Assessing the Impact of the Grameen Bank on Women’s Status and Fertility in Bangladesh

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ASSESSING THE IMPACT OF THE GRAMEEN BANK ON WOMEN’S STATUS AND FERTILITY IN BANGLADESH*

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1. INTRODUCTION

The Grameen Bank (GB) is a recently developed, innovative, and highly organized credit union system in Bangladesh. It has achieved remarkable success in income generation among the rural poor, particularly poor women. Currently it serves more than 1.5 million members, 93 percent of whom are women. The Bank appears to have had a substantial economic and social impact on the lives of poor women in Bangladesh.

By any standard, women in Bangladesh have a subordinate position in the family and in the society, primarily because of their seclusion from the labor market and social activities by the patriarchal system and religious proscription. It is generally believed that lower status of women is an important cause of high fertility in Bangladesh. (Fertility has declined considerably in the last decade, but the total fertility rate is still over 4.5.) Poverty exacerbates women's position and thus may keep their fertility at a high level. GB activities can play a central role in combating poverty and in emancipating women in Bangladesh.

The purpose of this paper is to review the potential impact of GB activities on aspects of economic and social life that affect women's status and fertility. In the following sections of this paper we review GB activities and what is known about their economic and social impacts and their impacts on fertility. We then present a conceptual framework for considering how the GB may affect women's status and fertility, and describe a study in progress whose broad objectives are to examine the impact of the Grameen Bank on women's status and fertility.
2. THE GRAMEEN BANK (GB)

The word "Grameen" means village-based or rural. (It is derived from the Bangla word "Gram," meaning village.) The primary objective of the Bank is to raise the income and the standard of living of the most disadvantaged segments of the rural community through access, in a highly organized manner, to credit without collateral. The secondary objective is a non-economic one: social development effort to raise the consciousness of poor and often illiterate people. This is attempted through discussion of problems and dissemination of information on such issues as health (hygiene, nutrition, and health practices), education, small family norms, social problems, and collective enterprises.

The GB was established in 1976 by a Bangladeshi professor of economics, Muhammad Yunus, in a small village named Jobra (in the South-eastern part of Bangladesh) to provide credit to village landless people, particularly women, for income generation. The project demonstrated its strength in Jobra and its surrounding villages during 1976-79 as a specialized credit institution. In 1979, the GB was extended to another region of the country (Tangail), achieved remarkable success as a credit union, and was further extended to several other regions. In October 1983, the GB was transformed into an independent bank. The Government provided 60 percent of the initial paid-up share capital of the Bank, while 40 percent was held by the GB members (Grameen Bank, 1986).

By December 1992, there were 1.5 million members (of which 93 percent were women) spread over approximately 32,000 (50 percent) of the villages in Bangladesh (Daily Star, Dhaka, 26 May 1993). The GB has been able to cover about 20 percent of landless households in the rural areas of the country. The Bank also makes loans to its members to build low-cost houses; by December 1992, more than 170,000 houses had been built with GB loans.

The Grameen concept of a credit institution for the poor has proved to be highly promising; it has been popular in many countries of Asia,
Africa, and South America. Several projects have also been initiated in some disadvantaged communities in the U.S.A.

ORGANIZATION OF THE GRAMEEN BANK

A village individual from a "landless" household (one owning 0.5 acre or less of cultivable land) is eligible to become a member of the Bank. Membership is obtained by forming a group of five individuals of the same sex, usually like-minded and with similar socio-economic background from the same village, who have trust and confidence in each other. No more than one individual from the same household can be a member of a group. Each group has a chairperson and a secretary, who are elected by the members. Chairpersons receive special training on the procedures of the Bank and on other social development activities. Several groups in the same village (usually between 3 and 8 groups, i.e., 15-40 members) are federated into a "Center". A "Center Chief" and a "Deputy Center Chief" are elected from the chairpersons of the groups. They conduct the weekly meetings of the center, recommend loan proposals, supervise loan activities, and assist bank workers in their loan-transaction activities.

GROUP ACTIVITIES

The Grameen Bank delivers services to its members through the "group," the basic and lowest level administrative unit of the Bank. The chairperson is the chief of a group, who organizes a weekly meeting, where each member must be present. Usually the individual member her/himself decides how to use the loan. However, the plan of investment of the member's loan money is discussed in the group meetings. The members share their experiences in the discussion; this helps in developing a feasible plan of investment. The chairperson and secretary then recommend the loan to the GB branch. Loans are made to members at commercial rates of interest without any collateral. The group as a whole is responsible to ensure that each member makes regular repayments.

