Self Help Groups and empowerment of women: Self-selection or actual benefits?

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SELF-SELECTION OR ACTUAL BENEFITS?

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Abstract
Evidence on success of SHGs in empowering females is mixed. In particular, researchers argue that such schemes often attract women who are already active in the public domain (referred to as ‘self-selection’), so that those who are most in need of assistance remain excluded. Simultaneously, the fact that a majority of the SHG members are already empowered leads to exaggerated estimates of the effects of the program (called ‘program effects’). This paper attempts to test the significance of the program effect of SHGs by comparing empowerment levels of newly inducted and older members of SHGs. The paper is based on a survey conducted in six municipalities in West Bengal, India.

Keywords: Empowerment, Self Help Groups, Non-parametric tests, Self-selection effect, India, Asia.

1. Introduction
Self Help Groups (SHGs) are informal associations consisting of 10-20 members created for the purpose of enabling members to reap economic benefit out of mutual help, solidarity, and joint responsibility. The group-based approach enables poor women to accumulate capital by way of small savings and facilitates their access to formal credit facilities (Shylendra, 1998). The concept of joint liability embedded in the SHG enables the members to overcome the problem of collateral security, a major barrier to obtaining credit from formal institutions. It also leads to peer monitoring, that improves the rate of loan recoveries (Stiglitz, 1993). Finally, some of the basic characteristics of SHGs, like small size of memberships and homogeneity of composition, bring about cohesiveness and effective participation of members in the functioning of the group (Fernandez, 1994).

Although policy makers and NGOs view SHGs as instruments of change and socio-economic empowerment, the actual evidence on the success of SHGs is mixed. It has
been pointed out that the complex gender relations prevailing within the household and the strength of patriarchy within the community determines the ability of SHGs to transform the lives of its members (Kabeer, 1998, Rahman, 1999). Another issue that has been raised in recent years is that, in order to achieve immediate success and attain quantitative targets, women from non-poor households, or those active in the public domain, are targeted in such programs. While this results in high rates of attainments, this may also artificially inflate success of the program.

In this paper, we address this issue. Based on a study of beneficiaries of the Swarna Jayanti Sahari Swarojgar Yojana, an important poverty alleviation scheme for urban slum dwellers in India, this paper examines whether the group-based micro-credit program has been able to empower women and improve their functional capabilities significantly. In particular, we examine the hypothesis that the self-selection mechanism is a major cause underlying the apparent success of SHGs in empowering members. That is, we examine whether women become empowered after joining SHGs, or whether it is women who are already empowered who join SHGs.

The scheme of the paper is as follows. In Section 2, we briefly review the literature on SHGs. This is followed by a discussion of methodological issues related to the question raised in the paper (Section 3). The findings are discussed in Section 4, followed by a concluding section that summarizes the results and discusses their implications.

2. Literature Survey
NGOs and policy makers are the greatest advocates of SHGs. Although - relying mainly on anecdotal evidence - they have argued that micro-credit programs have empowered beneficiaries substantially they have failed to offer any conclusive statistical evidence in this regard. While there is a vast body of work in this area, given the complexities in defining and measuring empowerment, the evidence in this regard is mixed (Hunt & Kasynathan, 2002).

2.1 Positive Outcomes from SHG movement

Some researchers have observed positive outcomes being generated by participation in SHG activities. Mayoux (2000) points out that the use of savings and credit for economic activities generates income and assets. This leads to increase in consumption standards (Rahman 1986) and, more importantly, reduces vulnerability of poor households by reducing smoothening seasonal fluctuations in household income and consumption levels (Zaman 2001). The additional income may also act as a safety net by helping the family tide over emergencies (ESCAP, 2002).

Participation in SHG movements and access to credit also leads to a change in the status of members within their households. It has been observed that the economic contribution of women may increase their role in household decision-making (Hashemi et al., 1996, Mayoux, 2000, Pitt and Khandker, 1995). This may lead to improved household-level outcomes with respect to health, education (particularly education of the girl child, nutrition and family planning (Hashemi et al., 1996, Hulme and Mosley, 1997, Kabeer, 2001, Kumar, 2009; Mayoux, 1997, 1998, 2000).
Other positive outcomes of joining SHGS have been observed – greater respect within household (FAO, 2002; Mayoux, 2000), increase in mobility, ability to articulate, self-confidence and esteem (Dollard et al., 2006; FAO, 2002; Hashemi et al., 1996; Krishnaraj and Kay 2002; Putnam 2000), growth of a collective identity (Larence, 2001) and political awareness (Hashemi et al., 1996). The incidence of violence against women has also been found to have decreased (Hashemi et al., 1996, Schuler et al., 1996).

