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Self-help Groups as Drivers of Entrepreneurship: Evidence from Karnataka and Odisha States[§]

K.J.S. Satyasai*, B.B. Sahoo and Smita N. Badajena

Department of Economic Analysis and Research,
National Bank for Agriculture and Rural Development (NABARD), Mumbai-400 051, Maharashtra

Abstract

This paper has conceptualised and measured the graduation of a self-help group member as a two-dimensional index, combining savings and enterprise dimensions, that reflects the ability of SHG members to start their own enterprises/ income-generating activities. The study has covered a sample of 240 SHG members drawn from four districts, viz. Khordha and Sambalpur (Odisha) and Dakshina Kannada and Koppal (Karnataka). It was found that about 27 per cent of the SHGs did not have any member having individual savings bank account. The less-developed districts (Sambalpur and Koppal) fared better compared to the developed districts (Khordha and Dakshina Kannada) in terms of savings bank account penetration. The SHG members opened savings bank accounts, mostly for pro-entrepreneurial purposes. They undertook multiple activities ranging from mere wage labour to income-generating/ micro-enterprises. The membership in SHG helped about 40 per cent of the people in taking up two or more additional activities than before. Farming followed by wage labour have been found the primary activities among SHG members. The tendency for taking up additional activities was higher among members from less-developed districts. The members with higher accumulated savings and possessing a mobile phone or belonging to younger groups have shown higher probability of going for additional activity. The paper has identified personal factors, SHG-related aspects and environment-related factors that helped the graduation process. Savings have shown positive influence on graduation index. However, borrowings did not emerge as a positive factor behind graduation. Nor it stimulated members to take up additional activities. However, using loan for non-consumption use has encouraged higher level of graduation. The paper has suggested scale, scope, convergence of efforts by different agencies and training as important aspects for consideration and has recommended to start a registry to avoid duplication of efforts.

Key words: Self-help groups, entrepreneurship, microfinance, graduation, micro-enterprises, savings

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Introduction

The lack of entrepreneurship is often considered a constraint to development and possibly for this reason,

* Author for correspondence

Email: dr.satya@outlook.com

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The authors are located in Mumbai, Bengaluru and Patna offices of NABARD, respectively.

several programmes promoting enterprises met with limited success. Another factor that constrains multiplication of enterprises is limited access to credit. Gender is the third limiting factor in this context as women have been found less likely to be entrepreneurs in India (GEM, 2002). On the other side, women have been the focus of the much acclaimed SHG-Bank Linkage Programme (SBLP) running for more than two decades. Over time, the SBLP has taken deep roots and could meet the needs of unbanked sections of the

people (Basu and Srivastav, 2005). The SHG-Bank Linkage Programme has helped in delivery of financial services to the unbanked sections of the society for over 20 years now. It has been witnessing significant growth since its inception (Puhazhendi, 2012). The question is how far SBLP could help SHG members to turn into entrepreneurs.

Several studies have been conducted on SHG movement and the major conclusions of these studies are: positive impact of linking SHGs to banks on income and broadening financial markets through provision of credit and other financial services to small scale entrepreneurs and thereby on reduction of poverty (de Aghion and Morduch, 2000); contribution to attaining the Millennium Development Goals (Littlefield *et al.*, 2003); favourable impact on household income, labour market activity, health care and education (Hulme and Mosley, 1996; Khandker, 1998; Littlefield *et al.*, 2003); and, helpful role in ushering in women empowerment (Littlefield *et al.*, 2003). Many other studies (Puhazhendhi and Satyasai, 2000; Puhazhendhi and Badatya, 2002; EDA Rural Systems and APMAS, 2006; NCAER, 2008) have demonstrated a positive impact of SHG on the socio-economic status of SHG members.

