

# **Microfinance, Self-Help Groups and Empowerment in Maharashtra**

**Raghav Gaiha**  
Faculty of Management Studies,  
University of Delhi  
&  
**Mani Arul Nandhi,**  
Jesus and Mary College,  
University of Delhi

**October, 2007**

## **Abstract**

The present study assesses the benefits of microfinance through self-help groups, based on a specially designed survey in selected villages in Pune district. While the benefits in terms of higher income, consumption, and savings matter for the poor, the focus here is broader, as an attempt is made to also assess some key dimensions of women's empowerment- defined broadly as expansion of freedom of choice and action to shape their own lives. While the targeting of microfinance through SHGs was unsatisfactory in terms of an income criterion, it was better in terms of other indicators of deprivation such as low caste, landlessness and illiteracy. What is, however, noteworthy is that the loans were used largely for health and education of children and for production-related expenses-especially by the disadvantaged. Using different methods and data sources, various dimensions of empowerment were confirmed. Some of the mechanisms involved in it were identified and assessed. Not only do SHGs benefit from the presence of networks, the former also contribute to trust, reciprocity and associational capital (e.g. through strengthening of local institutions). Domestic violence was reduced. However, greater responsibilities for women also involved longer hours of work.

Keywords: Self-help groups, credit, savings, autonomy, trust

## I. Microfinance, Self-Help Groups and Empowerment in Maharashtra<sup>1</sup>

### A. Introduction

The 1990s were marked by partial deregulation of interest rates, greater competition in the banking sector, and a new nationwide microfinance initiative linking banks, NGOs and informal local groups (self-help groups or SHGs).<sup>2</sup> Better known as ‘SHG Bank Linkage’, it is expected to become a dominant form of financial access for the rural poor. However, informal/local moneylenders continue to have a strong presence in rural India, delivering finance to the poor, as a vast majority of them still lack access to formal sources of finance (Basu and Srivastava, 2005, Dasgupta, 2005, and Ghate, 2007). A major challenge therefore is to widen access to finance of the rural poor — especially women as a highly disadvantaged and deprived group — to meet their diverse needs (e.g. savings, credit, insurance against unexpected events) through flexible products at competitive prices.<sup>3</sup>

The present study assesses the benefits of microfinance through self-help groups, based on a specially designed survey in selected villages in Pune district. While the benefits in terms of higher income, consumption, and savings matter for the poor, the focus here is broader, as an attempt is made to also assess some key dimensions of empowerment. Following Narayan (2005), empowerment is defined as “increasing poor people’s freedom of choice and action to shape their own lives” (p.4). The focus therefore is on the *opportunity structure* and *agency* of the poor. In the present context, some key questions are: (i) whether access to microfinance- particularly microcredit — has given women greater autonomy in household decisions relating to allocation of resources, savings and investment; (ii) whether it has helped broaden their role in the public sphere-participation in village Panchayats, campaigns for village hygiene and sanitation, strengthened bonding among members of diverse social and economic backgrounds; (iii) whether density of social networks has been an important factor in the success of SHGs; and, finally, (iv) how sustainable is this form of access to finance.

The analysis is based on a small but detailed survey of members of SHGs in six villages in Pune district, a control group, and representatives of implementing agencies (banks, NGOs, official agencies, Panchayats). Two features of the present analysis distinguish it from others. One is that it uses a combination of methods and data (i.e. quantitative and qualitative); and the second is the elaboration of the forms and processes of empowerment.<sup>4</sup> Through several different exercises and a wide range of indicators, important findings from household responses are validated.

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<sup>1</sup> This study was conducted under the overall guidance and support of T. Elhaut and G. Thapa. The field-work in Pune was conducted by P. Sadolikar and his team of investigators under the authors’ supervision. An earlier version was discussed at a conference organised by Australia South Asia Research Centre, Australian National University, Canberra, in August, 2007. The present version has benefited from the comments of several participants. Data processing and analysis were done by R. Bhatia. We are grateful to Sundeep Vaid and Monica Bugghi for valuable research support. The authors are, however, responsible for the views expressed here.

<sup>2</sup> Microfinance includes a bundle of financial services of small value such as savings, credit, and insurance, designed to serve the needs of the poor. Microcredit differs from other forms of credit where not only the credit amount is small and the clientele poor but also credit is provided with ‘collateral substitute’ and non-financial services for increasing the productivity of credit (Dasgupta, 2005).

<sup>3</sup> Two illuminating surveys are de Aghion and Morduch (2004), and Weiss (2005).

<sup>4</sup> For two recent reviews, see Ghate (2007) and Fernandez (2007).

**B. Overview<sup>5</sup>**

India has a deep financial system, with the share of financial assets in GDP being 93 per cent. This is much higher than corresponding shares in other Asian countries such as China (42.5 per cent) and Korea (64.7 per cent). This is largely a result of India's vast network of financial institutions. Following the bank nationalisation in 1969, there was a rapid expansion of banking in rural India (at an annual average of 15.2 per cent), about double the rate of growth of branches in semi-urban (6.4 per cent), urban (7.8 per cent) and metropolitan areas (7.5 per cent) during 1973–1985 (Basu and Srivastava, 2005).

The share of banks in total rural household debt was barely 2.4 per cent until 1971. Following the bank nationalisation, this share rose to 29 per cent in 1981 and that of all formal or institutional sources (including cooperatives) reached 61.2 per cent in 1991. Disbursement per hectare increased from Rs 72.3 in 1980–81 to Rs 275.13 in 1999–2000 (at constant prices), a substantial increase over 19 years (Dasgupta, 2005).

As no comprehensive survey of rural access has been conducted since 1991, a World Bank-NCAER Rural Financial Access Survey (RFAS-2003) in two states, Uttar Pradesh and Andhra Pradesh, facilitates some comparisons over 1991–2003.<sup>6</sup>

About 41 per cent of the rural households have a deposit account and 21 per cent have access to credit from a formal source. Banks are the largest source of finance for rural households among those with access to formal sources (accounting for 51 per cent of credit from these sources). But it is largely richer households who have benefited from expansion of rural banking, as 66 per cent of large farmers have deposit accounts, and 44 per cent have access to credit. By contrast, 70 per cent of marginal/landless farmers do not have a bank account and 87 per cent do not have access to credit from a formal source (Basu and Srivastava, 2005).<sup>7</sup>

Access to formal sources — especially of the poor — is limited as they often need to borrow for unexpected contingencies (e.g. death, sickness, accidents) from relatives/friends, and local moneylenders. In RFAS-2003, over 90 per cent of households financed unusual expenses from cash at home, and the second largest source was informal loans from relatives/friends and local moneylenders. New sources such as Kisan Credit cards cover a tiny fraction. Access to other financial services, such as insurance, is also limited, as 82 per cent of the rural households surveyed did not have any insurance, and none of the poorest.

There are marked regional differences in the distribution of financial services, with a considerably lower access in economically backward regions.<sup>8</sup> Of special concern is the exclusion of the rural poor from access to formal financial services. From the point of view of rural banks, catering to the rural poor is highly risky and costly. Highly irregular income streams and expenditure patterns drive up default risk. These difficulties are compounded by lack of collateral, delays in recovery of loans, and inability to make productive use of loans. On the other hand, small rural borrowers are reluctant to borrow from banks, as they cannot borrow and repay in small instalments. Besides, they incur high transaction costs- including time needed to go to a bank branch, elaborate procedures for opening an account (and the bribes involved), and long waiting periods. As a result, despite interest rate caps, the cost to borrowers is very high (Basu and Srivastava, 2005).