2.2 Limitations of SHGs

These optimistic findings about SHGs have been questioned by other researchers. An important issue that has been raised by researchers relate to the extent to which women are able to retain loans and use them for economic activities (Goetz and Sengupta, 1996, Mayoux, 1998). Kabeer (1998) points out that structural, individual and program factors are crucial in this respect. It has been argued that patriarchal features of the local community and the absence of local investment opportunities limit the extent to which women are able to use the loan. As a result they often serve as ‘post boxes’, subsequently transferring loans received to their husbands or male relatives. Goetz and Sengupta (1996) reported that only about a third of women recipients in Bangladesh were able to hold on to their loans; Montogomery and Hulme (1996) found this proportion to be even lower among first time borrowers in Bangladesh (only 9%).

Rahman (1999) points out that access to microfinance may increase the vulnerability and insecurity of the family. A study by ILO (2004) emphasizes on the considerable social
pressure brought upon borrowers to repay their loans. This leads to increased tension to within the household (Gibbons, 1999, Goetz and Sengupta, 1996), particularly as women often depend on their husbands or male relatives to help in repayment (Matin and Rab, 1997). This often leads to escalation of domestic violence – a study by Rahman (1999) found an increase in violence in 70% of the survey households.

A third problem relates to the allocation of work hours. Since patriarchy demands that women complete their household chores, we found during our survey that SHG members generally sacrifice their leisure hours to undertake SHG activities in the afternoon and evenings. This leads to over-work, fatigue and even malnutrition (Ackerly, 1995).

Another issue, hotly contested by NGO staff and donors, relates to the targeting of beneficiaries. Hulme (2000), Kabeer (1998) and Morduch (1998), for instance, found that introduction of SHGs in a region did improve income levels, but not of the poorer households. The focus on ensuring high repayment rates often leads to the exclusion of those households who are perceived as being poor credit risks - the poorest and neediest (Hulme and Mosley 1996; Montgomery 1996; Noponan 1990, Krishnaraj and Kay 2002 and FAO 2002). In fact, in some cases, entry of large organizations has led to the squeezing out of smaller organizations with a record of successfully targeting the poorer households (Arn and Lily 1992; Ebdon 1994).

A somewhat related issue is that of self-selection. Given that enrolment in SHGs is voluntary, self-selection emerges as an important issue. Self-selection occurs when
members of a group have a pre-disposition to choose certain outcomes. Since women have the choice to join a SHG or not, the movement is more likely to attract women who are already economically active, or are more empowered than others. In this case, for instance, ‘empowered’ women will join DWCUA members, while those who are not ‘empowered’ are less likely to join such groups. Comparing empowerment levels in such cases will lead to the mistaken conclusion that joining DWCUAs increases empowerment levels, when the correct conclusion would have been that empowered women have joined DWCUAs. As Steele et al. (1998) point out:

“Thus, high levels of empowerment among group members cannot be attributed to the program alone without controlling for the likelihood of selection bias. Clearly, analyses that do not allow for self-selection tend to lead to estimates that overstate program impact. Although several studies have attempted to evaluate the effects of credit-program participation on reproductive and other behaviors, relatively few have addressed the issue of self-selection satisfactorily” (Steele et al., 1998: 14).

This issue forms the focus of our paper. In the next section, we shall discuss how the self-selection issue has been considered in literature, and how we propose to treat it.

3. Methodological Issues

The methodological issues - relating to identification of empowerment indicators, choice of control group, site selection and statistical tests - are discussed below.

3.1 Indicators of Empowerment
In this paper we try to identify some key factors that increase the ability of the target group to make choices and the power to transform these choices into actions and outcomes, keeping in mind their unique socio-economic situation. Based upon the survey of literature (Section 2.1), we argue that this boils down to five indicators:

a) **Identity of the person controlling income earned from SHG activities**: Part of the surplus earned from SHG activities is periodically distributed among members. If the respondent controls this income then this will provide her with some degree of financial autonomy. Her sense of contributing to the family (perceived contribution response) increases and her fall-back position will improve. This will help her in bargaining for intra-household resources.

b) **Tolerance of domestic violence**: Researchers have observed that domestic violence may be a common tool employed by husbands to reinforce their authority within the domain of the household (Heise et al., 1999). The reluctance of women to oppose such violence and tolerate it in silence has also been well documented (Bennet and Menderson, 2003). Part of the reason is her poor fall-back position. Participation in SHGs reduces her tolerance of domestic violence not only by empowering her economically but also by increasing her awareness. Now an important problem in studying violence against women (VAW) is the reluctance of women to report or even discuss such issues. We therefore placed some specific contexts before the respondent and asked her whether she felt VAW to be justified in each of the cases.

c) **Household decision-making**: Increased command over financial resources also improves her participation in household decision-making. This may be reflected
in a greater say in matters like: daily purchases, major purchases, increased mobility (manifested in ability to visit maternal home, relatives and friends, fairs and markets), use of contraceptives and her own health seeking behavior.

d) **Improved status within family:** As the SHG members augment family income, smoothens income and consumption streams and help to tide over crisis, the family members acknowledge her contribution by according her greater respect.

e) **Aspirations for the girl child:** The process of empowerment leads to a ‘virtuous cycle’ with an increase in aspiration, not only for her own self, but also for other females in the future generation. Typically, this may be reflected in a desire to educate her daughter equally with her sons and allow her to seek gainful employment, though within limits.