Basu and Srivastav (2005) viewed that though microfinance can meet the needs of poor in the short-run, graduating microfinance clients to formal financial institutions alone can scale-up the programme in medium-run. The notion of graduating, however, is not built into the concept of microfinance in India. While loans by individuals from SHG route help them move up in the income ladder, real jump is likely only when they can have access to credit and other financial products on their own as even micro-enterprises need sizeable investment and working funds. An SHG member acquiring such ability to start his/her own enterprise or income-generating activity can be considered a graduate of microfinance system. Since every member cannot reach the graduation stage in a given time, though graduation could be a coveted outcome, it is of interest to all stakeholders in microfinance to know the process of graduation and factors that can promote it. The present paper seeks to conceptualise and measure graduation of SHG members through a graduation index and explore the factors that determine graduation.

Analytical Framework

Graduation Process – Conceptualisation

The first step in SHG journey is opening of a savings bank account for the group. Often, getting access to individual savings bank account in due course is considered a milestone event and is considered graduation *per se*. Indigenous savings instruments do cater to the saving needs of the people and SHG members continue to depend on them (Gadenne and Vasudevan, 2007) in spite of access to saving products of banks. It may be mentioned in this context that SHG II, a re-engineering process to remove fatigue in the existing movement and is mooted widely of late, is in fact, savings oriented as opposed to the current obsession with credit. Savings (group as well as individual), instead of credit, will be the focus area and SHGs would be seen as vehicles for saving, accessing pensions and other transfers and getting a loan when needed (Srinivasan, 2011).

Similarly, the SHG member contracting an individual loan is considered a significant event. Here, the assumption is that getting access to individual loans from formal credit institutions signifies evolution of members, in itself. However, it can be argued that it is only the means and not the end by itself. The end obviously is coming out of poverty or improving living standards, obviously through supporting existing family ventures or starting their own income-generating or micro-enterprise activities. It is in this context, Badatya *et al.* (2006) have discussed the process of 'graduation'. Their study has clearly brought out the role of SHGs in helping their members to start micro-enterprises. It has charted out the proportion of SHGs that passed through each stage/activity and the time of passing the stage. According to them, some members have undergone even up to four shifts in their occupation from their primary occupation. Such shifts were more frequent among agricultural labourers, i.e. wage labourers, ultimately opening a petty shop or a small hotel. It was also found that people with traditional skills such as carpentry, pottery, etc. have diversified less compared to agricultural labourers/beedi rollers who do not have skills and resources. This brings out the role of training/ capacity building among SHG members. To sum-up, SHGs have enabled the members to diversify their occupations and take up new income-generating activities or set up new micro-enterprises (Guha, 2010).

In this background, the present paper, conceptualises the graduation process in terms of individual savings, starting own income-generating activity or enterprise, measures the extent of graduation among members of various SHGs, and identifies the factors behind such graduation. Three sets of factors have been considered that could explain the graduation level of members, viz. member-centric, SHG-centric and institutional/socio-economic/policy-centric.

Graduation Index

Graduation index (GRIND) is constructed as a combination of two dimension indices: Savings Index (SIND) and Micro-enterprise Index (MEIND). A generic expression used for computing a dimension index (Z_i), *a la* Human Development Index (HDI) is:

$$\text{Dimension Index } (Z_i) = (A_i - \min_i) / (\max_i - \min_i) \quad \dots(1)$$

where, A_i is the actual value of i th dimension; \max_i and \min_i are the maximum and minimum values, respectively, of the i th dimension

Each dimension index is, in turn, a combination, using equal or differential weights, of a few related indicators. Graduation Index is computed from SIND and MEIND using formula (2):

$$\text{GRIND} = w_1 \cdot \text{SIND} + w_2 \cdot \text{MEIND} \quad \dots(2)$$

where, w_1 and w_2 are the weights assigned, and $w_1 + w_2 = 1$

SIND for SHG members is constructed using the following indicators:

- (1) *Holding individual savings bank account* (S_1) – It takes the value of 1 if a member is having an independent SB account and 0 otherwise;
- (2) *Ownership of SB account* (S_2) – It takes the value of 1 if owned by the member and 0 if owned by a family member;
- (3) *Purpose of SB account* (S_3) – It takes the value of 1 if the account is opened for pro-entrepreneurial purposes like saving, taking loan, existing business or non-farm activity and 0 if the purpose is for remittance, MGNREGS job card, etc. The length of holding SB account also is taken into

consideration as a recently opened account gets a lower weight and vice versa.