<sup>5</sup> This draws upon two excellent surveys (Basu and Srivastava, 2005, and Dasgupta, 2005).

<sup>6</sup> Two recent comments by Chavan (2005) and Subba Rao (2005), based on National Sample Survey (NSS) data, overlook the limited coverage in terms of occupational categories of NSS results.

<sup>7</sup> Marginal farmers are defined as those with landholding < 1 acre; small with landholding between 1 to 4 acres; and large farmers with landholding >4acres.

<sup>8</sup> For details, see Gaiha and Nandhi (2005).

Unavoidably, most rural borrowers — especially marginal and small landholders — rely heavily on informal sources. Informal loans are usually of a short-term nature. Other features that make such loans attractive are easy access, flexible repayment schedules and limited reliance on collateral requirements.

### ***C. Social Banking Experiment and Rural Poor***

After bank nationalisation in 1969, the Indian government launched an ambitious programme to improve the access of the rural poor to formal credit and saving opportunities. A key feature of this programme was bank branch expansion into unbanked rural locations (i.e. rural areas without any formal credit or saving opportunities). To further promote banking facilities in such locations, the Reserve Bank of India (hereafter RBI) announced a new branch licensing policy in 1977 which operated until 1990.<sup>9</sup> Under this policy, in order to obtain a license for opening a new branch in a location with one or more branches (i.e. in a banked location), it was mandatory for a bank to open four branches in an unbanked location (referred to as the 1:4 licensing policy). To ensure that this expansion translated into greater credit and saving opportunities for the rural population, the RBI introduced additional policy changes. Between 1969–90, the rural lending rates were kept lower than urban rates, with the opposite being true of savings rates. Besides, lending targets for the so-called “priority sectors” were imposed. The latter comprised small businesses/entrepreneurs, and agriculture.

A recent review confirms the favourable effects of this banking reform, as there was a marked shift in savings mobilisation and credit disbursement in rural India.<sup>10</sup> These shifts were associated with a significant reduction in rural poverty over the period 1977–90.

While this finding is plausible, one missing dimension is the cost of the social banking experiment, relative to other credit channels (e.g. microcredit). So, despite the strong evidence, little can be said about the cost-effectiveness of the resources invested in this experiment. In particular, the high transaction costs for the poor—reflected in the time wasted and bribes paid—raise serious concerns.<sup>11</sup>

### ***D. Microfinance in India—Approaches and Progress***

As access to formal finance — including subsidised credit through IRDP and its recent variant *Swaranjayanti Gram Swarozgar Yojana* (SGSY) — of the rural poor has been limited, two microfinance approaches have been experimented with. One is the SHG Bank Linkage and the other is the “Grameen type” /or microfinance institution model.<sup>12</sup> These are designed to combine the safety and reliability of formal finance with the convenience and flexibility of informal finance. A stylised description of three approaches — including the individual banking component — is given in Table 1. No further comment is made on the individual banking component as it is relatively small.

The progress of microfinance so far has been modest. A notional estimate of the poor benefiting from it is 5 per cent at the all-India level, as compared with 65 per cent in Bangladesh (Basu and Srivastava, 2005).<sup>13</sup> Of the two approaches, the SHG Bank Linkage dominates the MFI model in scale and outreach.

<sup>9</sup> Since 1990, branch expansion is governed by ‘the need, business potential, and financial viability of the location’ (GOI, 1991). Banks are, however, not permitted to close a rural branch if it is the only one serving a location.

<sup>10</sup> For details, see Burgess and Pande (2005).

<sup>11</sup> For an assessment, see Gaiha and Nandhi (2005).

<sup>12</sup> Dasgupta (2005) distinguishes three different approaches by splitting the SHG Bank Linkage into two components — one in which SHGs are developed by banks and another in which formation of SHGs is assigned to NGOs but credit in both cases is given by the same bank.

<sup>13</sup> Since it is a common practice to divide the total number of microfinance beneficiaries, without distinguishing the poor from the non-poor, by the number of the poor, this is likely to be an overestimate.

## 1. SHG Bank Linkage

Launched by some NGOs in the 1980s, this approach gathered momentum in the 1990s. Legal obstacles were removed, subsidies were given so that SHGs could take loans from banks for distribution among their members and invest in micro enterprises or meet contingencies. The rate of interest is decided by SHGs in accordance with their own rules for loan distribution (usually 2–3 per cent per month). Savings of SHGs are assigned to a group deposit account in a bank, against which the SHGs borrow (at about 12 per cent per annum).<sup>14</sup> So both group savings and joint liability act as collateral. NABARD provides refinance facilities to banks for such lending. The demand for refinance has declined as banks now find it attractive to lend to SHGs, given the low default rate (less than 1 per cent) compared with 11–12 per cent on their regular portfolio.<sup>15</sup>

There has been a rapid expansion of SHGs and credit disbursements through them. The number of new SHGs provided with bank loans (cumulative) rose from 263, 825 in 2001 to 2,238, 565 in 2006. Bank loans disbursed (cumulative) rose from Rs 481 crore to Rs 11,398. Rate of growth of repeat loans, however, slowed down from 91 per cent in 2002 to 34 per cent in 2006. Average loan size rose substantially — from Rs 19,379 in 2001 to Rs 37, 574 in 2006 (Ghate, 2007).<sup>16</sup>

Although this programme continues to be heavily skewed in favour of three southern states (Andhra Pradesh, Tamil Nadu, and Karnataka), the share of new loans for the four southern states (above three and Kerala) fell from 49 per cent in 2005 to 44 per cent in 2006, and of cumulative loans from 58 to 54 per cent. In 2005, NABARD identified 13 priority states accounting for 70 per cent of India's poor for location-specific strategies. Number of SHGs linked in these states rose by 68 per cent in 2005 and 51 per cent in 2006 (Ghate, 2007).

A useful finding is that it costs about Rs 10,000 to launch and train a group. One of the criticisms is that the amount NABARD provides to self-help promotion agency (e.g. Rs 3000 per group to an NGO) is inadequate. Although NABARD expects these agencies to cross-subsidise from other activities, it is arguable that the annual promotional costs are no more than the annual subsidy spent by the central government on the SGSY programme (Ghate, 2007).

A recent study of four states (Andhra Pradesh, Karnataka, Orissa and Rajasthan) offers valuable insights into the functioning of SHG-Bank Linkage Programme (EDA and APMAS, 2006). 51 per cent of the members were poor, 55 per cent belonged to the SC/ST category, and 66 per cent of SHGs were single-caste SHGs. However, one-third had mixed-caste membership. 72 per cent of the membership had had no schooling at all. In only 51 per cent of the groups more than half the members had primary school education. This acted as an impediment to book-keeping and maintenance of records. Average monthly savings were Rs 45, and cumulative member savings Rs 2400. The modal interest rate charged on loans to members was 2 per cent per month. 77 per cent of the groups had borrowed from banks or federations at least once, for an average of 2.5 times. For a subset of the sample (with balance sheets) the ratio of external borrowings outstanding to internal capital was 1.43. Loans were relatively well distributed among members, with low variance around the mean. The proportion of non-borrowers was 7 per cent. The proportion of defunct groups was 7 per cent, which is low considering that the average age of a group was 6 years.

