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CAN CREDIT PROGRAMS FOR WOMEN AFFECT REPRODUCTIVE BEHAVIOR?
THE CASE OF RURAL BANGLADESH

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Introduction

This research addresses the question of how women's status affects fertility by examining the effects of women's participation in rural credit programs on contraceptive use and fertility. In Bangladesh, where women's mobility is limited by purdah practices, the predominant strategy of the population program has been to bring family planning services to women's doorsteps. Although this has been an effective strategy, clearly it has practical limits. An obvious complement to the "doorstep" strategy would be interventions that increase women's ability to take an active role in getting access to services.

In this context, programs that "empower" women and increase their mobility are of interest. This research examines the effects of two programs in rural Bangladesh that are widely believed to be contributing to women's empowerment. The two programs, Grameen Bank and BRAC (Bangladesh Rural Advancement Committee), with over a million and over a quarter of a million female members respectively, are the largest of a growing number of nongovernmental organizations (NGOs) in Bangladesh that seek to address the problem of rural poverty by providing small loans for women's self-employment activities.

This paper analyzes data from a survey designed to investigate the effects of these programs on contraceptive use and fertility.¹ We began with the hypothesis that women who participate in the Grameen Bank and BRAC

¹ The larger study, of which this survey is part, has two major components: (1) two structured sample surveys designed to establish the statistical relationships between credit program participation, empowerment of women, and contraceptive use and fertility; and (2) qualitative research on various aspects and consequences of empowerment of women (for details see Hashemi and Schuler, 1991). This paper presents findings from the first of the two surveys.

programs in Bangladesh have higher levels of contraceptive use and lower fertility than nonmembers, and examine whether observed differentials in contraceptive use and fertility between NGO credit program members and nonmembers are a result of program participation per se, or rather a result of other factors associated with membership. It is possible that as a result of the membership selection criteria of the programs, members differ significantly from nonmembers with respect to variables that affect fertility behavior. Credit programs may intentionally or unintentionally target those women who are most likely to limit their fertility. If such is the case, it is possible that the observed differentials in reproductive behavior are at least partly the result of a selection bias.

The purpose of this paper is twofold. First, we attempt to sort out the effects of program participation on reproductive behavior. Does participating in an NGO credit program indeed cause women to limit their fertility by using modern means of contraception; or did these women already use, or were they likely to start using, modern means of contraception before joining the program? The second goal of the paper is to generate further hypotheses as to how, if at all, participation in NGO credit programs affects contraceptive and reproductive behavior.

For example, credit programs may bring about attitudinal changes through awareness-raising, or they may provide women with information on modern methods of fertility control. Another way that the programs may influence reproductive behavior is by providing credit, to enable women to earn an income of their own. The implementors of these programs believe that when women become more economically independent, and when their economic contribution to the household increases, their power to control important decisions affecting themselves and their families also increases. This would include decisions related to family planning. Access to additional resources may also affect women's desire to have additional children as an insurance

strategy. Knowing which specific aspects of NGO credit programs have a significant effect on contraceptive use is important for formulating population policies.

Background

Among the poor in rural Bangladesh, women live lives of isolation and deprivation. Cultural norms are based on asymmetrical assumptions regarding what is appropriate for each sex, what males versus females need, and what they are entitled to. Girls learn to accept dependence and deprivation relative to male family members. Education for girls is often considered irrelevant. Systems of patrilineal descent, patrilocal residence and pardah (a system based on an ideology concerned with secluding and protecting women to uphold social standards of modesty and morality) interact to isolate and subordinate women. Girls are forced to marry early. As new brides they are expected (even more so than at other ages) to behave in a shy, subservient manner, and they are under pressure to prove their fertility by producing children. At this stage in their lives they are particularly unlikely to make independent decisions related to fertility control or, for that matter, any significant decisions related to their own welfare.

Social and economic dependence on men is the normal situation for poor women in rural Bangladesh. Because of pardah they are confined to the homestead and the area immediately surrounding it, and their contacts with the world outside of the family are extremely limited. (For a more detailed description of the pardah system see Abdullah and Zeidenstein, 1982; Cain et al., 1979; Mandelbaum, 1988; Mernissi, 1987; Papanek and Minault, 1982.) Their isolation constrains their potential to generate income, and makes it very difficult for them to take advantage of family planning, health and other services that may be available, unless these services are brought to their "doorsteps."