The three indicators are combined using the formula¹ (3):

$$\text{SIND} = w_1 \cdot S_1 + w_2 \cdot S_2 + w_3 \cdot S_3 \cdot \text{SBAGE} \quad \dots(3)$$

where, $w_1 = w_2 = w_3 = 0.333$;

SBAGE= Length of holding SB account, in years.

MEIND for members is computed using the following indicators:

- (1) *Additional activity* (E_1) – It takes the value of 1 in case the member has taken up additional activity after joining SHG and 0 otherwise;
- (2) *Existing activity* (E_2) – It takes the value of 1 if the member is continuing existing activity and nurturing it (as indicated by borrowing) and 0 otherwise.

The wage labour and *beedi* rolling activities are not reckoned with here as they do not involve any entrepreneurial skill or intent. And, E_1 and E_2 are combined using the formula (4):

$$\text{MEIND} = (0.67 E_1 \cdot \dot{Y} + 0.33 E_2) / (1 + \dot{Y}) \quad \dots(4)$$

where, Y_1 is post-SHG income (₹/annum), Y_0 is pre-SHG income (₹/annum) and $\dot{Y} = Y_1/Y_0$

SIND and MEIND are combined to construct GRIND for members as per expression (5):

$$\text{GRIND} = w_1 \cdot \text{SIND} + w_2 \cdot \text{MEIND} \quad \dots(5)$$

It was felt appropriate to assign a higher weight to MEIND relative to SIND and hence, w_1 and w_2 were assigned the values of 0.33 and 0.67, respectively.

Model

Factors Behind Graduation

A multiple regression model was adopted to understand the factors influencing the level of graduation index. It was learnt that only a few SHG members could achieve certain level of graduation. Thus, it was imperative to understand why some SHG members graduated while others could not. The model (6) was used in multiple regression framework:

¹ Age of savings bank account was intended to qualify purpose while conceptualising the graduation though age of the savings bank account can be taken as another indicator.

$$\text{GRIND} = f(X_i, W_i, Z_i, \varepsilon) \quad \dots(6)$$

where, GRIND is graduation index for SHG member as an individual. The three sets of explanatory factors considered were the variables pertaining to (i) SHG members, X_i ; (ii) SHGs, W_i ; and (iii) environmental factors like development status or state, Z_i , and ε was the residual-term.

Who is Likely to Take up Additional Activity?

We have also explored the question, ‘who is likely to take up additional activity?’ For this logit model (7) was used.

$$Y = \ln[p/(1 - p)] = \beta_0 + \sum \beta_i X_i + \varepsilon \quad \dots(7)$$

where, p is the probability that Y , binary dependent variable, has the value one and X_i are the explanatory variables (Table 1). ADLACT is taken as the binary dependent variable taking the value 1 if a household (HH) takes up additional activity and 0 otherwise.

The marginal impact of explanatory variables was computed using the expression (8):

$$\delta p(Y)/\delta X_i = \beta_i \cdot \exp(Z)/[1 + \exp(Z)]^2 \quad \dots(8)$$

where, Z is the sum of coefficients multiplied by the means of the respective variables plus the constant term.

Database

This study was conducted in two districts each of Odisha and Karnataka. Khordha and Dakshina Kannada were selected as the financially developed districts while Sambalpur and Koppal represented financially less-developed districts. In all, 240 SHG members were selected for the study drawn equally from four sample districts. The survey was carried out in two stages. In the first stage, the SHGs were selected and studied. In the second stage, the questionnaires were canvassed to the selected SHG members who had graduated to individual account holders in banks and