Given these indicators of empowerment, the question is how to measure the impact of SHGs on empowerment.

### 3.2 Self-Selection and Choice of Control Group

As mentioned earlier it is necessary to distinguish between two effects – what may be called the program effect (what we want to measure) and what may be called the self-selection effect (leading to biased over-estimates during evaluation) - in evaluating the success of programs based on voluntary participation. The best method for doing so would be to use longitudinal data but the cost and time involved is substantial. As a result, this method is not practical. In such cases, a quasi-experimental panel design may be used to incorporating ‘before and after’ information as in Amin et al. (1995), Schuler and Hashemi (1994), Steele et al. (1998) and Rahman and DaVanzo (1997). Since the
survey is undertaken after the program introduction, the ‘before’ information is based on recall. Unless the time interval is short, a recall bias may occur. Finally, two-stage models may be used to control for self-selection bias (Maddala, 1983) as in Pitt et al. (1995) to evaluate the effect of three group-based credit programs on current contraceptive use and fertility in Bangladesh. The problem with the two-stage model approach is that it requires restrictions that are hard to satisfy.

In this paper, we have controlled for self-selection by collecting information on when the respondent joined the SHG. This information was used to divide respondents into two groups – newly inducted members (those who had joined SHGs within six months) and ‘older’ members. If we assume that only the program effect operates, then newly inducted members should either not be empowered, or have lower levels of empowerment, while older members are empowered. On the other hand, if self-selection is present, then the empowerment levels of both groups will not differ substantially. The problem then becomes of measuring empowerment levels of newly inducted and older DWCUA members and testing to see whether there is a significant difference in their empowerment levels. This method has the advantage that it avoids the issue of recall.

3.3 Selection of Survey Sites

The findings of this paper are based on six municipalities - Kaliagunj (Uttar Dinajpur), Old Maldah (Maldah), Barrackpore (North 24 Parganas), Chandannagar (Hooghly), Burdwan (Burdwan) and Gayeshpur (Nadia). The specific municipalities were suggested by the State Urban Development Agency (SUDA), the agency implementing the scheme
at the state-level, on the grounds that the process of forming DWCUAs was particularly successful in these municipalities. Discussion with officials (both of SUDA and municipalities) revealed that the main parameters for considering SHG groups to be successful were stable membership, ability of members to repay loans taken from the revolving fund, ability of the group to repay the subsidized bank loan and generation of a steady surplus from SHG activities.

**Table 1: Statistics Relating to ULBs Surveyed**

Some important statistics relating to the survey sites are given in Table 1. We should also note differences in the economic characteristics of the municipalities. Three of the sites have strong links to the agricultural sector – of which Burdwan is located in a developed and prosperous agricultural hinterland, while Kaliagunj and Old Maldah are agro-based but underdeveloped towns. Barrackpore and Gayeshpur are industrial towns. Barrackpore was once an important industrial area; over time the decline of the jute industry has eroded its economic importance. However, its proximity to the metropolitan city of Kolkata and its well developed educational infrastructure has resulted in a relatively educated population. Gayeshpur, on the other hand, is a satellite of the industrial township of Kalyani. It is relatively under-developed. However, the success of some specific SHGs led us to study select this site. The last site, Chandannagar, was originally a French colony, set up in 1784. The proximity of Chandannagar to Kolkata and the transport links between the two cities has resulted in the growth of the service sector in this town.

3.4 Statistical Method
Based on the indicators of empowerment discussed earlier we have constructed ‘scores’ of empowerment, corresponding to aspects like decision-making power, tolerance for domestic violence, and so on. The scoring method is discussed below:

1. **Control over respondents’ income**: If respondent herself decides, a score of 1 is assigned; in case of joint control she is assigned a score of 0.5 and 0 if she does not have any control over income earned from SHG activities.

2. **Household Decision-making power**: Respondent as sole decision-maker is coded as 1, joint decision-making as 0.5 and all other cases as 0.