<sup>14</sup> The ratio of loans to savings is typically 2:1, as against the norm of 4:1. Basu and Srivastava (2005) report that the latter is also the actual. This is not corroborated by earlier field-work in Maharashtra (Gaiha, 2001).

<sup>15</sup> In a review of Maharashtra Rural Credit Project (MRCP), funded by IFAD, no defaulters were reported. For details, see Gaiha (2001). As noted earlier, this is significantly higher than recovery rates under SGSY in 2004 (Dasgupta, 2005).

<sup>16</sup> Basu and Srivastava (2005) report that the outreach is low considering that SHGs cover 12 million women in a country where 460 million people live on less than \$/day. In fact, it is arguable that the outreach is even lower as the presumption that all SHG members are poor is not corroborated. For illustrative evidence, see Gaiha (2001).

**Table 1**  
**Features of Microfinance Approaches<sup>1</sup>**

<i>Features</i>	<i>SHG</i>	<i>Grameen</i>	<i>Individual Banking</i>
Clients	Primarily women	Primarily women	Primarily men
Groups	15-20 clients per group	Usually 5 clients per group (organised into centres of 4-6 groups)	Individual clients
Services	Savings and credit	Credit-regular cycle	Credit
Role of MFI staff	Guide and facilitate	Organise (groups dependent on staff)	Organise
Meetings	Monthly	Weekly	Individual transactions — often daily
Savings deposits	Rs 20-100 / month	Rs 5-25/week	Flexible
Interest on savings	Bank rate (4.25 per cent)+profit share	6-9 per cent	6 per cent +
Initial loan amount	Rs 5-10,000	Rs 2-5000	Rs 5-15000
Effective interest rate	24-28 per cent	32-38 per cent	23-38 per cent
Insurance	Sometimes loans linked to health and life insurance	Sometimes loans linked to health and life insurance	Sometimes loans linked to health and life insurance
Development services	Some associated programmes	Small social projects	Enterprise support

Adapted from Sinha (2005).

While the number of dropouts is low, only a fifth of them were paid their full share of interest and other income on group operations when they exited, mainly because the records were not well-maintained. Record quality was good in only 15 per cent of the groups, moderate in 39 per cent and weak in 40 per cent (and unavailable for the remaining). Pass books were up-to-date in 72 per cent of the groups.

On the criterion that a loan is overdue if the repayment is overdue for 90 days, 24 per cent of current borrowers had overdues. Overdues were highest for the very poor borrowers. Another measure of portfolio quality is portfolio at risk (PAR). For 45 per cent of the groups the PAR (of 365 days) was 17 per cent.

## **2. Microfinance Institutions (MFI)**

The MFI acts as an intermediary, as the SHG does, but borrows much larger amounts from the banks (mostly private banks without rural branches) for a much larger number of members (about a million for the largest MFI in India). These members are organised into groups- a five- member Grameen-type group, or a larger ‘joint-liability’ group (JLG), or even SHGs.<sup>17</sup> Lending to groups, regardless of the name given to them, involves the joint and several liability of all members. This is exercised through peer group pressure and the risk of being denied future loans. An important difference between SHG and other groups is that in the former the loan is a single loan to the group as a whole, which then decides how to allocate it among its members: while among other groups, the MFI records and tracks loans individually, although disbursement and collection are facilitated by the group mechanism (Ghate, 2007).

The MFI model in India is characterised by a diversity of institutional and legal forms. Beginning with SEWA, several registered societies and trusts started group-based savings and credit with donor funding in the 1980s. Towards the end of this decade, others began replicating the Grameen model, financed initially by donors but increasingly by apex financial institutions such as the SIDBI, Friends

<sup>17</sup> Note that Grameen-type lending is a special case of MFI model.

of Women's World Bank (FWWB) and Rashtriya Mahila Kosh (RMK). During the 1990s, several medium and large MFIs turned into Non-Banking Finance Companies (NBFCs), making it easier to attract investments as shareholder equity. Also, with the passage of the Mutually Aided Cooperative Society Act (MACs), the number of cooperatives registered under this act-including SHG federations-grew (Ghate, 2007).

Based on a sample of 68 MFIs for which data were available for the period 2003–05, there was rapid growth — 63 per cent overall in terms of outreach in 2004–05, up from 46 per cent in 2003–04. Growth was, however, concentrated in two regions, the south and the east, which accounted for 95 per cent of the membership. It takes 5–10 years for an MFI to attain operational sustainability. Only when MFIs become large with an outreach of 50,000 and gross loan portfolio (GLP) of Rs 20 crore, do they become sustainable (Sa-Dhan, 2005, and Ghate, 2007). However, using the same size- classification in terms of GLP, but a smaller sample, another survey reports that even medium MFIs are sustainable, and have positive returns on assets and on equity (MIX, 2006, and Ghate, 2007).

### *Comparative Analysis*

A recent survey carried out by EDA Rural Systems in 2004 offers useful insights into their efficacy in serving the financial needs of the poor (Sinha, 2005). SHGs emerge as the preferred option in terms of flexibility of purpose, ease of access to loans, quick disbursement, low cost, and flexibility of repayment schedule. As groups mature, and savings accumulate, members have easier access to internal group loans of varying amounts and for different purposes at a relatively low cost. A more recent and richer assessment of the two models reviewed here offers additional insights (Ghate, 2007). An advantage of the SHG model is the empowerment of millions of rural women (currently 31 million) of which half are below the poverty line.<sup>18, 19</sup> Another is that its potential for expansion is greater, given the vast network of bank branches and Primary Agricultural Cooperative Societies (PACSs). However, a disadvantage is that the average loan size goes up much more slowly than in the MFI model, as it is tied to savings performance, and the loan cycles are much longer (the average tenor of bank loans to SHGs is 2.5 years as opposed to 1 year under the MFI model). MFIs, on the other hand, have the advantage that they can borrow huge amounts from the banks and increase loan size in response to demand. The MFI model does not, however, provide for savings (unless the MFI is a cooperative). But this is a result of the regulatory environment in India.

### **3. Cost-Effectiveness of SHG-Bank Linkage**

A recent study of SHG-Bank Linkage, based on data collected from bank branches in Andhra Pradesh and Karnataka, corroborates its financial viability.<sup>20</sup> The main findings are summarised below:

- SHG banking is profitable in all cases, despite a relatively low interest rate. Return on average assets (ROAs) ranges from 1.4 per cent to 7.5 per cent, and operational self-sufficiency ratios (OSS) from 110 per cent to 165 per cent.
- SHG banking is more profitable than bank, branch or cooperative society, based on average cost.
- This is more so when ROAs and OSS ratios are computed using marginal costs.
- Higher interest rates- from 12 per cent to 15 per cent- will result in higher profits. But there is no guarantee that targeting accuracy would not diminish.
- The analysis, however, of empowerment of women is weak and sketchy, as the details of measurement and cross-validation are not given.<sup>21</sup>

<sup>18</sup> Note that this is substantially higher than our estimates. This is largely attributable to differences in the methodologies used.

<sup>19</sup> See also Fernandez (2007) for an exposition of the process of empowerment.

<sup>20</sup> For details, see Seibel and Dave (2002).

<sup>21</sup> For details, see Gaiha and Nandhi (2005).