Grameen Bank, with over a million female members, and BRAC (Bangladesh Rural Advancement Committee), with over 250,000, are the two largest and best known NGOs involved in "poverty lending" in Bangladesh.² Both started on a small scale shortly after the Bangladesh war of independence. In the first few years of their existence there was a distinct contrast in their programmatic philosophies and strategies, with Grameen Bank being, first and foremost, a bank for poor rural people, and BRAC taking a more multifaceted approach to alleviating rural poverty, with a strong focus on consciousness-raising and nonformal literacy training. In recent years the programs have come to resemble each other to a greater extent. BRAC has begun to put more emphasis on credit and less on consciousness-raising and adult literacy although, in addition to their credit program, BRAC has separate programs involved in education for children and community-based, preventive health care. Both programs, as they have evolved, have focused increasingly on drawing women out of isolation by providing them with economic opportunities. Both programs are believed to be contributing to social change by "empowering" women.

At the community level, BRAC and Grameen Bank have similar programmatic strategies. Both organizations employ large numbers of field staff who reside in the areas where they work. The staff live and dress simply. When they initiate program activities in a new village they arrive on foot or on a bicycle. They hold community meetings and informal discussions with potential participants to explain the program. In order to participate, and to be eligible to receive credit, women are asked to organize themselves into small groups. The groups meet regularly and make regular deposits into a group savings account. Loans are made to individuals, at near-commercial interest rates. There is no collateral but the group as a whole is

² For more details on the two programs see: Bangladesh Rural Advancement Committee, 1990a; Bangladesh Rural Advancement Committee, 1990b; Chen, 1989; Chen, 1983; Chowdhury, 1989; Fuglesang and Chandler, 1986; Grameen Bank, 1989, 1990; Hossain, 1988; Rahman, A., 1986; Rahman, R.I., 1986; Ray, 1987; and Sultana, 1988.

responsible to ensure that each member makes the weekly repayments. The participants themselves decide how to use the loans. In most cases the loans are used for self-employment activities such as paddy processing, poultry and livestock, traditional crafts, and small trade. The average loan is \$65-75 and many loans are as small as \$20-25.

Before receiving credit, new members must attend training sessions so that they understand the program's objectives and modes of operation. The training is also intended to help women to establish an independent identity outside of the family, and to create a sense of unity among the members and a sense of connection and loyalty to the program. For this, Grameen Bank has a number of strategies. To participate a woman must stand up and salute the Grameen Bank worker, look him (or her) directly in the eye (normally a woman looks at the ground in any interactions with individuals of higher status, particularly strangers) and tell him her name and her husband's name (saying the husband's name out loud is virtually taboo under normal circumstances, and many women have trouble doing it). In BRAC's program, the training period is somewhat more lengthy than in the Grameen Bank program, and focuses more directly on building self-confidence and raising awareness. Before they receive their first loan, Grameen Bank participants must learn to sign their names, and they are required to memorize and recite "Sixteen Decisions," most of which have to do with improving their own and their family's welfare, and resisting social evils. BRAC recently adopted "Seventeen Principles," along the same lines. Both lists include having a small family.

In addition to BRAC's greater emphasis on consciousness-raising and training, and the fact that BRAC has separate education and health programs, there are a few other notable differences in the approaches of the two programs. BRAC encourages husbands as well as wives to join, while Grameen Bank allows only one person per household, preferably a woman, to join. However, realizing that men will dominate in a mixed group, both NGOs require

that men and women form separate groups. In general, BRAC tries to work with entire villages and encourages all of those eligible (landless and poor, but able to work) to join. Grameen Bank groups tend to be less concentrated geographically and may represent a slightly better-off section of the very poor. However, to an outsider, these differences probably would be difficult to discern. In general, both programs serve landless rural poor who have very few assets of any kind.