The chairperson and secretary must maintain regular contact with the members of the group to provide group support and encouragement. The underlying philosophy of the GB is to provide advice and peer
pressure for feasible investment, hard work, regular repayment, and maintenance of discipline among the members. This has generally led to good credit decisions, good investments, and low default rates in the GB system. The default rate is only about two percent.

Loans are disbursed and repayments are collected in the weekly meetings. The Bank workers attend some meetings, where they transact the money and discuss strategies, progress, and future plans and actions of the Bank.

RECRUITMENT OF NEW MEMBERS

Landless individuals interested in participating in Bank activities form a group of five. In about four weekly meetings, GB workers give intensive training on the rules and procedures as well as the philosophy of the bank. The training covers: signing one's name, basic accounting, possible income-generation activities, and how to establish an independent identity outside of the family. The training also emphasizes how to establish a network of similar individuals, particularly to create a sense of unity among the members and a sense of connection and loyalty to the program. In order to make an effective utilization of the loan, the GB worker discusses how to make a feasible investment plan. As soon as a member demonstrates that she/he understands the basics, she/he can apply for membership and a loan. The chairperson then recommends the application to the Bank for approval.

BANKING ACTIVITIES

Upon the recommendation of the group, a member receives a loan which is invested for income generation. The sizes of loans range from US$20 to $200; the average loan is less than US$100.

As shown in Table 1, loans are usually invested in self-employment activities. The loan is repayable in weekly installments. There are exceptions to this rule; for example, for those investments in which returns take some time, token weekly installments are paid on regular basis at first.

The members have two types of funds in the Bank: the "group fund" (or group saving) and "emergency fund" (or insurance fund). Each member has to contribute 5 percent of every loan to the group fund. This
amount is automatically deducted from the loan. A member can borrow from the group fund for the purpose of consumption or investment in special circumstances. The emergency fund is comprised of 25 percent of the total interest accrued on any bank loan. A member can utilize this emergency (or insurance) fund in case of an accident or crop failure or other emergency occasions. If the member dies, her/his family members receive this fund. Given the poverty condition of the population, these funds give some economic security to the GB participants and their immediate family members.

<table>
<thead>
<tr>
<th>Table 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top 25 Economic Activities for Which the Loans are Utilized</td>
</tr>
<tr>
<td>1    Milch cow                14  Cloths</td>
</tr>
<tr>
<td>2    Paddy husking            15  Mat making</td>
</tr>
<tr>
<td>3    Cow fattening            16  Land lease</td>
</tr>
<tr>
<td>4    Rice/Paddy               17  Land cultivation</td>
</tr>
<tr>
<td>5    Bullock                  18  Fishing net making</td>
</tr>
<tr>
<td>6    Bamboo works             19  Sewing machine purchase</td>
</tr>
<tr>
<td>7    Grocery shop             20  Vegetables</td>
</tr>
<tr>
<td>8    Goat                     21  Betel leaf cultivation</td>
</tr>
<tr>
<td>9    Poultry raising          22  Puffed rice making</td>
</tr>
<tr>
<td>10   Small shop               23  Rickshaw</td>
</tr>
<tr>
<td>11   Wheat/flour              24  Weaving (saree)</td>
</tr>
<tr>
<td>12   Cane works               25  Pisciculture</td>
</tr>
<tr>
<td>13   Seasonal agricultural products</td>
</tr>
</tbody>
</table>

NON-ECONOMIC SOCIAL DEVELOPMENT ACTIVITIES

In 1984, a national workshop of 100 women center chiefs of the Bank recommended a set of decisions known as the “Sixteen Decisions” (Figure 1) in an effort to raise the consciousness of the poor and often illiterate GB participants on issues relating to human well-being such as education, housing, health, and civil responsibilities. Each GB member has to memorize these decisions and recite them in the weekly meetings.
THE SIXTEEN DECISIONS