Another recent study, undertaken in four states, compares regional rural banks, commercial banks and both models of SHG-Bank Linkages (i.e. loans are given directly to SHGs in one, and through NGOs in the other).<sup>22</sup> Although the transaction cost of lending to SHGs is more than the normal lending for the first loan, it falls markedly with the second loan (by nearly 48.5 per cent). When lending is done through NGOs, transaction costs are lower by 90 per cent, as compared with normal lending by branches. Besides, even without a portfolio of high value advances, rural bank branches can turnaround if a substantial share of their lending is through SHGs. Finally, the reduction in transaction costs to the borrowers is also large. Thus both borrowers and lenders benefit.

### ***E. Data***

The present study is based on primary data collected from six villages in Pune district in Maharashtra (viz. Fursungi, Fulgaon, Zargadwadi, Dorlewadi, Godre and Botarde). After selection of villages, a list of SHGs in these villages was obtained. From the members' list, a random selection of participants who had availed of at least one loan was made. Thus, from each village, 12 participants were interviewed. Non-participants were also randomly picked from these villages making sure that Scheduled Castes and Tribes (SC/STs) and other deprived groups were included. Altogether, 25 non-participants- 4 from each village- constituted the control group.

Five officials at the District and Block levels (including Director, Rural Development Agency, Block Development Officer, Extension Officer) were interviewed mainly to get an overview of the role of microfinance in rural development and poverty alleviation.

Eight Panchayat/village council members were interviewed (including three Sarpanches (Chairperson of village council), one Deputy Sarpanch, two Panchayat members, and two Gramsevaks/village level workers). These were selected from the sample villages. They were interviewed because of their key role in implementing SHG-Bank Linkage programme, and to cross-validate the empowerment of women. Besides, a mixed group comprising a school teacher, a President of SHG Federation, an ex-member of Panchayat, and an ex-Sarpanch were interviewed for further corroboration.

In all, eight NGOs working in these villages were interviewed. Three animators from each block were interviewed, to understand better the difficulties encountered in forming SHGs, in organising their meetings, in maintaining the records of decisions taken, and whether the nature and quality of training imparted were appropriate.

Seven bank officials involved in microfinance were interviewed. While three of these belonged to field- level branches, the rest were posted at the district headquarters. One representative of MAVIM, which has been actively involved in SHG formation and training, was also interviewed to assess the quality of SHGs, their sustainability, and linkages with other SHGs and local institutions such as Panchayats, and banks.

### ***F. Methodology***

Different methods and data sources are used to assess the formation and impact of SHGs on the well-being of members and others. Attention is given to whether in addition to individual/household characteristics (e.g. age, education, wealth, occupation, caste) village /community characteristics play an important role in the formation of SHGs (e.g. density of formal/informal networks). In assessing impact, a detailed analysis is carried out of whether credit channelled through SHGs raises incomes, and savings, reduces dependence on local money lenders, whether it enables women to have greater autonomy in household decision-making, reduces domestic violence against women, broadens their public domain, and induces a greater sense of bonding/reciprocity and building of associational capital.

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<sup>22</sup> For details, see Satish (2005), and Srinivasan and Satish (2001).

Cross-tabulations are supplemented by a detailed econometric analysis that allows more rigorous testing of key hypotheses. A main point of departure of the econometric analysis is that a two-stage procedure is used in which first the sorting of household members into participants and non-participants is analysed, followed by an assessment of how the impact varies in terms of not just income but also broader indices of well-being that encompass autonomy of borrowers in both domestic and public domains.<sup>23</sup>

As empowerment has many dimensions and is hard to measure, cross-validation or triangulation through different sources of data and methods is necessary.<sup>24</sup> The econometric analysis carried out is one form of (method) cross-validation of household responses, with the advantage that the effects of various factors can be controlled for to focus on that of a specific household trait (e.g. caste, or education or marital status). Another form of cross-validation (data) is by taking into account the views of bank and government officials, Panchayat members, NGOs, and others.

## **G. Findings**

### **1. Targeting**

Targeting accuracy can be judged using different indicators. These could be monetary or non-monetary. Both are used in the present study.

The largest proportion of SHG members (37.4 per cent) belonged to labour households — a highly poverty prone group — followed by Others (34 per cent) and cultivating households (about 28 per cent). This contrasts with the distribution of the control group, as the share of those belonging to labour households was the lowest (20 per cent).

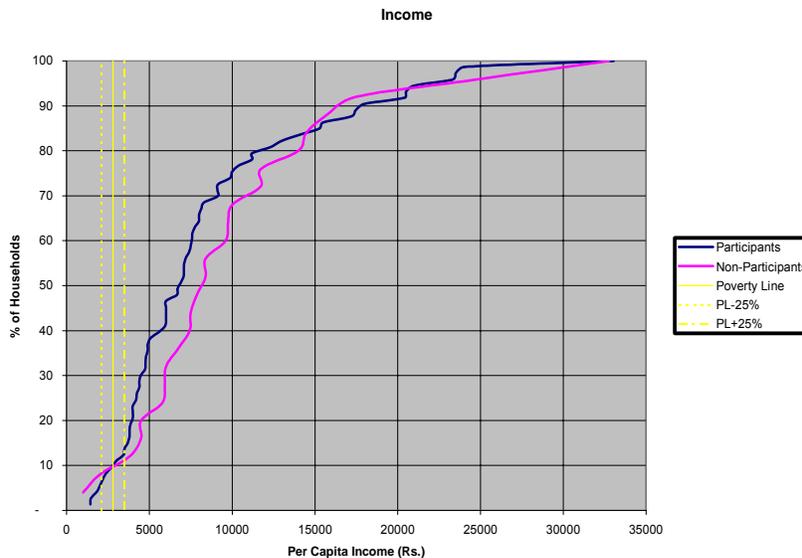
However, as shown in Fig. 1, the majority of the participants were well above the poverty cut-off point of Rs 2800 per capita annually (at current prices).<sup>25</sup> Well over 90 per cent of the participants had incomes higher than this cut-off point. Even if the cut off point is raised by 25 per cent (i.e. if it is taken to be Rs 3500), barely 14 per cent of the SHG members would be classified as poor. In fact, when the cut off point is doubled (i.e. if it is taken to be Rs 5600), no more than 40 per cent of the SHG members were poor. So whatever the poverty cut-off point within this large range, the majority of the participants would be considered as non-poor or relatively affluent.

To the extent that SC/ST/OBCs are more prone to economic and other forms of deprivation- including social exclusion-the fact that over two thirds of the SHG participants belonged to them suggests that deprived sections benefited through this intervention. The fact, however, that even among the control group the share of SC/ST/OBC households was higher suggests that a large segment of the deprived groups was also left out. Moreover, since the share of upper castes among SHGs is non-negligible, it follows that the benefits also accrued to sections that were (relatively) affluent.

<sup>23</sup> This is based on a modified version of Heckman's selection model. A brief exposition is given in Annex 1. For details, see Greene (1993), and for an algebraic exposition, see Gaiha and Nandhi (2005).

<sup>24</sup> See, for example, a new and influential study edited by Narayan (2005), and a review by Gaiha (2006).