Neither BRAC nor Grameen Bank provides family planning services. If the programs have an effect on contraceptive use, they probably do so by strengthening demand for family planning and/or by increasing women's ability to overcome obstacles to family planning. These obstacles would include women's lack of mobility, lack of cash, lack of family planning information, and opposition or lack of cooperation from their husbands and other family members.

"Empowerment," in the sense that the implementors of the two programs use it, has both economic and social dimensions. The combination of credit, women's solidarity groups and awareness-raising is believed to empower women by enabling them to earn a cash income through various types of self-employment activities. Their enhanced contribution to their families' incomes is believed to strengthen women's bargaining position within the household, so that they are better able to make independent decisions as well as playing a more decisive role in joint decisions. Women's mobility and access to information are strengthened both by the requirement that they attend regular meetings and, in many cases, because their economic activities require interactions in the public sphere. These are some of the ways in which "empowerment" could strengthen demand and make women more successful in overcoming obstacles to family planning.

The possibility that NGO credit programs affect fertility has been explored in at least two other recent surveys in Bangladesh (Mahmud et al., 1990; Barkat-e-Khuda et al., 1990a, 1990b) but neither analysis deals convincingly with the possibility of selection bias. The related literature on women's status and fertility is much more extensive (for an excellent summary and bibliography see Mason, 1984 and 1986.)

Data, Variables, and Methods

Data Source

The Bangladesh Baseline Survey was designed to measure the impact of participation in NGO credit programs on family planning, and consists of three separately selected samples. The first two samples are random samples of Grameen Bank and BRAC members. Grameen Bank and BRAC members were sampled using a two-stage cluster design. In the first stage, a random sample of branches of each organization was selected for each of the four major regions of the country. Branches that were located in areas with family planning NGOs were replaced. Next, a random sample was selected from membership lists of each branch. The third sample is composed of nonmembers and serves as a control group. This sample represents a population that would be eligible to participate in BRAC or Grameen Bank, but living in villages not served by these programs (i.e., poor and functionally landless).³ The control sample was selected from rural villages that are located in the same general area as the Grameen Bank and BRAC sites. The villages in this control group were matched with an NGO⁴ site on the basis of region, village size, and population density. It was also verified that these villages did not have an

³ For Grameen Bank "functionally landless" is defined as owning less than fifty decimals of cultivable land, and/or owning assets that have a total value of less than the value of one acre of medium quality land. BRAC targets households that subsist by selling manual labor, assuming that such households are functionally landless. Households that were obviously wealthy and those that owned more than fifty decimals of land were excluded from the control group.

⁴ Unless otherwise specified, NGO(s) refers to BRAC and Grameen Bank.

intensive presence of credit or family planning NGOs, and that they were sufficiently distant from the Grameen Bank and BRAC sites to ensure that the population did not associate with the members of the NGO sites. Using local informants the wealthy households in each selected control village were identified and discarded because women from these households would not be eligible to join the programs. The remaining households were sampled, and one adult female was selected from each household. The total sample includes 1,248 women. After restricting the sample to currently married women aged 15-49, 1045 cases remain eligible for analysis, of whom 307 are Grameen Bank members and 264 are BRAC members.⁵

Variables

Dependent Variables. The first variable indicates whether or not the respondent is currently using a modern method of temporary contraception (i.e., IUD, pill, foam, condom, or injection). Female and male sterilization are not included in this measure of use of modern contraceptives. A second dependent variable indicates whether the respondent has ever used a modern method of temporary contraception (again, excluding sterilization). A third variable indicates whether the respondent or her husband is sterilized (i.e., tubectomy or vasectomy). Contraceptive knowledge is not analyzed in this paper, because knowledge of modern contraceptives is nearly universal in Bangladesh (see Huq and Cleland, 1990; Mitra et al., 1990). Even among this sample of economically disadvantaged women the large majority of the respondents know at least one modern method of contraception, and know a source for obtaining that method. The cumulative level of fertility is measured by the average number of children ever born. The indicator of

⁵Note that by restricting the sample to currently married women, all non-Muslim women were excluded. Therefore, religion is not used as a control variable in the analyses.

recent fertility is a dummy variable that equals one if the respondent had a live birth in the twelve months preceding the survey, zero otherwise.⁶

Table 1 shows that Grameen Bank and BRAC members are more likely to have used modern temporary methods of contraception than control group members. Forty-two percent of Grameen Bank members and 34% of BRAC members report that they have ever used modern temporary contraceptives, as opposed to 29% for the control group. NGO members also have higher current use of modern temporary methods of contraceptives than the control group, but the difference is fairly small. Sterilization is slightly more common among Grameen Bank members (24%) than among both BRAC and control group members (20%). Consistent with the information on contraceptive use, NGO members have lower recent fertility than control group members. The differential is not reflected in the number of children ever born, presumably because NGO members tend to be older than control group members.