Table 1. Description of variables used for analysis

| Variable | Description | Expected sign | Explanation |
|----------|--|------------------------------------|---|
| GRIND | Graduation index | Dependent variable | Expressed in per cent |
| ADLACT | Dummy variable indicating if a household (HH) took up additional activity; takes value 1 if it takes up additional activity, 0 otherwise | Dependent variable for logit model | It is an important indicator in $MEIND_m$ |
| SIND | Savings index (expressed in per cent) | + | Used as explanatory variable |
| SC | Dummy variable taking the value 1 for SC/ST household and 0 otherwise | - | Social status may be a deterrent |
| MMBAGE | Age of the member | + | Older member may have a greater motivation/need to graduate |
| DEPRAT | Dependency ratio – proportion of dependents to total number of members in HH | + | Higher proportion of dependents may spur adoption of economic activity |
| FLYSIZE | Number of members in HH | + | Larger families may need more revenue generating options |
| POWER1 | Dummy variable taking a value of 1 if the HH has electricity in post -SHG period, irrespective of his having it in pre-SHG period, and 0 otherwise | + | Having electricity may hasten graduation |
| MOBILE | Dummy variable taking a value of 1 if the member has a mobile phone in post-SHG period | + | Having a mobile phone connection first time may influence graduation process. |

Contd...

Table 1. Description of variables used for analysis — *Contd.*

| Variable | Description | Expected sign | Explanation |
|----------|---|---------------|--|
| MOBILE1 | Dummy variable taking a value of 1 if the member has a mobile phone in post- and in pre-SHG periods | + | Having a mobile phone connection over time may influence graduation process |
| OFFICE | Dummy variable taking a value 1 if the member is a office bearer of SHG, 0, otherwise | + | If the member is an office bearer of the SHG, he may graduate faster |
| TTSAVE | Total savings accumulated (₹) | + | Higher savings may lead to higher level of graduation |
| TTLOAN | Total amount of loan availed by the member (₹) | + | Adequate and timely loans are known to have hastened the graduation process |
| WHYLOAN | Dummy variable for purpose of loan taking value 1 for non-consumption loans, 0, otherwise | + | Use of loan for productive use will positively influence graduation process |
| SHGAGE | Age of SHG, in years | - | Given that younger groups are comparatively more enthusiastic about savings, we may expect a negative relation |
| AGEDUM | Dummy variable for age of SHG taking value 1 for older groups (3 or more years) and 0 for younger groups (< 3 years) | - | - do- |
| MODEL2 | Dummy variable for model taking value of 1 for Model II and 0 otherwise | +/- | Model may influence the graduation process |
| DEVELOP | Dummy variable for development status of district – takes value of 1 for developed district and 0 for less-developed district | + | Developed district is supposed to have better linkages |
| PREINC | Income (₹/year) in pre-SHG period | +/- | If positive, it means bias towards high income individual |

also to those who had not. The data, pertaining to the reference year 2010-11 collected through the questionnaire, were subjected to statistical analysis.

Results and Discussion

Savings Bank Account Penetration

Table 2 presents the distribution of SHGs according to savings bank account penetration (SBAP) ratio, i.e. proportion of members having individual savings bank account. About one-fourth of the groups did not have any member with individual savings bank account. Up to 20 per cent of the members had individual savings bank accounts in about one-third of the sample SHGs. Notably, 8.3 per cent of the groups had savings bank account penetration ratio of 60 to 100 per cent.

Activity Profile

About half of the sample SHG members had the base activity of offering wage labour (Table 3). A higher proportion of members (75 - 80 %) in Sambalpur and Dakshina Kannada districts did not depend on wage labour. The majority of SHG members in Khordha district were not dependent on wage labour, but were pursuing farm activities (38%), followed by non-farm activities (28%) and a combination (20%). The members of Koppal groups pursued non-farm activities in other than wage labour based activities. *Beedi* rolling is one predominant activity in the sample.