<sup>25</sup> This is based on a poverty cut-off point of Rs 15 per capita per month at 1960–61 prices, adjusted for price changes using the Consumer Price Index for Agricultural Labourers in Maharashtra. This cut-off point has been extensively used in the Indian poverty literature. For details, see Gaiha and Nandhi (2005). There have been some suggestions in the recent literature that this cut-off point is much too low. See, in particular, Sen (2005) and Srinivasan (2007). The latter, however, remains sceptical of anchoring poverty lines to average calorie norms.



**Fig: 1 Targeting of SHGs**

Source: Gaiha and Nandhi (2005)

Economic well-being depends on some forms of capital. Human capital is an important component of it. Educational attainment is a specific form of human capital. A large fraction of SHG members is illiterate or possesses primary education. About 40 per cent possess middle level of education and a small fraction consists of matriculates or above. A similar distribution is obtained for the control group.

Nearly 70 per cent of SHG members were landless or nearly landless. The corresponding share of the control group was markedly lower (40 per cent). So to the extent that lack of ownership limits income enhancing options, SHGs covered a large subset of households disadvantaged in this respect. The average landowned among SHG members was 0.70 acre as against 2.02 acres among the non-participants.

Although a large majority of SHG members were permanently employed, many were seasonally or temporarily employed. In parts of Maharashtra with semi-arid or arid conditions, slack periods tend to be long. So to the extent that SHG loans help finance productive activities, the income gains would enhance welfare significantly. By contrast, a much larger majority of the control group reported that they were permanently employed.

## 2. Formation of SHGs and Other Features

First, an attempt is made to get a deeper understanding of how SHGs are formed, how long does it take to borrow, and SHGs' functioning.

A majority of SHGs were formed in  $\leq 2$  months, another 20 per cent in  $2 < \leq 5$  months, and the remaining 20 per cent in  $\geq 5$  months. In fact, a non-negligible number of SHGs (10) were formed in  $\geq 24$  months. So there was considerable variation in the time taken to form SHGs.

Major roles were played by NGOs, and Village Panchayats (including Village Level Worker/Gramsevak). Although the role played by friends, relatives and members of the village community was less significant, it was far from negligible.

Well over half the respondents confirmed that the formation of their SHGs was influenced by other successful groups or a group that existed before and performed well. There was, however, considerable variation across the sample villages. For example, barely 36 per cent of the respondents confirmed such externalities in Godre, while 75 per cent did in Botarde. So it is imperative to understand why such externalities differ across the sample. It is interesting that over 65 per cent of SC/ST/OBC respondents acknowledged the positive impact of other SHGs. By contrast, a much smaller share of upper caste respondents did (about 36 per cent). Perceptions also differed by landownership. More than half of the near landless and landless shared this view while a much smaller share of those owning more than 4 acres did (barely one-third). A corroboration of this by group leaders and deputy leaders is significant-about 71 per cent of SHG leaders and Deputy Leaders.

The mean duration of SHGs was high in the aggregate sample (about 5 years) as well as in each of the 6 villages (ranging from about over 3 years to over 7 years). The range of membership also varied considerably. Since the minimum duration was 2 years, and over 48 per cent had been members between 2-4 years, it follows that survival rates of SHGs are high.

A clear pattern pointing to a close correspondence between membership of a network (associational capital) and of SHG does not emerge. Among SHG members, however, a large majority (about 89 per cent) reported that they belonged to small and closely knit groups, and a small but not insignificant share (7 per cent) to large and closely knit groups. In the control group also, a large majority belonged to small and closely knit networks but the share was smaller. However, larger fractions belonged to small or large loosely knit networks.

### **3. Functioning of SHGs**

About a quarter of SHGs comprised 10 members or less; about 36 per cent comprised 20 members; and thus the largest concentration (about 38 per cent ) was in the range of 10-20 members.

About 71 per cent of the leaders belonged to SC/ST/OBC households, and about 19 per cent to upper castes. About 14 per cent were illiterate, about 33 per cent had primary schooling and about 48 per cent had middle level education.

About 57 per cent of SHG respondents reported (properly specified) entry and exit rules such as entry requirements, size of group, attendance requirements, mandatory savings and refund of savings in case a member opts out. About 65 per cent confirmed monthly meetings. About 67 per cent reported that members regularly attended these meetings. About 73 per cent confirmed proper maintenance of records.

Judging by these indicators, most of the SHGs functioned satisfactorily.

## ***H. Loans, Use, Yields and Repayment***

### **1. Loans**

First, some descriptive statistics on the period of interface between SHGs and banks, loan amounts, number of loans, and repayment rates are given, followed by an analysis of use of loans and yields.

Not only does it take time to form an SHG but also for an SHG to interface with a bank to start borrowing. Some illustrative evidence on the latter is given, as variation in it depends on several factors: quality of leadership, financial discipline among SHG members, and attitude of bank officials. Except in Godre and Botarde, the average time taken was about a year or more. In Zargadwadi, for example, the average time for interface was about 33 months.

Average loan amount of a poor SHG member (i.e. with income per capita  $\leq$  Rs 2800) was considerably lower than that of a non-poor member (Rs 1916 and Rs 3088, respectively). Also, the total amount borrowed was much lower (Rs 7795 and Rs 12605, respectively).<sup>26</sup>

In general, average loan amounts were low and varied among the sample villages. The range of first loans also varied both *between* and *within* villages (e.g. in Dorlewadi, the loan amounts ranged from Rs 600 to Rs 10000). Another striking difference is in loan amounts disbursed. Dorlewadi and Fursungi, for example, accounted for over 62 per cent of the loans disbursed.

What is also interesting to note is that many SHG members took subsequent loans. Few, however, did not. In three villages, there were a few respondents who did not take a subsequent loan while the maximum number of subsequent loans in each of these ranged from 7 to 9. In Zargadwadi, the maximum number of subsequent loans was 15. So, as a measure of catering to the financial needs of members and financial discipline among them, SHGs were performing well.

The repayment rates were high, with the mean for the sample (60 observations) being as high as 85 per cent and a relatively low standard deviation (26.59). Disaggregating the sample first by income categories, we note that the repayment rates were highest among the poorest (100 per cent), followed by affluent groups i.e.  $>$ Rs 5600 (over 90 per cent).

In another classification based on caste affiliation, the SC/ST members had a high repayment rate (about 82 per cent), the Upper Caste members had a much higher rate (about 93 per cent), and Others had the maximum rate (100 per cent). As many among the SC/ST/OBC members are among the poorest, this is yet another confirmation of high repayment rates among the poorest.

The proportions of borrowers who missed repaying a loan instalment were, however, non-negligible—particularly in two villages viz. Godre (83 per cent) and Botarde (42 per cent). Although the importance of reasons stated varied with the sample village, at the aggregate level, irregularity of income was the most important reason, followed by the equally important roles of stringency of repayment schedule and contingencies (e.g. illness). Even though based on a small subset of the sample (27 responses), these findings are plausible.

## 2. Use of Loans

While the poor use a higher share of loans for consumption than the non-poor, the former also spend higher shares on health and education, and production/investment. What is perhaps also somewhat surprising is that both the poor and non-poor spend relatively low proportions on repayment of earlier loans.

More than a moderate proportion of SHG borrowers used loans to buy assets (e.g. 33 per cent of the borrowers in Zargadwadi). Of these borrowers, 38.5 per cent bought a goat, 15.4 per cent bought a buffalo or a cow, and 46.2 per cent bought other assets (e.g. poultry). In the aggregate sample, 49 per cent of those who bought assets still retained them.