1. THE FOUR PRINCIPLES OF GRAMEEN BANK -- DISCIPLINE, UNITY, COURAGE AND HARD WORK -- WE SHALL FOLLOW, AND ADVANCE IN ALL WALKS OF OUR LIVES.
2. PROSPERITY WE SHALL BRING TO OUR FAMILIES.
3. WE SHALL NOT LIVE IN DILAPIDATED HOUSES. WE SHALL REPAIR OUR HOUSES AND WORK TOWARDS CONSTRUCTING NEW HOUSES AT THE EARLIEST.
4. WE SHALL GROW VEGETABLES ALL THE YEAR ROUND. WE SHALL EAT PLENTY OF IT AND SELL THE SURPLUS.
5. DURING THE PLANTATION SEASONS, WE SHALL PLANT AS MANY SEEDLINGS AS POSSIBLE.
6. WE SHALL PLAN TO KEEP OUR FAMILIES SMALL. WE SHALL MINIMISE OUR EXPENDITURES. WE SHALL LOOK AFTER OUR HEALTH.
7. WE SHALL EDUCATE OUR CHILDREN AND ENSURE THAT THEY CAN EARN TO PAY FOR THEIR EDUCATION.
8. WE SHALL ALWAYS KEEP OUR CHILDREN AND THE ENVIRONMENT CLEAN.
9. WE SHALL BUILD AND USE PIT-LATRINES.
10. WE SHALL DRINK TUBEWELL WATER. IF IT IS NOT AVAILABLE, WE SHALL BOIL WATER OR USE ALUM.
11. WE SHALL NOT TAKE ANY DOWRY IN OUR SONS’ WEDDING, NEITHER SHALL WE GIVE ANY DOWRY IN OUR DAUGHTERS’ WEDDING. WE SHALL KEEP THE CENTRE FREE FROM THE CURSE OF DOWRY. WE SHALL NOT PRACTICE CHILD MARRIAGE.
12. WE SHALL NOT INFlict ANY INJUSTICE ON ANYONE, NEITHER SHALL WE ALLOW ANYONE TO DO SO.
13. FOR HIGHER INCOME WE SHALL COLLECTIVELY UNDERTAKE BIGGER INVESTMENTS.
14. WE SHALL ALWAYS BE READY TO HELP EACH OTHER. IF ANYONE IS IN DIFFICULTY, WE SHALL ALL HELP HIM.
15. IF WE COME TO KNOW OF ANY BREACH OF DISCIPLINE IN ANY CENTRE, WE SHALL ALL GO THERE AND HELP RESTORE DISCIPLINE.
16. WE SHALL INTRODUCE PHYSICAL EXERCISE IN ALL OUR CENTRES. WE SHALL TAKE PART IN ALL SOCIAL ACTIVITIES COLLECTIVELY.

* Formulated in a National Workshop of one hundred women centre chiefs in March 1984, the 16 Decision might be called the social development, constitution of Grameen Bank. All Grameen Bank members are expected to practice and implement these decisions.
In weekly meetings, the chairperson leads discussions on how to improve one's own and one's family's welfare. They discuss the education of children and adults and health care, including child care, maternity, cleanliness, disease prevention, and nutrition. Members are advised to have good housing conditions, including making water and sanitation improvements. The discussions emphasize small families and provide information on the availability of family planning resources.

In the consciousness-raising efforts a particular emphasis is given to women's role in the family as well as in the society. Women are encouraged to actively participate in the decision-making processes, to develop self confidence, and to establish an independent identity outside the family. They are encouraged to act against some cultural taboos which keep women in a subordinate position and keep them away from economic and social transactions. For example, GB members are encouraged to arrange the wedding of their immediate family members without dowry. Women are encouraged to attend public institutions such as the market place, bank, and hospital in order to free them from the dependence on men as mediators. As another example, a female member must look at a Grameen Bank worker directly in the eye (when a rural Bangladeshi woman has any interactions with a male stranger or with a person of higher status, she usually looks at the ground or covers herself with her saree) and tell her/him her name and her husband's name (pronouncing one's husband's name loudly is also a taboo in the villages). Furthermore, during weekly meetings, members (both men and women) do physical exercise (also a taboo for women to do outside their homes).

Workshops are organized in order to up-date members' knowledge on these topics of consciousness-raising efforts of the Bank. Chairpersons receive special training on these topics in regional offices.
3. THE IMPACT OF THE GRAMEEN BANK ON PARTICIPANTS

In this section we review previous research on the economic, employment, and social impact of the Grameen Bank on its participants. Some of these studies examine changes in GB participants' situations from before to after they joined the GB. Other studies compare members to nonmembers or to persons living in control villages. As discussed in more detail below, these latter types of studies may suffer from selectivity bias if the individuals who become members of GB differ from those who do not join in ways that may affect the outcomes of interest (e.g., if they had higher incomes before joining the GB).

ECONOMIC IMPACT

GB participants have a substantially higher level of income and also a more favorable income distribution than non-participants (Hamid, 1986; Hossain, 1986, 1988; Rahman and Hossain, 1986). GB members had incomes about 43 percent higher than the comparable group in the control villages, and about 28 percent higher than the non-participants' comparable group in the GB villages (Hossain, 1988). Female loanees had 50 percent higher household income than comparable women who did not receive loans (Kamal, Rahman, and Ghani, 1992). Female participants did better than male participants in income generation. However, business capital was lower for female loanees than for male loanees (Rahman 1986a).

