Single women	14	3.71	5.81	0	15
% of Divorce women	14	0.75	1.92	0	5.56
% of Widowed women	14	2.26	4.00	0	11.11
% of Muslim members	14	2.26	2.72	0	5.56
% of SC/ST members	14	21.47	37.88	0	100
% of General members	14	0.36	1.34	0	5

Loan per member per linkage	Coefficient			
(Intercept)	2197.21 (0.00)***	1011.29 (0.10)*	3232.06 (0.13)	-1796.24 (0.54)
Average Education		232.14 (0.03)**		309.55 (0.03)**
Average Age			-31.33 (0.62)	73.02 (0.33)
d_1 (mem b/w 10 & 14)	-386.77 (0.42)	-478.79 (0.30)	-386.71 (0.43)	-509.61 (0.28)
d2 (mem b/w 15 & 17)	-388.63 (0.29)	-455.07 (0.20)	-402.93 (0.28)	-443.90 (0.22)
d_3 (mem b/w 18 & 20)	(Reference)			
Adjusted R-squared	-0.01	0.07	-0.04	0.07
No. of obs.	45	45	45	45

Note: P values are reported in parentheses. *, **, *** indicates significance at the 10%, 5%, and 1% level, respectively.

Table 4.1:

Loan /member per linkage	Coefficient	Coefficient	Coefficient	Coefficient	Coefficient	Coefficient
(Intercept)	1070.35 (0.08)*	1845.24 (0.00)***	1584.71 (0.02)**	1753.48 (0.00)***	1132.94 (0.06)*	1580.15 (0.04)**
Average Education	252.62 (0.02)**		72.15 (0.54)		146.97 (0.19)	70.58 (0.56)
Caste Composition	-7.62 (0.21)		-2.41 (0.69)	-3.11 (0.59)	-4.76 (0.42)	-2.49 (0.69)
Member take decisions 1 (individually)		-370.69 (0.35)	-354.17 (0.40)			-343.02 (0.49)
Member take decisions 2 (collectively)		915.78 (0.01)***	793.68 (0.06)*			607.46 (0.22)
Group Unity 1 (medium)				672.49 (0.07)*	540.75 (0.15)	69.65 (0.89)
Group Unity 2 (high)				1261.33 (0.00)***	1038.77 (0.02)**	370.15 (0.54)
d1 (mem b/w 10 & 14)	-541.67 (0.24)	-217.39 (0.62)	-291.18 (0.53)	-476.61 (0.29)	-531.34 (0.24)	-321.49 (0.51)
d2 (mem b/w 15 & 17)	-587.58 (0.12)	-361.81 (0.26)	-425.47 (0.23)	-631.67 (0.08)*	-667.02 (0.06)*	-482.38 (0.20)
d3 (mem b/w 18 & 20)	(Reference)					
Adjusted R-squared	0.08	0.24	0.21	0.15	0.16	0.18
No. of obs.	45	45	45	45	45	45

Note: P values are reported in parentheses. *, **, *** indicates significance at the 10%, 5%, and 1% level, respectively.

Table 4.2:

Loan per member per linkage	Coefficient	Coefficient	Coefficient	Coefficient	Coefficient
(Intercept)	1647.00 (0.00)***	1692.20 (0.00)***	1157.79 (0.05)**	1087.32 (0.06)*	1122.14 (0.06)*
Average Education			111.74 (0.32)	122.98 (0.22)	110.27 (0.31)
Record keeping	962.87 (0.00)***		820.10 (0.02)**		123.12 (0.77)
Bank formalities 1 (leader)	(Reference)				
Bank formalities 2 (one of the member)		743.85 (0.02)**		740.04 (0.02)**	665.92 (0.10)*
Bank formalities 3 (either)		1675.44 (0.00)***		1521.31 (0.00)***	1424.89 (0.01)***
d1 (mem b/w 10 & 14)	-317.99 (0.47)	-672.54 (0.10)*	-372.49 (0.39)	-704.24 (0.09)*	-669.49 (0.13)
d2 (mem b/w 15 & 17)	-424.51 (0.21)	-676.45 (0.04)**	-451.17 (0.18)	-692.99 (0.03)**	-673.59 (0.06)*
d3 (mem b/w 18 & 20)	(Reference)				
Adjusted R-squared	0.17	0.28	0.17	0.29	0.28
No. of obs.	45	45	45	45	45

Note: P values are reported in parentheses. *, **, *** indicates significance at the 10%, 5%, and 1% level, respectively.

Loan per member per linkage	Coefficient
(Intercept)	1392.02 (0.06)*
Average Education	51.37 (0.65)
Bank formalities 2 (one of the member)	418.49 (0.31)
Bank formalities 3 (either)	1138.09 (0.03)**
Member take decisions 1 (individually)	-97.06 (0.81)
Member take decisions 2 (collectively)	516.93 (0.20)
d1 (mem b/w 10 & 14)	-475.22 (0.29)
d2 (mem b/w 15 & 17)	-575.28 (0.09)*
Adjusted R-squared	0.29
No. of obs.	45

Note: P values are reported in parentheses. *, **, *** indicates significance at the 10%, 5%, and 1% level, respectively.

Table 5.0:

Age of SHG	Coefficient
(Intercept)	2.11 (0.59)
Average age of members	.041 (0.73)
Caste Composition	-.011 (0.32)
Group unity1 (medium)	2.27 (0.08)*
Group unity 2 (high)	2.57 (0.09)*
Bank formalities 2 (one of the member)	-2.29 (0.06)*
Bank formalities 3 (either)	-2.89 (0.03)**
Members take decision 1 (individually)	.56 (0.53)
Members take decision 2 (collectively)	.51 (0.55)
d1 (mem b/w 10 & 14)	1.50 (0.09)*
d2 (mem b/w 15 & 17)	1.64 (0.02)**
Adjusted R-squared	0.09
No. of obs.	45

Note: P values are reported in parentheses. *, **, *** indicates significance at the 10%, 5%, and 1% level, respectively.