In response to a related question about who used the asset, about 32 per cent reported that the question was not applicable to them; about 38 per cent of the respondents claimed that they themselves did; 3 per cent reported that their husbands did; and about 10 per cent reported that the asset was used by the family. Even if the share of the respondents claiming that they themselves used the asset was somewhat inflated, it is significant that male dominance is not so pervasive.

## 3. Loan Yields

The rates of return are a notional measure of profitability of SHG loan financed investments. Two caveats are necessary. (i) The adjustment for rents, interest and labour costs are based on whatever

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<sup>26</sup> This is based on the credit history of each participant.

data could be extracted from household responses. So to claim precision for these estimates would be misleading. (ii) Moreover, while there is a small number of loss making investments (in fact two), in a large number of investments, the returns are quite high (over 100 per cent). The latter are not implausible, as small investments often yield high returns. However, it is unlikely that such high returns will be maintained when services provided (e.g. tailoring) become more competitive. So generalisations from these rates of return are difficult.

Disaggregating these results by income and caste categories, we get a pattern of returns that runs contrary to the presumption that the poor lack the skills to engage in remunerative self-employment. Regardless of the poverty cut-off point chosen, a very high share of the poor earned returns in excess of 50 per cent annually. For example, if the cut-off point chosen is Rs 5600, over 57 per cent of the poor earned returns exceeding 50 per cent. Among SC/ST/OBC respondents, 68 per cent recorded returns above 50 per cent.

#### 4. Repayment of Loans

1. Who is responsible for repaying the loan was not answered by about 60 per cent of the respondents. About 10 per cent of the respondents claimed that it was their responsibility to repay the loan; about 26 per cent attributed it to their families; and the rest to their male spouses/household heads.

**Table 2**  
**Rates of Return on Investment**

<i>Annual Rates of Return (%)</i>	<i>Relative Frequency (%)</i>	<i>Cumulative Frequency (%)</i>
≤ 0	5.3	5.3
0-25	23.7	28.9
25-50	7.9	36.8
50-75	18.4	55.3
75-100	21.1	76.3
≥100	23.7	100
Total	100	

*Source:* Gaiha and Nandhi (2005). These estimates are based on a subsample of respondents who used SHG loans for production.

Turning to the question of who decided the use of income from SHG loans, about 9 per cent did not answer; about 21 per cent claimed that they did; about 6 per cent reported that their husbands did; and the remaining reported that it was a joint decision of the family (including cases in which household heads decided).

#### *I. Savings*

An important contribution of SHGs in inculcating financial discipline and in protecting the vulnerable from shocks is to induce the members to save.

As savings are a mandatory feature of SHGs, it is not surprising that either all or a large majority of members (varying from about 69 per cent in Fursungi to 100 per cent in Zargadwadi) reported regular savings. Among SC/ST/OBC members — usually a deprived and socially excluded group—about 82 per cent saved regularly.

Savings serve several purposes. These include meeting contingencies (e.g. illness, death, loss of income), buying of assets and meeting health and education expenses of children. Out of the total responses of the participants, 47 per cent included savings as a form of insurance against contingencies; 39 per cent included savings for financing investment in children's education and

health; and the remaining (14 per cent) included financing of investment in physical assets. Even among the poor, about one third of the responses favoured savings as an insurance against contingencies, while the remaining responses emphasised use of savings for children's health and education. Among the non-poor, over 48 per cent of the responses favoured use of savings as an insurance against contingencies while about 37 per cent favoured use of savings for children's health and education. The remaining (about 14 per cent of the responses) also favoured use of savings to buy physical assets. Even if participant responses are classified by caste, about 46 per cent of the responses of SC/ST/OBC emphasised saving for contingencies, about 43 per cent drew attention to the need for financing investment in children's health and education, and the remaining (11 per cent) to using savings for buying physical assets. By contrast, Upper Caste responses favoured use of savings against contingencies (about 55 per cent), and over one-fifth for investment in children's health and education, and for buying physical assets. Even if we consider the responses of the landless-many of whom are among the poorest-about 45 per cent favoured saving for contingencies, and 40 per cent for investment in children's health and education. So what emerges from this evidence is the potential of self-insurance through savings.

The case for self-insurance is further reinforced by the regularity of saving deposits by the poor and deprived. In the aggregate sample of participants, about 86 per cent deposited savings regularly. Among the poor (i.e., those with per capita incomes  $\leq$  Rs 2800) all saved regularly, while among the most affluent (i.e with per capita incomes  $\geq$  Rs 10000) 94 per cent did. A high fraction of the landless (over 80 per cent) also saved regularly. Across castes as well, the variation is relatively small. About 82 per cent of SC/ST/OBC participants saved regularly as against a slightly higher proportion of Upper Caste participants (93 per cent).

### ***J. Empowerment***

Empowerment was corroborated by different sources in varying degrees. Clearly, some response errors arising mainly from interpretational ambiguities and a general reluctance to be negative about certain outcomes cannot be ruled out. So taking these responses at face value may be problematic. However, the consistency between different but related indicators of empowerment cannot be overlooked.

**Table 3**  
**Indices of Empowerment**

<i>Index</i>	<i>Yes (Frequency)</i>	<i>Yes (Relative Frequency %)</i>
Greater Self-Confidence	72	98.6
More Assertive Role in Domestic Sphere	71	97.3
Greater Respect within Family	70	95.9
More Assertive Role in Children's Health and Education	63	86.3
Reduction in Domestic Violence	59	86.8
Greater Participation in Community Affairs	60	82
More Active Participation in Panchayats	53	72.6
Increased Awareness, Self Confidence to Improve Family and Community Lives	63	86.3
Gained New Skills	31	42.5
Better Buying and Selling Skills	31	42.5
Better Prices for Products	26	35.6
Independent Marketing	29	39.7
Better Agricultural Practices	10	13.7

*Source:* Gaiha and Nandhi (2005)

Just about all or a large majority of SHG participants reported that they had gained self-confidence, greater respect within the family, a more assertive role in family decision-making, and there was a reduction in domestic violence. A more specific question- whether the respondent had a more important role in children's health and education- however, yielded a positive response from 63 SHG borrowers (86.3 per cent). In the broader community sphere, a considerably lower share of respondents yielded a positive response- the lowest was 53 (72.6 per cent) in terms of more active participation in *Panchayats*. This is plausible as women's participation in *Gram Sabha* meetings is often low-usually lower than that of men. Interestingly, the overall index of empowerment that takes into account both better awareness and participation in community activities is corroborated by 63 respondents (over 86 per cent).

Another form of empowerment is ability to market independently and acquire buying and selling skills. If these responses have plausibility, the range of positive responses would be relatively low. This is in fact the case. About 42 per cent of the respondents reported gaining buying and selling skills while 35 per cent corroborated negotiating better prices. Moreover, about 14 per cent of the respondents claimed influencing choice of better agricultural practices.

Small proportions of SHG respondents could identify the reasons underlying these forms of empowerment. The reasons emphasised included a stronger motivation, better inter-personal skills and social ties/networks of friends and relatives.