Overall consumption (food and non-food) was higher among GB members than non-members, although most GB members, in absolute terms, are still basically poor (Ahmad, 1987; Rahman and Hossain, 1986). In poor households, as expected, food constitutes the largest share of total expenditure. The share of food in total expenditure was lower in GB households than non-GB households. Also the share of food in total expenditure of the GB households has decreased compared with the past. Consumption of clothing, housing, health, education, and transport was higher in loanee households compared with non-loanee households (Hossain 1988). Rahman and Hossain (1986) noted that the higher expenditure was
mostly on housing and education; the difference between loanee and non-loanee households' expenditures on health was not significant.

A reflection of this consumption pattern is seen in health and nutrition. Average caloric, protein, and other nutrient intake was significantly higher in the GB households than non-GB households, probably due to the higher income of the former (Rahman A, 1989). Nutritional status of the children (measured by height-for-age and weight-for-age) was higher in the GB than in the non-GB households during 1985-86 (Rahman A, 1989). Several studies have suggested that better health and nutrition in the GB households is due both to the GB’s direct income-raising activities and also to its consciousness-raising activities (through the “Sixteen Decisions”) (Rahman A, 1989; Quanine, 1989).

IMPACT ON EMPLOYMENT AND OCCUPATION

Unemployment and under-employment have declined in the areas with GB programs. About 31 percent of loanees were unemployed before participating in the bank activities, whereas only 11 percent were unemployed during a survey that was conducted in 1985-86 (Hossain, 1988). There has been a noticeable occupational mobility from farm wage labor to trade and business for males and from domestic services to entrepreneurial activities for females (Ahmed, 1985). The average wage rate of farm laborers has increased in the GB villages, probably because of a reduction in the supply of laborers (due to an increase in alternative sources of employment) and a rise in the demand for laborers (due to the increased volume of activities).

In participating households, women now spend more time in income-generation activities than before. Female loanees spent 16 standard days per month compared to 2.4 standard days per month spent by the non-loanee women. Also, female GB loanees spent, on the average, about 5 hours per day compared to about one-and-a-half hours per day spent by non-GB women in income-generation activities (Rahman A, 1986).

SOCIAL IMPACT

Income-earning activities of the GB female members coupled with the Bank's consciousness-raising efforts through the “Sixteen Decisions” are
likely to substantially enhance women's status. Women's status is a concept which is difficult to measure. Amartya Sen (1990) has argued that a positive change in women's status would be characterized by: (a) a better breakdown position (in the event of a breakdown in household cooperation); (b) a clearer perception on the part of the woman of her own individuality and her own interests; and (c) a clearer perception on her part, as well as on the part of her family, of her contribution to the joint welfare of the household.

Table 2 shows some data which support the proposition that GB activities are associated with higher women's status. Whether they work themselves or their husbands use their loans for income earning, female loanees have substantially higher consumption of clothing and health care than their counterparts who did not have access to loans. Male-female inequalities in food consumption tended to be less more in the households of female loanees than in those of male loanees. Passive female loanees (who passed the entire loan to their husband or male relatives) consumed more meals than the wives in the households of male loanees. Food consumption of both males and females was higher among female-loanee than in male-loanee households.

Qualitative data on several indicators suggest a positive change in women's position in the family. A survey of 120 female GB members had questions on wives' perceptions about their husbands' attitude about the wife's position in the family (Ahmed, 1985). When asked about their husbands' attitudes before they took GB loans, over half of the wives reported that they perceived that their husbands considered the wives to be inferior to them then and less than half of the wives reported that they perceived that their husbands considered the wives as equal. When asked about their husbands' attitudes after the wives took GB loans, 93 percent of the wives reported that their husbands considered the wives as equal, whereas only 6 percent reported that the husbands considered their wives as being inferior. Twenty-nine percent of the wives reported that they were physically abused by their husbands before joining GB, and 40 percent reported verbal abuse. Seventy-five percent reported that they received increased affection from their husbands
after participation in the GB activities, and 79 percent reported increased happiness in the family.