   Issues considered were: Who spends husbands’ income? Who decides on treatment of respondent? Who decides on major household purchases? Who decides on daily purchases? Who decides whether respondent may visit her maternal home? Who decides whether respondent may visit other relatives? Who decides whether respondent may go to distant fairs or markets? Who decides the vote of respondent? Who decides whether to use contraceptives?

   Individual scores for each component were aggregated to form the composite score for this indicator.

3. **Opposition to domestic violence**: Coded as 1 if respondent did not support violence and as 0 if she felt that violence was justified in the specific context.\(^1\) If respondent was uncertain, this was coded as 0.5. The contexts are given below:
   
   a. Wife leaves home without permission
   
   b. Wife does not look after child properly
   
   c. Wife does not cook properly
   
   d. Wife argues with husband
e. Wife refuse to have sexual relations with husband

f. Husband suspects that wife has illicit relations

g. Wife does not behave properly with in-laws

4. **Improvement in status within household**: If respondent reported that she was accorded increased respect, she was assigned a score of 1, and 0 otherwise.

5. **Aspiration for girl child**: Responses to whether respondent wanted daughters to be educated equally with sons, whether daughters would be allowed to work, and whether they would be allowed to work in local retail shops were coded as 1 if her response was affirmative and 0 if negative.

The mean and median scores for each of these aggregate indicators are estimated for new and old members respectively. We then test whether differences between these scores differ between the sub-groups. The choice of appropriate statistical method becomes an important issue here. Given the size of both sub-samples (45 new members and 195 old members), t-tests based on the assumption of a normal distribution may be applied. In addition, we have also employed two non-parametric tests – the Mann-Whitney and Kruskall-Wallis tests. These methods have the added advantage that, while t-tests may be influenced by the ad hoc values of scores assigned, such considerations are irrelevant in rank based tests.

This method, however, has a problem that it fails to control for socio-economic factors. We therefore follow up the two sample tests with a set of limited dependent regressions. Each of the empowerment indicators are regressed upon socio-economic variables that
are likely to influence empowerment levels (per capita income, household size, religion, caste, education of respondent and husband) and a dummy to distinguish between newly inducted and older members. If the coefficient of this dummy variable is insignificant, then the program effect can be ruled out.

4. Findings

Our survey revealed that SHG members were involved in undertaking activities like selling garments, handicrafts, trading in rice, embroidery, tailoring, dairy farming, spice making, and other activities. Such activities yielded in a substantial income – consisting of about a fifth of household income. However, such activities were not uncommon before the introduction of the program in the survey sites. We found that 60% of respondents had been engaged in economic activities before joining DWCUAs, though on a part time individual basis. The achievement of SHGs was that it injected capital into the system, mobilized individual activities into group-based activity, and intensified participation in economic activities. While this reduced any potential source of conflict, the absence of any structural break may have also resulted in the program generating only economic effects, without creating a capacity to transform the social life of the community.

4.1 Levels of Empowerment

Our survey revealed that almost half of the respondents decide on how to spend their own income, while about 30% make this decision jointly with their husbands. This would imply that 80% of respondents have at least some control over their income, which is
very encouraging. Proportion of respondents with control over family income, expectedly, is lower - 60% of respondents reported that they had some control over their husband’s income.

It can be seen that less than a third of respondents have sole control over household decisions like health-care seeking behaviour, major purchases, visiting maternal home, or relatives, and going to distant fairs (Table 2). Control of respondents is markedly lacking with respect to family planning issues like contraceptive use – only one out of ten respondents exercise this decision on their own. In roughly 30-40% cases, the husband takes these decisions himself. The only exceptions are with respect to exercise of electoral rights and daily purchases. Further, if we compare the figures for our entire sample and the sub-group who are married and live with their husbands, it may be seen that an even smaller proportion of respondents have full control over decisions in most cases.

**Table 2: Identity of decision-maker in household decisions**

While it may be argued that the adoption of birth control measures is a decision that should be taken jointly,² the limited autonomy of women in most of the other decision-making spheres challenges the popular notion that engagement in market activities will enhance the ability to influence household outcomes. In particular, the inability to take mobility-related decisions (visiting maternal home, relatives, fairs) and health care decisions should be a matter of concern for policy makers.

Of course, the large proportion of respondents with some say in decisions may be taken as an indicator of change – while previously, the respondents might not have had any say,
now they may have at least some say. Given the absence of information on the change in decision-making power, however, this hypothesis cannot be tested.

It can be seen that the tolerance of respondents vary widely with respect to the specific context of violence. Respondents feel that beating of wives is justified if women do not behave properly with their in-laws (40%), if women have illicit relations (35%), if women argue with their husbands (28%), if women do not cook properly and if women do not look after their children (21%) (Table 3). This is interesting as all these situations involve norms of the patriarchal family, where the women have the responsibility to provide care services to family members. A surprisingly large proportion of respondents do not support violence if the wife refuses to have sexual relations. This attitude is justified by respondents on the grounds that a refusal to have intercourse with the husband is not a ‘normal practice’ and may be due to a sexual problem with the husband.