But these indices of empowerment do not reveal the 'costs'. Higher incomes and a broadening of spheres of activities entail greater responsibilities for women and extra hours of work. Out of 73 respondents, 38 (52 per cent) reported extra hours of work. Over 60 per cent of the respondents reported working over 2 hours a day in addition to their domestic chores. In fact, more than a quarter of the respondents reported working more than 5 extra hours a day. In the absence of reallocation of domestic responsibilities, some of the gains from extra incomes earned are likely to be at least partly offset by longer hours of work. Out of 73 SHG members, 48 reported greater responsibilities (65.8 per cent), 19 (26 per cent) denied, and the remaining 6 did not respond (8.2 per cent). So this corroborates the preceding findings on extra work. Between the two, we are inclined to rely more on the latter, as the response to extra hours worked requires greater precision on the part of the respondents.

### ***K. Cross-Validation of Empowerment***

Two sets of evidence are summarised below: one is based on the responses of Panchayat members, District and Block officials, and representatives of financial institutions; and the second, based on econometric analysis of responses of SHG members and the control group, assesses the underlying factors.

Panchayat members, District and Block officials, and representatives of financial institutions confirmed empowerment with varying degrees of confidence. All Panchayat members (8), for example, confirmed improvements in the standard of living of SHG participants; six confirmed greater goodwill among village communities; seven reported greater trust and reciprocity among SHG members; however, few officials confirmed active participation of women in Panchayats and political activities. All officials (5) confirmed their active involvement in local campaigns for hygiene and sanitation. All representatives of financial institutions confirmed improvements in the standard of living of SHG members, greater social mobilisation, and a greater sense of goodwill among village communities. Besides, all confirmed more active participation of SHG members in local institutions (e.g. village Panchayats).

As moderate but sustained economic betterment is key to empowerment, we have analysed the factors that contributed to higher income and greater responsibilities. Let us first consider the determinants of income.<sup>27</sup>

The econometric analysis shows that the relationship between per capita income and household size is negative and it weakens with household size. In other words, economies of scale in production and consumption offset the negative effects of household size on per capita income, as the former increases. Participants with matriculation level of education have higher incomes relative to the omitted group. Both participation and years of membership have a positive effect on per capita income while the interaction term has a negative effect. So the positive effects of joining an SHG and years of membership are diminished as their interacted value rises. Participants from male-headed households have higher incomes. Interaction of male-headed households with SC/ST affiliation, however, lowers the effect of male-headship while it reinforces the (weak) negative effect of SC/ST/OBC affiliation.

An aspect of empowerment is female autonomy in the use of a loan obtained through an SHG. Three exercises were carried out to assess the factors determining whether the wife made the decision, whether the husband did and whether it was a joint decision. Their results are summarised below.<sup>28</sup>

A few specific results are plausible. Neither participation nor duration of membership in an SHG has a significant effect on female autonomy. However, their interaction has a significant positive effect. Also, interaction of landownership with SC/ST/OBC affiliation has a positive effect while interaction of landownership and male-headship has a negative effect. Clearly, there are cultural norms that are not so easily modified. The fact that the interaction of participation and duration of membership has a positive effect implies that economic betterment may result in greater female autonomy. In another specification, these results are corroborated along with the finding that female autonomy is lower both among Upper Caste Hindus and Muslims.<sup>29</sup>

Another probit on whether the male spouse made the loan use decision also yields some plausible results. Among Upper Caste households, for example, there is a lower probability of the male spouse being the decision-maker. By contrast, the male spouse has a decisive role if the borrower is illiterate. Also, this is more likely in households headed by someone who is a member of a Panchayat or holds another office. While participation and duration of membership lower male dominance, their effects are not robust. Nor is the effect of the interaction term.

The third probit is, however, the most interesting. The interaction term including landowning and upper caste households has a lower probability of joint decision-making about loan use. However, interaction of landowning and male-headship has a significant positive coefficient, implying that such households are more likely to have joint decision-making. However, the higher the probability of participation, the more likely is joint decision-making. So also is the case with duration of membership. But these effects diminish, as the interaction term has a negative coefficient. SC/ST/OBC households are more likely to have joint decision-making.

Two observations on these results are pertinent. One is that joint decision-making is hard to interpret. Not only is this culturally determined (as illustrated by the effects of caste, interaction of caste and landownership) but there is also an additional issue of whether the response is tactical or honest. More often than not, female respondents are reluctant to report any form of decision-making other than joint.

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<sup>27</sup> The econometric analysis is based on a probit in the first stage, and a robust regression in the second. For details, see Annex 1.

<sup>28</sup> In each case, as the left hand side variable is dichotomous, a probit is used in the second stage as well.

<sup>29</sup> Details will be furnished on request.

An important indicator of women's well-being is reduction of domestic violence against them. The probit results are revealing. Among illiterate members, there is lower domestic violence.<sup>30</sup> This is also the case with leaders. While participation in SHGs and duration of membership do not have significant effects, their interaction does. Among the SC/ST/OBC households, the chances of domestic violence are greater.

The results on overall empowerment (i.e. better awareness, greater confidence and participation in village assembly meetings and other community related activities)- in part overlapping with contribution to associational capital- are illuminating.<sup>31</sup>

Empowerment among the first three educational categories (i.e. illiterate, primary, and middle) is lower relative to that of the default case (i.e. above matriculation). This is plausible, as one of the benefits of higher education is greater awareness of social issues and participation in community related activities. Age also contributes to empowerment but this effect weakens as age increases. Participation, duration of SHG membership and their interaction, however, do not have significant effects on empowerment. Leaders of SHGs display greater empowerment than other members.

Using an alternative specification, some additional insights are obtained. The positive contribution of Leaders persists. Although neither participation in SHGs nor duration of membership have significant effects, duration of membership interacted with SC/ST/OBC affiliation has a significant positive effect on empowerment.

Another index of empowerment focusing on participation in community events (e.g. festivals, religious activities, village council meetings, women's groups) varied with village environment, was lower among labour households (relative to a residual occupational group), higher among those above matriculation level of education, lower among upper castes, higher among male-headed households, and positively related to years of membership.

As stated earlier, these forms of empowerment entailed longer hours of work.<sup>32</sup> Whether a participant worked longer hours varied with male-headship of a household; the hours worked were lower depending on the interaction of duration of membership and educational level; as also among landowning households but higher with interaction of landownership and male-headedness; the hours varied with age but a diminishing rate, and were positively linked to both SC/ST/OBC and upper caste affiliations (relative to a residual caste group).

### ***L. Exclusion***

Attention was drawn to a low targeting accuracy in terms of an income cut-off point and a better targeting accuracy in terms of some other correlates of poverty (e.g. low caste affiliation, landlessness, illiteracy). The fact, however, remains that many deprived individuals were unable to participate in SHGs.

An econometric analysis throws some light on the determinants of participation. SC/ST/OBC women were more likely to be excluded; neither illiteracy nor landlessness was a barrier; larger household size, however, constrained participation but at a diminishing rate. Another aspect of participation is duration of membership<sup>33</sup>. This was longer for SC/ST/OBC women; it was lower for women belonging to landowning households; it was also lower for women from households with male heads but longer for illiterate women from such households; and the duration was also longer for married women.<sup>34</sup>

<sup>30</sup> The second stage regression is a probit, as the response is dichotomous.

<sup>31</sup> All second stage regressions are probits.

<sup>32</sup> As there are number of responses with zero, a tobit is used in the second stage regression.

<sup>33</sup> This incidentally is the first stage probit, as shown in Annex 1.

<sup>34</sup> For details, see Gaiha and Nandhi (2005).