Table 1 about here

Family Planning Program Variables. In order to distinguish between effects caused by NGO participation per se and the effect of above average access to family planning services, the analysis includes a variable indicating whether or not there are any family planning or health facilities in the respondent's village (i.e., a hospital, dispensary, health clinic, Union Health and Family Welfare Center, a qualified doctor, or pharmacy). Table 1 confirms that Grameen Bank programs are often located in villages with such facilities. Fifty percent of Grameen Bank members report having

⁶Because the survey does not contain a birth history, this variable is based on the age of the youngest living child, and on information regarding the outcome of the pregnancy, if any, that occurred since the birth of the youngest living child. This computation produces an error if a woman had a live birth in the past year, but if the child died. In such case, the respondent is incorrectly recorded as not having had a live birth in the year before the survey. Consequently, the indicator of recent fertility used here is an underestimate.

access to one of these facilities within their village as opposed to 31% for BRAC members and 30% for nonmembers.

A second variable indicates whether or not the respondent has ever visited one of these facilities. Again, Grameen Bank members are more likely to have visited a health or family planning facility than BRAC members and nonmembers. Note that the percentage of respondents who have visited a health or family planning facility substantially exceeds the percentage who have access to such a facility within their village. One explanation is that this variable reflects the respondent's history of attendance. It is also likely that a substantial fraction of respondents have used health or family planning facilities outside their village.

NGO Program Participation Indicators. Program participation indicators measure the intensity of program participation, use of loan funds for own activities versus activities of husband or other family members⁷, and the educational effect of NGO participation. The intensity of program participation is measured by duration of membership (in years), frequency of attendance of the NGO meetings (1: always; 0: not always, never), and attendance of workshops (1: ever attended an NGO workshop or training; 0: never attended). It is expected that the effect of program participation on contraceptive and reproductive behavior will increase with the intensity of participation. Local variations in the programmatic emphasis of the NGOs is measured by two dummy variables indicating whether or not education and health and family planning were mentioned by the respondents as major activities of their NGO groups. As mentioned earlier, neither BRAC nor Grameen Bank provides family planning services. When respondents said that

⁷Initial analyses were performed using a variable indicating whether the respondent had ever received an NGO loan. It was decided to drop this variable from the analysis because it is highly correlated with the variable indicating whether a woman ever used a loan to support her own activities, and because nearly all Grameen Bank members have received at least one NGO loan.

health and family planning were important activities of the NGO, in most cases they explained that these topics were emphasized in group discussions. Finally, we constructed two indicators of the respondent's contraceptive behavior prior to joined the NGO. The first one is a dummy variable that equals one when the respondent had used any method of family planning (including traditional methods) before joining the NGO, zero otherwise. The second variable indicates whether or not the respondent, or her partner, were sterilized at the time when she joined the NGO. These variables are important because it allows us to control for the fact that the recruitment strategies of the NGOs may target individuals who had a non-average contraceptive behavior. The inclusion of the above variables in the analysis allows us to identify those aspects of the NGO membership which have the greatest effect on reproductive behavior.

The distribution of the NGO participation variables is shown in Table 2. On average, Grameen Bank members have been a member of their NGO for a slightly longer period of time than BRAC members (32 months and 26 months respectively). Grameen Bank members are also more likely to attend all the meetings than BRAC members. Eighty-one percent of Grameen Bank members have ever used an NGO loan to support their own activities, as opposed to 56% for BRAC members. Although BRAC has separate education programs, while Grameen Bank does not, there is no difference in the percentage of respondents who mention education as an important activity of the NGO. BRAC's greater emphasis on training is reflected in the finding that a higher percentage of BRAC members (39%) have attended an NGO workshop or training than Grameen Bank members (25%). Grameen Bank members are more likely to report that health and family planning are emphasized than BRAC members, but the difference is relatively small (38% versus 31%).