Income generation is the prime goal of activities pursued by all households. It is expected that borrowings, to the extent utilized for productive purposes, and savings help in investment and asset

Table 2. Distribution of SHGs according to savings bank account penetration ratio

(in per cent)

| Savings bank account penetration ratio (%) | Districts | | | | All |
|---|-----------|---------|--------|------------------|------|
| | Sambalpur | Khordha | Koppal | Dakshina Kannada | |
| None | 26.7 | 6.7 | 13.3 | 60.0 | 26.7 |
| Low (up to 20) | 33.3 | 46.7 | 46.7 | 0 | 31.7 |
| Medium (20-40) | 13.3 | 26.7 | 13.3 | 6.7 | 15.0 |
| High (40-60) | 26.7 | 6.7 | 13.3 | 26.7 | 18.3 |
| Very high (60-100) | 0.0 | 13.3 | 13.3 | 6.7 | 8.3 |

Table 3. Broad activity-wise distribution of SHG members in the selected districts

(in per cent)

| Base activity | | Districts | | | | Overall |
|----------------|------------------|-------------|-------------|-------------|------------------|-------------|
| | | Sambalpur | Khordha | Koppal | Dakshina Kannada | |
| Wage labour | Farm | 0.0 | 1.7 | 3.3 | 8.3 | 3.3 |
| | Non-farm | 3.3 | 0.0 | 8.3 | 8.3 | 5.0 |
| | Mixed | 71.7 | 11.7 | 26.7 | 63.3 | 43.3 |
| | Sub-total | 75.0 | 13.3 | 38.3 | 80.0 | 51.7 |
| No wage labour | Farm | 13.3 | 38.3 | 18.3 | 8.3 | 19.6 |
| | Non-farm | 1.7 | 28.3 | 30.0 | 11.7 | 17.9 |
| | Mixed | 10.0 | 20.0 | 13.3 | 0.0 | 10.8 |
| | Sub-total | 25.0 | 86.7 | 61.7 | 20.0 | 48.3 |

building at the household level. Membership in SHGs facilitates this process by augmenting financial resources available with the member households. Often, resource-poor households cannot manage their families with a single source of income. They need multiple avenues for income generation involving multiple members of the family. In the pre-SHG situation, about half of the sample households pursued single activity, while about 42 per cent pursued two activities (Table 4). A smaller proportion (6.3 %) had 3 activities. A few years after joining SHG, the proportion of members pursuing single activity declined to about 25 per cent, and of pursuing multiple activities increased to about 75 per cent from 48 per cent in pre-SHG situations.

It was observed that most households continued with the activities they had been undertaking before joining SHG. In the sample as a whole, only 37.5 per cent SHG members undertook additional activities (Table 5). Interestingly, a higher proportion of members added additional activities to their mix in the less-developed districts compared to developed districts.

Dakshina Kannada lagged behind all other three districts in taking up additional activities. This might be due to the concurrent promotional interventions running in the districts with emphasis on less-developed districts.

Who is Likely to Take up Additional Activity?

One of the key indicators entering the graduation index is the taking up of additional activity by a member. What motivates a member to take up additional activity is an important inquiry that can yield some insights into the process of graduation. For this, logit model was fitted to identify the factors that prompted a member to take up additional activity. The results for pooled sample are given in Table 6. The overall fit has been found good with statistically highly significant χ^2 (chi square) value of 39.781 and a pseudo- R^2 value of 0.126. The predicted probability that a member from the sample would take up additional activity is 0.23. Accumulated savings (TTSAVE) of members emerged as the major determinant of taking up additional activity. It was found that an accumulated

Table 4. Distribution of respondents according to number of activities undertaken

(in per cent)

| No. of activities | District | | | | | | | | | | | | Overall | | |
|-------------------|-----------|----------|--------|---------|----------|--------|---------|----------|--------|------------------|----------|--------|---------|----------|--------|
| | Sambalpur | | | Khordha | | | Koppal | | | Dakshina Kannada | | | | | |
| | Pre-SHG | Post-SHG | Change | Pre-SHG | Post-SHG | Change | Pre-SHG | Post-SHG | Change | Pre-SHG | Post-SHG | Change | Pre-SHG | Post-SHG | Change |
| 1 | 46.7 | 8.3 | -38.4 | 76.7 | 43.3 | -33.4 | 55 | 18.3 | -36.7 | 30 | 28.3 | -1.7 | 52.1 | 24.6 | -27.5 |
| 2 | 41.7 | 68.3 | 26.6 | 21.7 | 50 | 28.3 | 43.3 | 61.7 | 18.4 | 60 | 50 | -10 | 41.7 | 57.5 | 15.8 |
| 3 | 11.7 | 23.3 | 11.6 | 1.7 | 6.7 | 5 | 1.7 | 20 | 18.3 | 10 | 21.7 | 11.7 | 6.3 | 17.9 | 11.6 |