Table 3: Tolerance of domestic violence in specific contexts

About 75% of respondents reported that they were treated with greater respect and accorded more importance by their household members after joining DWCUAs. Appreciation of the fact that respondents were contributing to household welfare was the most common reason for increase in status within the households (69%). Another important reason was increase in self-respect of respondents (14%).

The survey also found that a substantial majority of respondents wanted to educate their daughters as much as their sons (90% of respondents), and wanted their daughters to work (86%). However, there were restrictions on the place of work. When the question
“Will you allow your daughter to work?” was rephrased as “Will you allow your daughter to work in a shop?”, the proportion of respondents expressing reluctance increased sharply from 10% to 48%.

The analysis of motives for educating daughters revealed that the desire to ensure economic independence (cited in 38% cases) dominates other motives, followed by the desire to ensure self-respect (21%), improve marriage prospect (13%) and ability to educate her child (12%). While the first two may be identified to be positively correlated with empowerment, the substantial presence of the latter two motives would indicate the persistence of traditional patriarchal values.

Now this discussion does not distinguish between the self-selection and program effect. In the next section, therefore, we turn to this issue and try to nullify the self-selection effect.

4.2 Is Selection Mechanism at Work?

As discussed in Section 3, one way of doing so is to compare empowerment scores between old and new SHG members. Table 4 reports the results of this comparison. It can be seen that such differences are significant only in two cases – opposition to domestic violence and improvement in status within household. The results are similar for all the three tests.

Table 4: Differences in Empowerment Indicators between Old and New Members
4.3 A Disaggregative Analysis

Since the household decision-making and tolerance for domestic violence are based on aggregation of individual scores, it is necessary to analyse these two indicators carefully. Therefore, the method used above is applied on the individual components that make up these two scores.

In the case of household decision-making differences between scores are statistically insignificant in all cases (Table 5). This is consistent with the finding that differences in the aggregate score for empowerment between old and new DWCUAs were statistically insignificant.

**Table 5: Differences in Decision-making between Old and New Members**

It can be seen (Table 6) that there is a significant difference in tolerance towards domestic violence only in the contexts of wife not cooking properly, or not caring for her child, or arguing with her husband. At the 10% level, difference in scores in the case of “wife does not behave properly with in-laws” is also statistically significant. This may indicate that older members appreciate the fact that their involvement in economic activities may affect household tasks, like child care and cooking, and has to be accepted as an inevitable cost of their efforts to augment family income. The greater perceived contribution to the household may also have encouraged them to challenge the authority of the husband and argue with him.

**Table 6: Differences in Opposition to Violence between Old and New Members**

4.4 Regression Analysis
The results do not show any substantial program effects. This is further confirmed if we control for socio-economic and personal factors.

It can be seen (Table 7) that the coefficient of the dummy variable for members with more than six months experience is significant only in the regressions for ‘Improved status of respondents’ and – at a 10% level of significance - ‘Opposition to domestic violence’. This implies that, although women are empowered to some extent in the study sites, this cannot be attributed to the program effect. Their earlier history of participation in part-time economic activities had possibly empowered a large proportion of the respondents; as a result, when the SHG movement started in these areas, these members joined readily. The possibility that these members may have been (consciously or unconsciously) pre-selected by municipality officials and councilors during the process of identifying possible SHG members also cannot be ruled out.

**Table 7: Summary of Regression Results**

Our survey revealed that the increase in status of respondents is attributed mainly to recognition of their contribution to family income. The income from SHG activities is substantial, and comprises a fifth of household income on average. More important than the quantitative contribution, is how this income is used. Given that more than a third of respondents were exposed to sharp seasonal fluctuations in income (and hence consumption), a major contribution of income from SHG activities was to smoothen such income and consumption fluctuations. It was also reported that this income had an important role in reducing drop outs from schooling due to an inability to pay session fees, and purchase books and stationery at the start of the academic session.
The other mechanism underlying an improvement in status within household is the increase in self-respect that participation in SHG activities breeds. Discussion with respondents revealed that interaction with other women, undertaking economic transactions (when buying inputs or selling products), visiting local markets and interacting with municipality officials in the Poverty Eradication Cell were the main channels through which their self-respect and confidence was enhanced. These factors are also important in increasing the ability to protest against domestic violence.