An important observation by de Aghion and Morduch (2004) on assortative matching is pertinent here. They argue that in a group lending scheme, where all villagers (safe and risky) know each others' type, safe borrowers will form groups among themselves while risky borrowers will have to join hands with other risky borrowers. To the extent, therefore, that poverty and risks go together- greater vulnerability of low income households to idiosyncratic and other shocks- relatively affluent households are more likely to organise themselves into groups. This is corroborated by our survey in which assortative matching into poor and rich groups was reported by about 71 per cent of members of SHGs. Further insights into the selection process were yielded by an analysis of selection criteria. A majority of SHG members reported that exclusionary criteria were used. Ability to pay and save regularly as a prerequisite, confirmed by 19 per cent of SHG members, for example, would exclude those from labour households, among others, while affiliation to a BPL (below the poverty line) household -reported by 29 per cent of SHG members- would involve a different sort of matching<sup>35</sup>.

Other constraints reported by the members of the control group were lack of awareness (54 per cent), irregularity of income (39 per cent) and domestic resistance (7 per cent). Similar responses were obtained from NGO field-workers.

Additional light was thrown by the responses of Panchayat members, District and block officials, and representatives of financial institutions. Few believed that the poor were excluded because of high interest rates and/or stringency of financial discipline. However, remoteness of villages, absence of functioning local institutions, and lack of awareness of benefits of group lending were identified as major impediments in covering larger segments of the poor - especially by representatives of financial institutions.

## II. Lessons

Although the temptation to simplify the characterisation of successful SHGs must be resisted, some conjectures can be offered, based on the perceptions of Panchayat members, District and block officials, and representatives of financial institutions. These also help identify some of the deficiencies in the implementation of delivering credit and other financial services through SHGs. On some key characteristics, there was considerable agreement among the respondents. Specifically, almost all representatives of financial institutions, NGOs and their field-workers were emphatic that group cohesiveness, savings mobilisation and high repayment rates mattered a great deal. It was also pointed out by them that group cohesiveness had less to do with group homogeneity than with a clear understanding of the benefits of group lending and other related services. Another presumption that Upper Caste leaders often serve as role models was firmly rejected by them (five out of seven). Majority of representatives of financial institutions (five out of seven) as well as of officials (four out of five) concurred that SHGs were more likely to be successful in villages with a high density of social networks and associations. Besides, the representatives of financial institutions were emphatic that formation of SHGs was quicker in the presence of a successful SHG. Four out of the seven responded that a new group could be formed in a month as there is greater awareness of benefits of group lending. Another view that emerged from the responses of these groups was the relative ineffectiveness of social networks in mitigating distress from community- wide/village level shocks. For example, six out of the seven representatives of financial institutions denied the protective role of social networks against such contingencies. Seven out of the eight Panchayat members were equally emphatic that these networks failed to protect village communities against such shocks. So there is a case for self-insurance through savings (Morduch, 2005). Finally, while sharing the concern for long lags between formation of SHGs and their interface with a bank, nearly all representatives underlined the importance of training, its duration and the need for monitoring.

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<sup>35</sup> BPL classification involves several criteria of deprivation — including income, ownership of assets, living conditions. The difficulty, however, lies in ensuring that these criteria are systematically applied. As this is rarely the case, often the correspondence between BPL and income- poor households is weak.

### **III. Concluding Observations**

Some observations are made from a broad policy perspective.

While the targeting of microfinance through SHGs was unsatisfactory in terms of an income criterion, it was better in terms of other indicators of deprivation such as caste, landlessness and illiteracy. What is, however, noteworthy is that the loans were used largely for health and education of children and for production-related expenses-especially by the disadvantaged. The rates of return on such investments were high. Little, however, can be said about their sustainability. Savings mobilisation through SHGs was highly effective too- especially in a context of vulnerability of rural households to a range of idiosyncratic and covariant risks, and ineffectiveness of informal social networks in protecting them against such risks. More significantly, using different methods and data sources, various dimensions of empowerment were confirmed. Some of the mechanisms involved in it were identified and assessed. Not only do SHGs benefit from the presence of networks, the former also contribute to trust, reciprocity and associational capital (e.g. through strengthening of local institutions). Domestic violence was reduced. However, greater responsibilities for women also involved longer hours of work.

In conclusion, to confine impact assessment of microfinance to conventional economic criteria of rates of return, and financial sustainability of MFIs would not be just narrow but misleading as well. The benefits through women's empowerment are substantial and reinforce the case for microfinance through SHGs on both equity and efficiency considerations.

## Annex 1

## Heckman's Selection Model

A brief exposition of this model and its variants used is given below.<sup>36</sup>

Suppose there is a selection variable  $z^*$  which is not observed. Rather, we observe only its sign and not its magnitude- in the present case, whether a woman participates in an SHG or not. So the model is formulated as follows. First, the selection or participation mechanism is specified.

$$z^* = \gamma' \mathbf{w}_i + u_i$$

$$z_i = 1 \quad \text{if } z_i^* > 0,$$

$$z_i = 0 \quad \text{if } z_i^* \leq 0, \text{ where } \mathbf{w}_i \text{ is a vector of variables that explain participation.}$$

$$\text{Prob}(z_i = 1) = \Phi(\gamma' \mathbf{w}_i),$$

$$\text{Prob}(z_i = 0) = 1 - \Phi(\gamma' \mathbf{w}_i),$$

In the second regression, we estimate the effect of various individual/household characteristics, community level variables, and of participation derived from the probit, on variables such as income, and various measures of empowerment.

$$y_i = \beta' \mathbf{x}_i + \varepsilon_i \text{ observed only if } z_i = 1,$$

$$(u_i, \varepsilon_i) \sim \text{bivariate normal } [0, 0, 1, \sigma_\varepsilon, \rho],$$

where  $\mathbf{x}_i$  is a vector of explanatory variables including a measure of participation from the probit.

Suppose that  $z_i$  and  $\mathbf{w}_i$  are observed for a random sample of individuals, but  $y_i$  is observed when  $z_i = 1$ . This model is thus equivalent to

$$E[y_i | z_i = 1] = \beta' \mathbf{x} + \rho \sigma_\varepsilon \lambda(\gamma' \mathbf{w})$$

The parameters of this model are estimated using Heckman's two-step procedure. First, the probit equation is estimated to obtain  $\gamma$ . For each observation in the selected sample,

$$\hat{\lambda}_i = \frac{\phi(\hat{\gamma}' \mathbf{w}_i)}{\Phi(\hat{\gamma}' \mathbf{w}_i)} \text{ is computed.}$$

Besides,

$$\hat{\delta}_i = \hat{\lambda}_i (\hat{\lambda}_i + \hat{\gamma}' \mathbf{w}_i) \text{ is computed.}$$

In the second stage,  $\beta$  and  $\beta_\lambda = \rho \sigma$  are estimated by OLS regression of  $y$  on  $\mathbf{x}$  and  $\hat{\lambda}$ .

Some of the variants used here are: probits or tobitts or robust regressions in the second stage, depending on how the outcome is measured. When, for example, the outcome refers to extra hours worked, there are many zeros and some positive numbers. In this case, a tobit is appropriate. In other cases, when the outcome relates to indices of empowerment (e.g. autonomy in household decisions, acquiring of new skills) specified dichotomously (1 for yes and 0 otherwise, based on individual responses), a probit is used.

<sup>36</sup> For an exposition, see Greene (1993).

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