Table 5. Proportion of respondents who had taken up additional activity in post-SHG situation vis-à-vis pre-SHG situation

(in per cent)

| Additional activity | Districts | | Overall |
|---------------------|---------------------------------------|-------------------------------------|---------|
| | Developed (Khorda & Dakshina Kannada) | Less-developed (Sambalpur & Koppal) | |
| Not taken | 70.8 | 54.2 | 62.5 |
| Taken | 29.2 | 45.8 | 37.5 |
| Total | 100.0 | 100.0 | 100.0 |

savings of ₹ 10000 would increase the probability of a member taking up additional activity by 0.7 points. The members with a higher value of Savings Index (SIND) are likely to start additional activity. However, the amount of loan taken has a negative influence on the probability of taking up additional activity. The members belonging to younger groups are more likely to go for additional activity compared to those from older groups. The demonstration effect and the eagerness to grab opportunities to develop may explain this. As predicted from earlier results, the members from less-developed districts are more likely to take up additional activity compared to their counterparts in the developed districts.

Graduation Index

The graduation index and its components were computed at household level and the average values are given in Table 7. The average value of savings index was 0.097 and it varied between 0.056 in Sambalpur and 0.124 in Koppal. The ME index was 0.290 at the overall level. Combining these two indices with weights of 33 per cent for savings and 67 per cent for ME indices, the graduation index was calculated. The graduation index ranged between 0.176 for Dakshina

Kannada and 0.287 for Koppal with the average value of 0.226 for SHG households as a whole.

Determinants of Graduation Level

Explanatory variables representing member's attributes, SHG-related and environmental or external factors were included in the model to find out the determinants of graduation level. The results are given in Table 8. The member-related attributes like family size (FLYSIZE), age (MMBAGE) and social group affiliation (SC) have depicted a significant influence on the graduation index. While the family size and member's age had a positive influence, social affiliation acted as deterrent to graduation. A member belonging to SC/ ST group is likely to be about 4 percentage points behind others in terms of graduation index. The savings showed a positive influence on graduation level with a statistical significance at 8.9 per cent. If a member has to improve her graduation index by 5.7 percentage points, she needs to have at least ₹ 10,000 of accumulated savings. Intriguingly, loans taken showed a negative influence on graduation index though not significantly. We believed that borrowings should have enhanced graduation levels. Perhaps, the clue lies in the proper use of borrowings. We captured the purpose

Table 6. Results of logit model to identify factors enabling taking up additional activity

(Dependent Variable: ADLACT = 1 if additional activity taken up, 0 otherwise)