5. Conclusion
To sum up, the emphasis on ensuring the success of the group and attain targets set for the formation of SHGs may have led municipality officials to target women who are more likely to repay loans, or those who already participate in economic activities and are empowered to some extent. This creates difficulties in assessing the success of such schemes. This problem has been observed by other researchers on SHGs who have tried to disentangle the self-selection and program effects while evaluating SHG programs using alternative methods. In this paper we compare between empowerment levels of newly inducted and older members and test for differences in their empowerment levels using non-parametric methods. This is followed by an econometric analysis where socio-economic variables are additionally incorporated as control variables while continuing to test for this difference. This method has the advantage that it avoids the problem of recall and is less time consuming and cost effective. However, one type of self-selection problem remains. Since we are undertaking a mid-point evaluation of the scheme, we
cannot rule out the possibility that already empowered women join at the start of the program, while less empowered women or those not empowered at all join gradually. However, this has been tackled to some extent by undertaking surveys at multiple sites where the program has been introduced at different time points.

Our results indicate that program effects operated only to reduce tolerance of domestic violence and enhance status of members within the household. While these are important gains, the overall failure of the SHGs to empower women needs consideration. We had noted earlier that the scheme had not introduced any new form of activity but had simply enabled economic activities previously undertaken on an individual and part-time basis to be undertaken with greater labour and capital resources on a systematic basis. Thus, instead of creating structural breaks, SHGs, more often than not, simply elevated the intensity of traditional part-time economic activities. This was acceptable to men for two reasons - income from such activity supplemented their meager family income and acted as a buffer during seasonal crisis, and such activities were undertaken in the afternoon and evenings so that they involved a diversion of leisure time and did not affect household chores. Any empowerment that challenged patriarchal structures was viewed as a necessary cost that was more than offset by the considerable economic gains from involvement in SHGs. This had the effect of reducing potential sources of conflict with a patriarchal community. On one hand, it facilitated the attainment of targets for number of SHGs established; on the other hand, it ensured success of groups in terms of the economic parameters used by officials to measure success. The failure to challenge
traditional social structures and disengagement with the process of setting up of SHGs, however, remains a hurdle to a broader level of empowerment for the women involved.

**References**


**END NOTES**

1 As a matter of fact, it should be intolerance of domestic violence. However, tolerance makes easy reading.

2 We found that 70% of relevant respondents decided on adopting birth control measures jointly. Note that we simply asked whether the decision to adopt family planning was taken by respondent, her husband or jointly – we did not probe about precise method used as the women were reluctant to reveal such details.

3 This may be similar to what is called perceived interest response. The increase in self respect of respondents makes them feel that their welfare should also be considered when allocating resources to maximize household welfare.
### Table 1: Statistics Relating to ULBs Surveyed

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<th>Urban Local Body</th>
<th>District</th>
<th>No. of Slums</th>
<th>Year of Establishment</th>
<th>Area (Sq km)</th>
<th>Total Population</th>
<th>Slum Population</th>
<th>Slum Population as % of Total Population</th>
<th>Female Slum Population</th>
<th>Females as % of Slum Population</th>
<th>Below Poverty Line (BPL) Population</th>
<th>BPL Persons as % of Total Population</th>
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<td>Kaliaganj</td>
<td>Uttar Dinajpur</td>
<td>17</td>
<td>1987</td>
<td>8.99</td>
<td>47639</td>
<td>15600</td>
<td>32.7</td>
<td>14965</td>
<td>-</td>
<td>23789</td>
<td>49.9</td>
</tr>
<tr>
<td>Old Maldah</td>
<td>Maldah</td>
<td>38</td>
<td>1869</td>
<td>9.58</td>
<td>62944</td>
<td>41880</td>
<td>66.5</td>
<td>3439</td>
<td>-</td>
<td>32441</td>
<td>51.5</td>
</tr>
</tbody>
</table>

**Sources:**
State Urban Development Agency, communication dated 15 October 2009. Figures for Kaliaganj and Old Maldah obtained from TPO.

West Bengal Municipal Development Authority Webpage.

General Statistics: [http://wbdma.gov.in/htm/Ma_4_2_muni%20Catagory_Tab-2.htm](http://wbdma.gov.in/htm/Ma_4_2_muni%20Catagory_Tab-2.htm);

Slum Population: [http://wbdma.gov.in/htm/Total%20Number%20of%20Slum.htm](http://wbdma.gov.in/htm/Total%20Number%20of%20Slum.htm)