Table 2
Non-Food Consumption, by Type of Household

<table>
<thead>
<tr>
<th>Type of Household</th>
<th>Number of cases</th>
<th>No. of sarees bought</th>
<th>No. of shirts bought</th>
<th>Medical expenses for wife</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active female GB loanees</td>
<td>113</td>
<td>2.1</td>
<td>1.1</td>
<td>62</td>
</tr>
<tr>
<td>Passive female GB loanees</td>
<td>17</td>
<td>2.1</td>
<td>1.4</td>
<td>57</td>
</tr>
<tr>
<td>Male GB loanees</td>
<td>37</td>
<td>1.6</td>
<td>1.0</td>
<td>16</td>
</tr>
<tr>
<td>GB village non-members</td>
<td>55</td>
<td>1.8</td>
<td>1.0</td>
<td>38</td>
</tr>
<tr>
<td>Control village non-members</td>
<td>49</td>
<td>1.6</td>
<td>0.7</td>
<td>16</td>
</tr>
</tbody>
</table>

Relatively richer groups who do not qualify for GB membership

<table>
<thead>
<tr>
<th>Type of Household</th>
<th>Number of cases</th>
<th>No. of sarees bought</th>
<th>No. of shirts bought</th>
<th>Medical expenses for wife</th>
</tr>
</thead>
<tbody>
<tr>
<td>GB village (.51-2.5 acres)</td>
<td>53</td>
<td>2.2</td>
<td>1.2</td>
<td>81</td>
</tr>
<tr>
<td>GB village (2.5+ acres)</td>
<td>20</td>
<td>2.6</td>
<td>1.2</td>
<td>22</td>
</tr>
</tbody>
</table>


Rushidan Rahman (1986) studied some aspects of decision-making in the family in terms of daily purchase of food, clothing, health care, and decisions on the weddings of children. Wives of male loanees exercised the lowest level of decision-making, passive female loanees exercised a higher level of decision-making, and the active female loanees exercised the highest level of decision-making.
4. IMPACT OF GB ACTIVITIES ON FERTILITY: A CONCEPTUAL FRAMEWORK AND REVIEW OF PREVIOUS RESEARCH

CONCEPTUAL FRAMEWORK

Fertility may be affected by both the economic and social impacts of the GB activities. Economic improvement, GB consciousness-raising efforts, and changes in women's work, nuptiality patterns, and women's status are important mechanisms through which the GB may affect fertility. (See Bulatao et al., 1983, and Mason, 1984 for detailed discussion of these general issues.) In Figure 2, we show some possible pathways through which the GB may affect fertility.

Women's income earning can reduce desired fertility through increases in the opportunity cost of time in child bearing and rearing and though the incompatibility of work with child care (Freedman et al., 1963; Karsada, 1963; Ware, 1976). However, in traditional societies a negative effect of work on fertility may not be observed because women

Figure 2

Possible Pathways Through Which GB Activities Can Affect Fertility
often work in the non-modern sector, where work is not necessarily incompatible with child care, because child care support is often available from kin (Denton, 1979; Goldstein, 1972; Peek, 1975) and because the work place may be the home or neighborhood, where both child care and income earning can be performed at the same time without much conflict (DaVanzo and Lee, 1983; Jaffe and Azumi, 1960). However, work opportunities for women may reduce breastfeeding, which could put upward pressure on fertility (because breastfeeding, especially if unsupplemented, extends the infertile period following a birth), unless offset by increased use of contraception. Interruption of breastfeeding due to women's work may increase infant mortality in a poor environment with lack of hygienic water supply and sanitation, which again would put upward pressure on fertility.

An increase in the level of family's income through GB activities may affect fertility through various mechanisms. It may affect fertility positively because with increased income parents can afford to have larger families (Bulatao and Lee, 1983). On the other hand, higher income also may reduce desire for children in several ways. Substitutes for children's services become more affordable as income rises, which may lead to reduced perceived need for children; for example, alternative means of old age support and insurance against risk may become available as income rises (Mueller and Short, 1983; Potter, 1983). Parents' capacity to buy modern goods increases with the rise in income, and aspirations for goods may compete with the demand for children, leading to a reduction in desired family sizes (Freedman, 1975).

Capacity to buy health care and nutrients due to higher income may, coupled with Grameen Bank's health consciousness efforts, lead to increased child survival, which reduces the number of births a couple needs to achieve a desired number of surviving children. Increased child survival tends to reduce fertility, since there is less need to have additional children to replace those who may die (Preston, 1978). Furthermore, with the higher life expectancies for children, parents may
now want to invest more in each child, thereby raising the “costs” of each child, reducing the number that the family can afford to have.