| Variable | Coefficient | Z -value | P[Z >z] | Mean of X | Marginal effect |
|------------------------------------|-------------|----------|-----------|------------|-----------------|
| Constant | -0.97271 | -1.14500 | 0.25230 | | |
| AWARE | 0.06847 | 0.50200 | 0.61600 | 2.34896 | 0.01545 |
| DEPRAT | 0.00320 | 0.36100 | 0.71820 | 49.89883 | 0.00072 |
| MMBAGE | 0.00301 | 0.17500 | 0.86100 | 35.72083 | 0.00068 |
| SC | 0.33014 | 0.92000 | 0.35770 | 0.28750 | 0.07447 |
| SIND | 1.39566* | 1.35700 | 0.17470 | 0.09660 | 0.32233 |
| TTLOAN | -0.00003** | -1.82300 | 0.06840 | 8693.74490 | -0.00001 |
| TTSAVE | 0.00031*** | 3.45300 | 0.00060 | 3607.68330 | 0.00007 |
| WHYLOAN | 0.25230 | 0.64700 | 0.51740 | 0.65417 | 0.05691 |
| MODEL2 | -0.32622 | -0.84400 | 0.39840 | 0.68333 | -0.07359 |
| OFFICE | 0.19026 | 0.58900 | 0.55580 | 0.30833 | 0.04292 |
| AGEDUM | -1.50566*** | -4.08600 | 0.00000 | 0.65000 | -0.33965 |
| DEVELOP | -0.82262*** | -2.41800 | 0.01560 | 0.50000 | -0.18557 |
| MOBILE | 0.63157** | 1.66900 | 0.09510 | 0.51667 | 0.14247 |
| χ^2 (chi square) | | | 39.781*** | | |
| Pseudo R ² | | | 0.126 | | |
| No. of observations | | | 240 | | |
| Predicted P (Y =1 x _i) | | | 0.23 | | |

Note: *** highly significant (less than 5%), ** significant (5 - 10%), * moderately significant (10 - 20%)

Table 7. Average savings, ME and graduation index values for sample SHG members

| District | Savings index (SIND) | ME index (MEIND) | Graduation index (GRIND) |
|-----------------------------|-------------------------|---------------------|-----------------------------|
| Khordha, Odisha | 0.101 | 0.299 | 0.234 |
| Sambalpur, Odisha | 0.056 | 0.282 | 0.207 |
| Dakshina Kannada, Karnataka | 0.105 | 0.211 | 0.176 |
| Koppal, Karnataka | 0.124 | 0.367 | 0.287 |
| Overall | 0.097 | 0.290 | 0.226 |

of loan use with a dummy variable, WHYLOAN that takes the value 0 if used for consumption expenditure, and 1 otherwise. This variable turned out to be weakly significant (at 19 % level). A member using the loan for non-consumption purposes is likely to have graduation index of 2.1 percentage points higher than the one using for consumption purposes. The variable PREINC, income levels of households in pre-SHG period, influenced the graduation level significantly, indicating that members with higher income levels had advantage over others in graduating. Model II, where SHGs were promoted by NGOs but financed by banks,

has depicted a negative influence on graduation level though only weakly significant, statistically. The age of SHG (also indicating length of association of members with the SHGs) did not show any impact at all. Two variables representing external factors, namely DEVELOP – representing development status of the district, and MOBILE 1 — representing penetration of ICT, have depicted a significant influence on graduation index. The members from less-developed districts had done better with about 4.4 percentage points ahead of their counterparts from the developed districts. The result is counter-intuitive, but not difficult

Table 8. Determinants of graduation level

Dependent variable = Graduation Index (per cent)

| Variable | Coefficient | t-ratio | P[T >t] | Means |
|---------------------|-------------|----------|----------|------------|
| Constant | 4.73408 | 0.96900 | 0.33340 | |
| FLYSIZE | 1.11921*** | 2.63500 | 0.00900 | 4.67917 |
| MMBAGE | 0.23666*** | 2.99800 | 0.00300 | 35.72083 |
| PREINC | 0.00090** | 1.82200 | 0.06970 | 3948.33330 |
| SC | -3.94611*** | -2.41100 | 0.01670 | 0.28750 |
| TTLOAN | -0.00005 | -0.61800 | 0.53690 | 8693.74490 |
| TTSAVE | 0.00057** | 1.70900 | 0.08880 | 3607.68330 |
| WHYLOAN | 2.11951* | 1.30200 | 0.19410 | 0.65417 |
| MODEL2 | -2.28777* | -1.46500 | 0.14420 | 0.68333 |
| SHGAGE | -0.38155 | -1.10800 | 0.26920 | 4.36355 |
| DEVELOP | -4.39981*** | -2.74100 | 0.00660 | 0.50000 |
| MOBILE1 | 6.29749*** | 2.78000 | 0.00590 | 0.89583 |
| POWER1 | -1.65646 | -0.76000 | 0.44810 | 0.86667 |
| No. of observations | 240 | | | |
| R-squared= | 0.24 | | | |
| F-value (12,227) | 5.97*** | | | |

Note: *** highly significant (less than 5%), ** significant (5 - 10%), * moderately significant (10 - 20%)

to be appreciated as more efforts of government and other development agencies are focussed on less-developed areas and economic agents in those areas also are eager to grab opportunities as part of their survival strategies.