BRAC members are less likely to have used a method of family planning before joining the NGO than Grameen Bank members (39% and 51% respectively).

Eighteen percent of Grameen Bank members and 16 percent of BRAC members indicated that they were sterilized before they joined the NGO.

Table 2 about here

Methods

As noted earlier, it is possible that some of the differentials in reproductive behavior observed here are not effects of program participation, but rather that they result from the fact that the three samples (Grameen Bank, BRAC and the control group) are composed of respondents with different characteristics. Because of their recruitment strategies, it is possible that NGO credit programs attract women who were already using modern contraceptives, or who were more likely to start using modern contraception than women in the control group. We use logit regression and OLS regression models to control for any differences in the background characteristics of the women in each sample. The control variables include the age of the respondent, the number of surviving children, whether or not the respondent lives in a village that has family planning or health facilities, whether the respondent ever attended school, and economic status of the respondent's household. The latter is measured by the number of quilts in the household, a commonly-used indicator of wealth in surveys in Bangladesh.

In a subsequent section, we examine which specific aspects of NGO participation affect contraceptive use and fertility. To test this, we test the net effect of the NGO program participation variables discussed above (i.e., the duration of membership, frequency of meeting attendance, etc.), after controlling for socio-economic background variables. The control group is excluded from this part of the analysis. We also exclude women who reported that they were sterilized before they joined the credit program.

Multivariate Results

Effects of NGO Membership Per Se

The bivariate results presented in Table 1 suggested that Grameen Bank and BRAC members are more likely to have used modern temporary methods of contraception than control group members, and that Grameen Bank members may be more likely to be sterilized than both BRAC members and control group members. Table 3 shows the net effect of participation in Grameen Bank and BRAC on contraceptive use after controlling for socio-economic background variables. Consistent with the bivariate findings, Grameen Bank members are significantly more likely to have ever used a temporary method of contraception than the control group. BRAC members, on the other hand, do not differ significantly from the control group. Membership in Grameen Bank or BRAC does not have a significant effect on either current use of modern temporary contraceptives or sterilization. Table 4 shows similar models for recent and cumulative fertility. Despite the positive effect of Grameen Bank membership on ever use of temporary methods of contraception, NGO membership per se does not significantly affect either recent or cumulative fertility.

Tables 3 and 4 about here

Despite the above findings that membership in NGO credit programs per se only appears to have a significant impact on ever use of modern temporary contraceptives, it would be premature to conclude that these programs do not have the potential to affect contraceptive and reproductive behavior. Indeed, it is likely that the effect of NGO membership depends on the extent of involvement in the program. Clearly, the effects of program participation, if any, are likely to be stronger for women who have been a member for a longer period of time than for women who have joined recently. Similarly, if NGOs affect fertility by providing loans that enable women to engage in income-generating activities, then only women who received such a loan will be affected. Whether the loan was actually used for the women's own economic

activities as opposed to activities of other family members could also make a difference. In the following sections we examine the effects of different levels and aspects of program participation.

Effects of NGO Program Participation Indicators

Table 5 shows the net effect of various program participation indicators on contraceptive use, after controlling for socio-economic background variables. Women who were sterilized before joining the NGO (or whose partner was sterilized) are excluded from the analysis. The higher rates of ever use of modern temporary contraception among Grameen Bank members than among BRAC members (see Table 1) disappears after controlling for the fact that Grameen Bank members were more likely to have used contraceptives before they joined the NGO. In fact, after controls Grameen Bank members are less likely than BRAC members to be currently using modern temporary contraceptives. The type of NGO has no effect on sterilization.

Table 5 about here

As expected, the duration of NGO membership has a positive effect on contraceptive use. This effect holds for each of the indicators of contraceptive use. The frequency of NGO meeting attendance does not have a significant effect on any of the three indicators of contraceptive use. The data suggest that enhancing women's economic roles through credit may increase the likelihood that a woman is currently using a modern temporary method of contraception ($p < .10$), but there is no evidence that providing loans has an effect on ever use or sterilization.