Table 2: Identity of decision-maker in household decisions

<table>
<thead>
<tr>
<th>Decisions</th>
<th>Respondent</th>
<th>Joint</th>
<th>Husband</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondent's treatment</td>
<td>20.9</td>
<td>35.3</td>
<td>43.8</td>
</tr>
<tr>
<td>Major household purchase</td>
<td>16.8</td>
<td>46.2</td>
<td>37.1</td>
</tr>
<tr>
<td>Daily household purchase</td>
<td>44.8</td>
<td>23.4</td>
<td>31.8</td>
</tr>
<tr>
<td>Visit to maternal home</td>
<td>23.1</td>
<td>34.9</td>
<td>42.1</td>
</tr>
<tr>
<td>Visiting relatives' house</td>
<td>22.2</td>
<td>38.4</td>
<td>39.4</td>
</tr>
<tr>
<td>Whom to vote for</td>
<td>65.8</td>
<td>14.6</td>
<td>19.6</td>
</tr>
<tr>
<td>Use of contraceptives</td>
<td>10.0</td>
<td>69.5</td>
<td>20.5</td>
</tr>
<tr>
<td>Going to distant fair and markets</td>
<td>15.4</td>
<td>43.4</td>
<td>41.1</td>
</tr>
</tbody>
</table>

Table 3: Tolerance of domestic violence in specific contexts

<table>
<thead>
<tr>
<th>Situation(Context)</th>
<th>Tolerant</th>
<th>Uncertain</th>
<th>Does not Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wife leaves home without permission</td>
<td>13.3</td>
<td>6.3</td>
<td>80.4</td>
</tr>
<tr>
<td>Wife does not look after child properly</td>
<td>20.8</td>
<td>7.5</td>
<td>71.7</td>
</tr>
<tr>
<td>Wife does not cook properly</td>
<td>21.7</td>
<td>8.3</td>
<td>70.0</td>
</tr>
<tr>
<td>Wife argues with husband</td>
<td>27.9</td>
<td>10.0</td>
<td>62.1</td>
</tr>
<tr>
<td>Refuses to have sexual relations</td>
<td>14.2</td>
<td>17.9</td>
<td>67.9</td>
</tr>
<tr>
<td>Husband suspects that wife has illicit relations</td>
<td>34.6</td>
<td>9.2</td>
<td>56.3</td>
</tr>
<tr>
<td>Wife does not behave properly with in-laws</td>
<td>40.4</td>
<td>7.1</td>
<td>52.5</td>
</tr>
</tbody>
</table>
Table 4: Differences in Empowerment Indicators between Old and New Members

<table>
<thead>
<tr>
<th>Scores</th>
<th>Mean</th>
<th>Median</th>
<th>t value</th>
<th>Mann Whitney U</th>
<th>Kruskall Walls H</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>New</td>
<td>Old</td>
<td>New</td>
<td>Old</td>
<td></td>
</tr>
<tr>
<td>Control over respondent's income</td>
<td>1.79</td>
<td>1.92</td>
<td>1.00</td>
<td>0.500</td>
<td>-0.487</td>
</tr>
<tr>
<td>Household Decisions</td>
<td>6.071</td>
<td>4.819</td>
<td>6.50</td>
<td>5.00</td>
<td>1.435</td>
</tr>
<tr>
<td>Opposition to domestic violence</td>
<td>4.133</td>
<td>5.026</td>
<td>4.00</td>
<td>6.00</td>
<td>-2.55**</td>
</tr>
<tr>
<td>Improvement in status of member</td>
<td>0.65</td>
<td>0.86</td>
<td>1.00</td>
<td>1.00</td>
<td>-2.99**</td>
</tr>
<tr>
<td>Aspiration for girl children</td>
<td>2.222</td>
<td>2.405</td>
<td>2.00</td>
<td>3.00</td>
<td>-1.448</td>
</tr>
</tbody>
</table>

Note: Levene’s test has been used to test for equality of variances. Based on the results, the appropriate t-statistic has been calculated.

Statistics significant at 5% and 10% level have been indicated by asterisks (** and *, respectively).