Similarly, GB's emphasis on children's education may lead parents to desire more education for their children, which could increase the cost of children and reduce the number of children desired by parents. The greater income that is earned by the women will increase their ability to send children to school. Furthermore, children attending school are less likely to participate in household domestic and economic activities, reducing their economic value during childhood, resulting in reduced desired fertility.

Economic opportunities for unmarried women may lead to a delay in the age at marriage, which, other things the same, will eventually have a negative impact on fertility. Similarly, economic independence achieved by widows, divorcees, and separated women, through the participation in the GB activities, may reduce remarriages and, in so doing, have a negative impact on fertility. Remarriage is quite common in Bangladesh; for example, among annual marriages, more than 15 percent of brides are either divorced, separated, or widowed (ICDDR,B, 1992). On the other hand, it is also possible that economic improvement makes the marital lives of the poor more stable, leading to an increase in marital fertility.

Women's gainful employment provides them with increased economic independence from men; their greater contribution to family resources should lead to greater “bargaining power” for them in household decision-making, including fertility decisions (Schultz, 1989). There can be positive changes in women's status in these ways and through the consciousness-raising efforts of the GB, all of which may lead to reduced fertility.

GB provides women with an opportunity of an exposure to modernizing influences and associations. Women receive new and innovative ideas about life styles other than just childbearing. These modernizing influences are likely to lead to reduced desired family sizes. GB's emphasis on small families and information regarding family planning activities provide couples with motivation for family limitation and
better information about and accessibility to contraceptive methods, enabling them to better regulate their fertility.

Son preference is very strong in Bangladesh because of women's economic and social dependence on men. According to Cain (1979, 1980, 1982, 1986), sons are a "necessity" as "risk insurance" to parents, particularly to women. In previous work, we have shown that son-preference has been an important factor in keeping fertility at a high level in Bangladesh (Rahman et al., 1991; Rahman and DaVanzo, 1993). The value of boys relative to girls may decrease as couples see more future economic opportunities for girls than they did before. Women's own economic independence should reduce their reliance on sons for old-age support, leading to a reduction in son-preference. Reduced son-preference is expected to reduce fertility.

PREVIOUS RESEARCH ON THE EFFECT OF THE GRAMEEN BANK ON FERTILITY BEHAVIOR

There have been only a few studies of the impact of the Grameen Bank on fertility. Moreover, their findings are generally inconclusive. These studies find some association between GB participation and contraceptive use, but no significant association with fertility. All of these studies compared the fertility behavior of currently married women participating in GB with that of "comparable" women in control villages. One such study found that contraceptive use was 49 and 47 percent among the wives of male loanees and active female loanees, respectively (Rahman R. I., 1986), but below 30 percent among a comparable group of women in control villages as well as in program villages. A recent and larger-scale study found that contraceptive use was 53 percent among female loanees and 36 percent among a comparable group in control villages (Kamal, Rahman, and Ghani, 1992).

None of the studies, however, observed any significant differences in fertility, although the duration of exposure to the GB activities was related to fertility: age-specific-cumulative fertility decreased with the duration of participation (Kamal, Rahman, and Ghani, 1992). Schuler and her colleagues found that contraceptive use was higher, though not significantly, among the participants in GB and BRAC (Bangladesh Rural Advancement Committee, a program which also provides credit to the rural
poor) than among comparable women in the control villages (Schuler, Meeker, and Hashemi 1992). They also found that contraceptive use increased with the duration of participation.

Kamal, Rahman, and Ghani (1992) also documented that about half of the contraceptive users among GB participants and one-third of the users among non-participants have adopted permanent methods of contraception. The data indicate, however, that about two-thirds began use of contraception before joining the bank. Ray (1987) showed a similar picture -- that a large number of GB participants adopted permanent methods of contraception before joining the program. These findings suggest that the participants probably are from a selective group who also chose to adopt family limitation. Based on a survey in 1992, Amin et al. (1993) compared contraceptive use of the members of GB, BRAC, and Bangladesh Rural Development Board (BRDB). (BRDB, a government credit program which gives loans through village cooperatives. The BRDB member one does not have to be a landless.) They found that participants of GB, BRAC, and BRDB had higher contraceptive use than non-participants and that contraceptive use increased with the duration of participation. However, they did not find any differences in fertility, measured by children ever born, between participants and non-participants.

WHY IS NO SIGNIFICANT IMPACT OF THE GB ON FERTILITY OBSERVED IN OTHER STUDIES?

We have seen in the review above that substantial economic and social improvement of the landless, particularly of women, has been associated with the participation in the GB activities, but that the findings of fertility-impact studies are quite mixed. The latter findings may be due to the fact that the GB activities have no net impact on fertility, or alternatively that the studies failed to measure the impact due to methodological inadequacies.