The aspect of credit program participation with the largest discriminatory power is whether or not health and family planning are perceived as important activities of the NGO. Women who think that health and family planning are important activities of their NGO are more likely to

use or to have used a modern temporary method of contraception. The contraceptive behavior of women who report that education is an important activity of their NGO does not differ significantly from that of women who did not mention education as an important NGO activity.

Quite unexpectedly, those women who attended an NGO workshop or training are less likely to have ever used modern temporary contraceptives than those who did not. This finding is counter-intuitive, because women who attend workshops and training have greater mobility than those who do not. More detailed information about these NGO workshops and training programs will be needed to explain this finding. One possibility would be that these workshops positively affect the use of permanent methods of contraception (i.e., sterilization), rather than temporary methods of modern contraception. However, having attended NGO training or a workshop has no significant effect on sterilization. Another possibility is that women who are selected to attend these workshops or training programs tend to have more traditional attitudes than other women.

Education, household wealth, and indicators of access to and use of family planning program facilities have no significant effect on current use of modern temporary contraceptives. This finding may imply that the strong association between education and family planning found in analyses of CPS data (e.g., Mitra et al., 1990: 103-4) in fact reflects differences in NGO activities. Mitra et al. (1990: 104) point out that education tends to have less effect on contraceptive use when family planning programs are strong; it may very well be the case that this not only holds for family planning programs, but also for NGOs. It may be that in purdah societies contact with any of a variety of institutions (or their representatives) outside the family, by reducing women's isolation, will affect women's contraceptive use.

It is a particularly important finding that controlling for the use of any method of contraception before joining an NGO (which is one of the strongest predictors of contraceptive use) does not absorb the effects of health and family planning education provided by NGOs. These findings strongly suggest that NGOs do not merely recruit individuals who are most likely to use modern contraceptives, or who live in villages with better access to these methods. Rather it appears that NGOs are making a significant difference by providing education related to health and family planning.

Table 6 shows the effect of the NGO program participation indicators on the likelihood that a woman had a child in the twelve months prior to the survey, and on the number of children ever born. The results confirm that the type of NGO does not significantly affect either recent fertility or cumulative fertility. Although contraceptive behavior is influenced by credit program participation, indicators of NGO credit program participation do not have a clear discriminatory effect on fertility.⁸ Only the frequency of attendance of NGO meetings has a negative effect on the average number of children ever born (although this indicator did not significantly affect contraceptive use). Consistent with the findings for ever use of temporary modern contraceptives, having attended training or a workshop increases the likelihood that a woman had a child in the year before the survey. Despite the finding that women who perceived health and family planning as important activities of the NGOs are more likely to use modern temporary contraceptives, these indicators have no significant effect on either recent or cumulative fertility. One possible explanation for the lack of an effect of NGO credit program participation on fertility is that most women have only

⁸The finding that education has a negative effect on cumulative fertility, but not on recent fertility or contraceptive use suggests that educated women marry later. Data from the 1989 Bangladesh Contraceptive Prevalence Survey suggest that education, especially at the upper secondary level, is positively associated with age at first marriage (Mitra et al., 1990: 44).

been members for a relatively short period of time. In addition, cumulative fertility is partly determined by fertility behavior prior to joining the NGO.⁹

Table 6 about here

Conclusion

The data from the Bangladesh Baseline Survey show that membership in Grameen Bank or BRAC per se does not have a significant effect on any of the indicators of contraceptive and reproductive behavior studied here. Nevertheless, although NGO membership per se does not affect contraceptive and reproductive behavior, the nature and extent of an individual's participation in these programs and certain activities of the programs can have a significant effect.

With respect to contraceptive use, two important findings emerge from this study. First, the longer a women is a member of an NGO credit program the more likely she use to use a temporary or permanent method of contraception, even after controlling for age and other background variables. Because the average duration of membership in the survey is less than three years, it is expected that the impact of credit programs on contraceptive will increase as time goes by. Second, women who perceive health and family planning as an important activity of their NGO are much more likely to use family planning than women who do not. Although neither of the two credit programs officially provide family planning services or information, women explained that family planning was sometimes discussed at the NGO meetings.