Summary and Conclusions

This paper has considered savings and income-generating activities/micro-enterprises undertaken by SHG members as two dimensions of graduation. It has proposed a conceptual framework for measuring graduation of members into entrepreneurs and exploring the determinants of graduation. The study has focused on four districts from two states, viz. Khordha and Sambalpur (Odisha) and Dakshina Kannada and Koppal (Karnataka), representing developed and less-developed districts, respectively.

The mean proportion of members in an SHG having individual savings bank account has been found to range between 20 and 30 per cent. About 27 per cent of the SHGs did not have any member having individual savings bank account. The less-developed districts have fared better compared to developed districts in terms of savings bank account penetration.

The SHG members opened savings bank accounts, mostly for pro-entrepreneurial purposes.

The SHG members undertook multiple activities ranging from mere wage labour to income generating/micro-enterprises. Membership in SHG helped about 40 per cent of the people in taking up two or more additional activities than before. Farming, followed by wage labour were the primary activities among SHG members. The tendency for taking up additional activities was higher among members from less-developed districts. The members with higher accumulated savings and those who had acquired a mobile phone have shown a higher probability of going for an additional activity. The members belonging to younger groups have shown higher propensity to go for an additional activity.

The graduation level of an SHG member has been measured as a two-dimensional index, individual savings account and micro-enterprises. The average value of graduation index of SHG members was 0.226. Family size, age, pre-SHG income, level of savings, loan used for productive purpose, possessing a mobile phone have been found to be the positive drivers for graduation levels, while affiliation to SC category acted

as a deterrent. The members belonging to Model II where SHGs were promoted by NGOs but financed by banks have shown lower probability of graduating compared to members of other models.

The study has identified personal factors, SHG-related aspects and environment-related factors that helped the graduation process. The analysis has revealed that the commonly known factors are not able to fully explain the variation in graduation levels across members. That is, graduation of members is influenced by many other external factors than we usually think of. This result also suggests differential ability of members to respond to stimuli. This makes the task of up-scaling a little more complex.

The savings have depicted a positive influence on graduation index. Also, members with higher accumulated savings have shown higher probability of starting additional activity. People, especially the resource-poor, may have several hurdles such as temptations testing their self-control, emergencies, etc., for increasing their savings. But, convincing them to save even a smaller amount regularly, can reduce their debt burden so much so that they may one day become even debt free. Borrowings did not emerge as a positive factor behind graduation. Nor it stimulated members to take up additional activities. However, using loan for non-consumption purpose encouraged a higher level of graduation. The members with higher incomes in the pre-SHG situation have displayed an edge over the others.

Scale and scope are the two important aspects that enterprises should look into if they need to survive. Skill upgradation and valuing the market signals and customer preferences are a few other aspects one has to factor in. There are several programmes/schemes working for promoting rural enterprises through various interventions. The important step, hence, is to identify various other concurrent ongoing efforts in a district that can prepare members to undergo the graduation process. Convergence in efforts is an important driver to achieve good results. Training emerged as an important factor in determining the level of graduation of an SHG as a group (Satyasai *et al.*, 2014). Then, imparting training to SHG members through ongoing programmes, say, Rural Entrepreneurship Development Programme (REDP), Skill Development Programme (SDP), Cluster Development Programme run by NABARD or related

programmes of government or other agencies, should be done in a coordinated manner. Often, due to duplication of capacity building programmes, a few SHGs promoted by NGOs with clout are likely to get a better chance. Even development agencies would not have any database to crosscheck. May be it is high time a registry of SHGs with unique identity number may be maintained to streamline efforts to promote, credit link and graduate the SHGs and their members.

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