We indicated in the conceptual framework that GB activities can have both positive and negative impacts on fertility, resulting in no net impact. For example, breastfeeding might have decreased among working women, but increased use of contraception just have compensated for the fertility-increasing impact of the reduced breastfeeding. Another reason may be that the GB participants are still poor; the
achieved improvement of their lives probably may not be enough to have a significant impact on fertility or that the positive and negative effects on fertility of increased income offset one another.

More serious reasons for not observing any significant impact of the GB on fertility may lie in the design of the studies. Two of the three studies (Kamal, Rahman, and Ghani, 1992; Schuler, Meeker, and Hashemi, 1992) compared the fertility behavior of GB participants in program villages with that of comparable women in control villages. Control villages were selected from the areas where there were no credit or special programs (e.g., family planning program). This study design may have serious limitations. First, these studies compare fertility between two areas which probably suffer from biases related to the process of program placement. For example, it is possible that during the selection process, GB selected the poorest villages, with the greatest need for an economic program. In contrast, it is possible that the family planning program was placed in better-off areas, where the desire to regulate fertility is greater. However, we know of no studies that have examined these possibilities. Second, the study design is such that control villages have no special program like family planning programs, but it is not known whether selected GB villages were covered by a family planning program. Third, the investigators recognize that selecting the sample from the village-specific lists of GB members may lead to a problem of selectivity bias. For example, participants in a program such as GB are likely to be innovators who are also more likely to accept contraception than others. One study (Kamal, Rahman, and Ghani, 1992) attempted to deal with this issue by having the interviewers ask women a hypothetical question: "If GB wanted to start a credit program in this village, would you like to join?" Those women who gave an affirmative answer were included in the sample of the comparable group. However, we cannot know whether the answers to the hypothetical question correspond to what women really would do if the GB began operations in their village.
An additional limitation is that these studies considered only currently married women. Exclusion of women who are not currently married does not allow an examination of total impact on fertility. If the GB leads to delayed first marriage and a lower rate of remarriage of widowed, divorced, and separated women due to economic independence, such effects would not be observed in these studies. Therefore, to correctly measure the full potential of the GB activities on fertility, all women, irrespective of marital status, should be included in the study.
5. OUR STUDY

We are now conducting a household survey to collect detailed current and retrospective information on each woman’s fertility, marriages, work, income-generating activities, and related behavior. The sample will consist of women between 15 and 49 years of age, irrespective of marital status, from 2,400 households; these households will be selected from each of 11 strata according to the duration of exposure to GB activities (Table 3).

Table 3
Sample Design: Number of Households by Sub-District and Duration of Exposure

<table>
<thead>
<tr>
<th>Sub-District</th>
<th>Duration of Exposure to GB</th>
<th>5+ years</th>
<th>5+ years</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ghatail</td>
<td>None</td>
<td>300</td>
<td>200</td>
<td>700</td>
</tr>
<tr>
<td>Kalihati</td>
<td>200</td>
<td>300</td>
<td>200</td>
<td>700</td>
</tr>
<tr>
<td>Mirzapur</td>
<td>200</td>
<td>200</td>
<td>None</td>
<td>400</td>
</tr>
<tr>
<td>Muktagachha</td>
<td>300</td>
<td>100</td>
<td></td>
<td>400</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>900</td>
<td>900</td>
<td>600</td>
<td>2,400</td>
</tr>
</tbody>
</table>

This strategy will enable us to study labor market participation by marital status and to study influences on age at marriage. Also, it will allow for studying the influences of women’s income earning on the stability of their marriages and on their fertility. Villages will be selected from Ghatail, Kalihati, and Mirzapur sub-districts of Tangail district and from Muktagachha sub-district of Mymensingh district. Ghatail and Muktagachha sub-districts have a common border.

The villages will be selected purposively based on the duration of exposure to GB, with the target subsample sizes shown in Table 3. We will select the villages in such a way that they are as comparable as possible in terms of community characteristics as well as exposure to family planning and health programs. Selection of random samples of households will allow us to study the selectivity processes (if any) of participation in the Grameen Bank (and other development programs).
We will use five questionnaires -- Household Roster, Household Economy, Female Life History, Male Life History, and Community Questionnaire, modelled, generally, after those used in the Second Malaysian Family Life Survey (DaVanzo et. al., 1993). The Female Life History Questionnaire will be our key data collection instrument and will be administered to every selected woman. It will collect retrospective data on all pregnancies and related events, marriages, migration, education, work history, membership in development programs, child care, education of children, family background, and intergenerational transfers between the respondent and her parents. Histories of breastfeeding, child care, and contraceptive use will be recorded for all birth intervals. As noted below, retrospective data will permit analyses of changes in these behaviors from the time period before the GB began its activities to the current time (or some time after the program began) in both program and non-program areas.