⁹Recall that we are not able to examine this issue any further, because the survey did not include a birth history. In theory, NGO credit programs may also have affected reproductive behavior of members before they joined, as well as the reproductive behavior of nonmembers, through informal networks between members and nonmembers. However, in this particular survey nonmembers were deliberately selected from villages that were physically removed from program villages to ensure that members and nonmembers did not have any contact.

This finding also has important implications because it suggests that credit programs may facilitate the acceptance and use of family planning methods by educating their members about these issues. If this hypothesis proves true, then it is likely that BRAC will be more efficient than Grameen Bank in changing contraceptive behavior because of the former's emphasis on training and nonformal education. The data already show that membership in BRAC has a significant positive effect on current use of temporary modern contraceptive methods, but as yet there is no significant effect on ever use or sterilization.

One of the main goals of both Grameen Bank and BRAC has been to provide women with loans to enable them to engage in cash-earning activities. It was expected that the ability to earn an independent income would make women less dependent on their husband, which would give women greater decision-making power, including in issues related to contraception and fertility. As yet, there is no strong support for the theory that providing women with an independent income increases contraceptive use. Of course, it is possible that the use of these loans is still controlled predominantly by the husbands, even when women are able to use part of these loans to support their own activities. Greenhalgh (1991) argued that informal-sector employment, similar to that promoted by Grameen Bank and BRAC, often lowers women's relative economic status because men treat the family as a personal resource. Because women's work is often considered a family duty, men can directly control women's labor and its proceeds. Alternatively, women may control their labor and proceeds, but may be required to use the profits for the benefit of the family. Greenhalgh suggests that informal employment is unlikely to empower women, if not accompanied by gender equity. In other words, providing women with additional resources, such as NGO loans, is unlikely to improve their relative economic status unless they are able to escape male control. Our data confirm that providing women with loans has no significant effect on reproductive behavior. At present, credit programs

appear to be most effective when they focus on socializing and educating these women, most of whom have never attended school, about health and family planning issues.

Despite the potentially powerful effects of credit program participation on contraceptive use, there are no similar effects on fertility. Even the indicators of NGO program participation that have the largest effect on contraceptive use do not have a significant effect on either the number of children ever born or recent fertility. As yet, the effects of the NGO program participation indicators on contraceptive use are not large enough to affect fertility. It is evident, however, that if the current effects of credit program participation on contraceptive use persist that an effect on fertility is likely to follow.

In sum, the analysis shows that although NGOs tend to recruit women with a better than average likelihood of using family planning, NGOs still can make a significant difference. To what extent NGOs affect contraceptive behavior depends largely on the nature of the member's participation in the NGO. At present, the effect on contraceptive use depends largely on the extent to which the NGO emphasizes health and family planning. It is possible that this varies at the local level within each NGO. Our ongoing qualitative research is focusing on the processes through which women's participation in NGO programs affects family planning and fertility.

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Table 1: Sample Characteristics, by NGO Membership.

	GB	BRAC	CONTROL
Currently Using Modern Temporary Methods of Contraception	18.9	20.1	16.2
Currently Using Any Method of Contraception	50.2	46.2	39.9
Ever Used Modern Temporary Methods of Contraception	42.0	34.1	28.7
Sterilized	23.8	19.7	19.8
Had Child in the Year Before the Survey	16.3	15.7	20.6
Mean Number of Children Ever Born	4.0	4.1	3.7
Mean Number of Children Surviving	3.2	3.3	2.9
FP or Health Facility in Village	49.8	31.1	30.2
Ever Attended School	30.6	22.0	17.7
Mean Number of Quilts in the Household	.8	.8	.6
Mean Age	29.6	29.7	28.5
N of Cases	307	264	474

Note: table includes currently married women aged 15-49 only

Table 2: NGO Program Participation and Membership Characteristics,
by Type of NGO

	Grameen Bank (N=307)	BRAC (N=264)
Mean Duration of NGO Membership (in months)	31.9	25.7
Always Attends the NGO Meetings	88.3	71.2
Perceives Health and FP as Important NGO Activity	37.5	30.7
Perceives Education as Important NGO Activity	38.1	39.8
Ever Attended NGO Workshop or Training	24.8	39.4
Ever Used NGO Loan to Support Own Activities	81.4	55.7
Practiced any method of FP Before Joining the NGO	51.1	39.4

Note: table includes currently married women aged 15-49 only

Table 3: Logit Regression Coefficients of the Effect of NGO Membership on Contraceptive Use, After Controlling for Background Variables.