Table 5: Differences in Decision-making between Old and New Members

<table>
<thead>
<tr>
<th>Decision</th>
<th>Mean</th>
<th>Median</th>
<th>t value</th>
<th>U</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>New</td>
<td>Old</td>
<td>New</td>
<td>Old</td>
<td></td>
</tr>
<tr>
<td>Control of family income</td>
<td>0.387</td>
<td>0.373</td>
<td>0.500</td>
<td>0.500</td>
<td>0.211</td>
</tr>
<tr>
<td>Respondent's treatment</td>
<td>0.455</td>
<td>0.405</td>
<td>0.500</td>
<td>0.500</td>
<td>0.727</td>
</tr>
<tr>
<td>Major household purchase</td>
<td>0.44</td>
<td>0.396</td>
<td>0.500</td>
<td>0.500</td>
<td>0.689</td>
</tr>
<tr>
<td>Daily household purchase</td>
<td>0.605</td>
<td>0.549</td>
<td>1.000</td>
<td>0.500</td>
<td>0.742</td>
</tr>
<tr>
<td>Visit to maternal home</td>
<td>0.474</td>
<td>0.439</td>
<td>0.500</td>
<td>0.500</td>
<td>0.479</td>
</tr>
<tr>
<td>Visiting relative's house</td>
<td>0.488</td>
<td>0.437</td>
<td>0.500</td>
<td>0.500</td>
<td>0.724</td>
</tr>
<tr>
<td>Whom to vote for</td>
<td>0.702</td>
<td>0.77</td>
<td>1.000</td>
<td>1.000</td>
<td>-1.008</td>
</tr>
<tr>
<td>Use of contraceptives</td>
<td>0.379</td>
<td>0.462</td>
<td>0.500</td>
<td>0.500</td>
<td>-1.600</td>
</tr>
<tr>
<td>Going to distant fair and markets</td>
<td>0.412</td>
<td>0.417</td>
<td>0.500</td>
<td>0.500</td>
<td>-0.073</td>
</tr>
</tbody>
</table>
Table 6: Differences in Opposition to Violence between Old and New Members

<table>
<thead>
<tr>
<th>Context</th>
<th>Mean New</th>
<th>Median New</th>
<th>Mean Old</th>
<th>Median Old</th>
<th>t value</th>
<th>U</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wife leaves home without permission</td>
<td>0.778</td>
<td>1.00</td>
<td>0.849</td>
<td>1.00</td>
<td>-1.12</td>
<td>4009</td>
<td>1.703</td>
</tr>
<tr>
<td>Wife does not look after child properly</td>
<td>0.622</td>
<td>1.00</td>
<td>0.769</td>
<td>1.00</td>
<td>-2.16**</td>
<td>3565.5**</td>
<td>5.933**</td>
</tr>
<tr>
<td>Wife does not cook properly</td>
<td>0.644</td>
<td>1.00</td>
<td>0.779</td>
<td>1.00</td>
<td>-2.01**</td>
<td>3609.5**</td>
<td>5.518**</td>
</tr>
<tr>
<td>Wife argues with husband</td>
<td>0.533</td>
<td>0.50</td>
<td>0.703</td>
<td>1.00</td>
<td>-2.33**</td>
<td>3458**</td>
<td>6.643**</td>
</tr>
<tr>
<td>Refuses to have sexual relations</td>
<td>0.722</td>
<td>1.00</td>
<td>0.779</td>
<td>1.00</td>
<td>-0.947</td>
<td>3867.5</td>
<td>2.263</td>
</tr>
<tr>
<td>Husband suspects that wife has illicit relations</td>
<td>0.522</td>
<td>0.50</td>
<td>0.628</td>
<td>1.00</td>
<td>-1.381</td>
<td>3816.5</td>
<td>2.372</td>
</tr>
<tr>
<td>Wife does not behave properly with in-laws</td>
<td>0.444</td>
<td>0.50</td>
<td>0.587</td>
<td>1.00</td>
<td>-1.92*</td>
<td>3667.5*</td>
<td>3.729*</td>
</tr>
</tbody>
</table>

Statistics significant at 5% and 10% level have been indicated by asterisks (** and *, respectively).
Table 7: Summary of Regression Results

<table>
<thead>
<tr>
<th>Empowerment Indicators</th>
<th>Control over SHG income</th>
<th>Household decisions</th>
<th>Opposition to VAW</th>
<th>Improved status</th>
<th>Aspirations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method</td>
<td>Ordered logit</td>
<td>OLS Regression</td>
<td>OLS Regression</td>
<td>Binomial Logit</td>
<td>Ordered logit</td>
</tr>
<tr>
<td>Control Variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Religion</td>
<td>Positive**</td>
<td>Positive**</td>
<td>Positive**</td>
<td>Positive**</td>
<td>Positive**</td>
</tr>
<tr>
<td>Caste</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Household size</td>
<td>Negative*</td>
<td>Positive**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td>Positive*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education of respondent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education of husband</td>
<td>Positive**</td>
<td>Positive**</td>
<td></td>
<td>Positive*</td>
<td></td>
</tr>
<tr>
<td>Dummy for Old Member</td>
<td></td>
<td>Positive*</td>
<td>Positive**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$R^2$ (pseudo)</td>
<td>0.06</td>
<td>0.18</td>
<td>0.07</td>
<td>0.12</td>
<td>0.04</td>
</tr>
<tr>
<td>F or $\chi^2$</td>
<td>26.88**</td>
<td>4.17**</td>
<td>2.04**</td>
<td>22.98**</td>
<td>16.76**</td>
</tr>
</tbody>
</table>

Note: Significance of coefficient at 5% level and 10% level are denoted by ** and *, respectively.