ANALYSES

We will initially compare the outcome variables in the 11 cells (Table 2) for five three-yearly time periods (1979-81, 82-84, 85-87, 88-90, and 91-93). This will allow before/after and program/non-program comparisons with differing degrees of exposure to GB. Data analysis will be undertaken in two steps. First, we will conduct descriptive analyses which will help describe patterns, find appropriate transformations of the data, and detect multicollinearity. Then, in order to investigate the causal relationships among the variables specified in the conceptual framework, we will use multivariate analyses that will enable us to control for the confounding effects of other individual and contextual variables. These analyses will involve following dependent variables:

Determinants of participation in GB. We will attempt to examine the determinants of participation because it is important to know which women choose to participate and how it is influenced by various socio-economic variables.

Fertility, measured by the probability of having a birth in the above-specified five time periods (or using hazard models with time-
varying covariates, will be the dependent variable, while participation
in income-generation activities and other control variables will be
independent variables. Our analyses will recognize that decisions
regarding participation in income generating activities and fertility
may be jointly determined, and, hence, inclusion of these two variables
on two sides of one equation may bias the effect estimates. We will use
appropriate techniques of analysis for dealing with this problem.

**Contraceptive use and breastfeeding** will also be analyzed. The
considerations in analyzing influences on these key proximate
determinants of fertility will be similar to those just mentioned.

To examine the impact of GB on women’s status, we will consider the
following measures of women’s economic independence:

1. *the proportion of the women's contribution* to family
   expenditure, her own savings, and whether she holds a separate
   bank account;

2. *the women’s role in decision-making* regarding the purchasing of
clothes, food, child and health care, and the schooling of
children;

3. *her social role*, as measured by her involvement in decision-
   making in non-monetary activities (e.g., use of contraception);

4. *son-preference related attitudes*, measured by desired family
   size by gender of the children (Coombs 1979), expectation of
   children's education by gender, attitudes about daughters’
   ability to provide old-age support, and attitudes about self-
   support in old age;

5. *daughters' versus sons' education*, measured by actual school
   enrollment and achievement; and

6. *marriage age, divorce, and remarriages.*
CURRENT STATUS OF THE PROJECT

The survey instruments have been developed in consultation with other experts on studying female status and fertility in Bangladesh and on development programs such as the Grameen Bank. The questionnaires have been field tested on several occasions and have been revised accordingly. Interviewer training will begin shortly. Field work will be conducted this fall.
6. SUMMARY

In this paper, we have reviewed previous studies that suggest that participation in the highly organized and innovative activities of the Grameen Bank (GB) have been associated with economic and social improvements of poor Bangladeshi women. There are only a few studies, however, of the impact of the GB on fertility, and these studies failed to document significant impact on fertility. Furthermore, these studies have some methodological limitations which may bias their results (as may some of the studies that suggest economic improvements).

We are undertaking a study to measure the impact of the GB on women’s status and fertility in four sub-districts of Tangail and Mymensingh districts of Bangladesh. We will collect current and retrospective information on income-generation and related activities, marriage formation, pregnancy, breastfeeding, and contraceptive use. We will select a random sample of poor women regardless of marital status and regardless of membership in GB. The sample will be both from program and non-program areas. We will compare various indicators of fertility and its proximate determinants and of women’s status between participants and non-participants after controlling for individual and community-level confounding variables.

Our study design has several advantages over those used in previous studies. It will:

- overcome the problems of selectivity and program placement by selecting random samples of landless households (i.e., the target group of the GB);
- allow an examination of the full impact on fertility by including women irrespective of marital status;
- provide a better picture of changes due to GB activities by enabling before-after and between-program-and-non-program-area comparisons; and
- consider not only fertility but also its proximate determinants, enabling us to investigate pathways of influence.
The findings of the proposed study can make a significant contribution to the design of social policies and development program strategies. For example, the analysis of determinants of participation in a program can provide guidance regarding how to expand the activities of similar programs in Bangladesh and elsewhere. GB can also be benefited by understanding where it is having its greatest effects and also where it might be having unintended effects. For example, if it is found that breastfeeding has decreased among the participants, resulting in adverse fertility and child survival effects, the GB may want to add information about the desirability of breastfeeding to its education program.
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