	Currently Uses Modern Temporary Methods	Ever Used Modern Temporary Methods	Sterilized
Grameen Bank	.204	.565***	.213
BRAC	.290	.210	-.047
Control Group	(ref)	(ref)	(ref)
Age	-.087***	-.092***	.081***
Children Surviving	.190***	.282***	-.132**
Presence of FP/Health Facilities	.057	-.064	.131
Ever Attended School	.111	.453***	-.399*
Number of Quilts	.056	.159***	.067
Constant	.132	.676**	-3.434***
N of Cases	1045	1045	1045

*** p <.01

** p <.05

* p <.10

Table 4: Logit and OLS Regression Coefficients of the Effect of NGO Membership on Reproductive Behavior, After Controlling for Background Variables.

	Had Child in the Past Year	Children Ever Born
Grameen Bank	-.202	-.011
BRAC	-.243	.148
Control Group	(ref)	(ref)
Age	-.248***	.231***
Children Surviving	.699***	---
Presence of FP/Health Facilities	-.175	.101
Ever Attended School	.482**	-.356***
Number of Quilts	-.178**	-.053
Constant	3.202**	-2.768***
N of Cases	1034	1044

*** p <.01
 ** p <.05
 * p <.10

Table 5: Logit Regression Coefficients of the Effect of NGO Membership Characteristics on Contraceptive Use, After Controlling for Background Variables.

	Currently Uses Modern Temporary Methods	Ever Used Modern Temporary Methods	Sterilized
Grameen Bank	-.615**	-.256	-.075
BRAC	(ref)	(ref)	(ref)
Used FP Before Joining NGO	1.235***	2.544***	.285
Duration of NGO Membership	.011**	.020***	.039***
Attends All NGO Meetings	.411	.250	-.726
Attended NGO Workshop or Training	-.253	-.640**	-.736
Ever Used an NGO Loan to Support Her Own Activities	.550*	.063	-.154
Perceives Education as an Important Activity of the NGO	-.050	-.102	-.445
Perceives Health and Family Planning as Important Activities of the NGO	.700***	.817***	.876*
Age	-.058**	-.104***	.007
Children Surviving	.019	.197**	.188
Presence of FP/Health Facilities	.103	-.186	.732
Ever visited FP/Health Facility	.304	.654**	---
Ever Attended School	-.039	-.232	-.485
Number of Quilts	.064	.169*	.104
Constant	-1.367**	-.061	-4.610***
N of Cases	473	473	473

Note: Table includes Grameen Bank and BRAC members only.

*** p <.01

** p <.05

* p <.10

Table 6: Logit and OLS Regression Coefficients of the Effect of NGO Membership Characteristics on Reproductive Behavior, After Controlling for Background Variables.

	Had Child in the Past Year	Children Ever Born
Grameen Bank	.358	.046
BRAC	(ref)	(ref)
Used FP Before Joining NGO	-.375	-.044
Duration of NGO Membership	-.004	-.005
Attends All NGO Meetings	-.491	-.448**
Attended NGO Workshop or Training	.571*	.185
Ever Used an NGO Loan to Support Her Own Activities	-.406	-.229
Perceives Education as an Important Activity of the NGO	.178	-.053
Perceives Health and Family Planning as Important Activities of the NGO	.059	-.000
Age	-.188***	.257***
Children Surviving	.567***	---
Presence of FP/Health Facilities	-.231	-.113
Ever visited FP/Health Facility	.374	.312*
Ever Attended School	.146	-.496***
Number of Quilts	-.279**	-.041
Constant	2.237***	-2.794***
N of Cases	470	473

Note: Table includes Grameen Bank and BRAC members only.

*** p <.01
 ** p <.05
 * p <.10