Women's Credit Programs and Family Planning in Rural Bangladesh

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In many developing countries, programs offering collateral-free credit have integrated economic improvements with consciousness-raising, family planning information and motivation, preventive health services and other activities that promote social welfare. A 1995 household survey of the program areas of five nongovernmental organizations in rural Bangladesh that offer such credit programs reveals that women who participate in them are more likely to use contraceptives, to want no additional children and to desire smaller families than women who do not participate or who live outside of program areas. Increased empowerment was associated with the desire for no more children among credit members. Nonmembers living in program areas also desired smaller families, suggesting a diffusion of norms established by credit members to other women in the community. (International Family Planning Perspectives, **22:**158–162, 1996)

At the International Conference on Population and Development in Cairo in September 1994, and at two subsequent conferences in Copenhagen and Beijing, a new definition of population policy was advanced that addressed population concerns in the context of women's economic and social development.[1] The program recommendations that emerged from these conferences enjoined governments to restructure their population policies so as to simultaneously address family planning and improvements in the socioeconomic status of women.[2]

Nowhere is this shift more evident than in rural Bangladesh, where a conservative, patriarchal culture is still a formidable constraint to fertility control.[3] While debate continues over the relative importance of overall economic development versus specific family planning programs for fertility reduction, a growing number of organizations and agencies are integrating these pursuits in the hope of both limiting fertility and creating conditions favorable to small family size and individual socioeconomic well-being.

The demographic rationale for this integrated program strategy is based on the primacy of demand in fertility regulation.[4] However, changing demand requires specific community-level interventions that encourage the participation of beneficiaries. Such interventions are often beyond the capacity of large-scale categorical government programs. Therefore, nongovernmental organizations that operate locally are considered to be better institutional mechanisms for strengthening demand for family planning.[5]

The economic goals emphasized by nongovernmental development programs include self-employment, increased productivity and program sustainability. In Bangladesh, these goals are achieved largely through the provision of collateral-free credit for poor women. However, an increasing number of nongovernmental organizations are broadening their social development packages to include family planning counseling and education,[6] since improvements in family planning and community health are more effectively obtained if they are strategically linked to mainstream economic growth.[7] Indeed, research indicates that poor women's participation in large-scale credit programs can lead to greater-than-average increases in contraceptive use as well as to declines in fertility.[8]

A unique aspect of collateral-free credit programs for poor women is group responsibility: Individual women gain access to financial resources through group membership, wherein credit is determined by collective repayment behavior.[9] The nongovernmental organizations conduct regular weekly or fortnightly training programs for their credit members, aimed at helping them use economic resources properly. These training programs also function to strengthen group influence on individual loan repayment, increase member's awareness of family planning and primary health care, and address issues of female autonomy and empowerment.

In this article, we examine the relationship between credit programs sponsored by nongovernmental organizations and family planning attitudes and practices among women in rural Bangladesh. Since the development strategies of small and medium-sized nongovernmental organizations are likely to be more geographically focused than those of large-scale programs, they might be expected to be better suited to serve the needs of poor rural women. Through their focus on community organization, these programs are likely to create a self-sustaining momentum of socioeconomic change that may influence the fertility behavior of both credit members and nonmembers alike.

The five nongovernmental organizations examined in this article are all involved in rural development activities such as beneficiary group formation, agricultural development, primary health care, family planning and small-scale infrastructure development. Donors have found them to be honest, highly capable and effective in their credit programs; the programs report a greater than 90% debt recovery rate.[10] The nongovernmental organizations selected to participate in this study are: the Association for Social Advancement, Rangpur Dinajpur Rural Service, Development Center International, Community Development Association and the Village Education Resource Centre. Although these organizations differ somewhat in size and strategy, they all provide a comprehensive range of services to the poor. Their activities are largely funded by foreign donors. The program intervention areas of the five nongovernmental organizations studied were

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geographically separate from each other.*

We hypothesize that credit programs can influence family planning attitudes and practices directly (through program activities) or indirectly (through women's empowerment). Therefore, both the direct effect of membership in nongovernmental organization credit programs and its effect through women's empowerment are examined in this article.

Methods

The Sample

A random, multistage stratified cluster sampling design was used to draw two separate samples from the regions where the five selected nongovernmental organizations have ongoing rural credit programs (the five nongovernmental organization programs were treated as separate strata). One sample consisted of loan recipients and nonrecipients from the program areas of each of the five nongovernmental organizations; the other was made up of women from areas where no nongovernmental organization had any significant presence.†

First, we selected administrative subdistricts (*thanas*) by using a random-start and fixed-interval procedure. Unions (administrative areas below the thana level) in program and nonprogram areas were then randomly selected, and villages with concentrations of loan recipients were randomly selected from the unions.

From lists of all households in selected program villages, a specified number of female credit-program members and nonmembers were randomly chosen, proportionate to the size of the group of enrollees in each village. One adult female was selected from each sampled household. The number of women selected from a comparison village was proportionate to the size of the member sample.

Because of the greater size of the pool of members of the Association for Social Advancement and the Rangpur Dinajpur Rural Service, a considerably larger sample of women was interviewed from each of these two program areas, compared with the sample drawn from the remaining three organizations. The total sample consisted of 3,564 married women under age 50, and included 2,364 women from 50 program areas and 1,200 women from 30 comparison areas. The data were collected through interviews conducted from April 1 to June 30, 1995.

Measures

The survey, funded by the U.S. Agency for International Development and conducted by Associates for Community and Population Research, a private research firm in Bangladesh, collected detailed information on respondents' socioeconomic characteristics; decision-making authority and autonomy; family planning knowledge, practices and attitudes; pregnancy history and children's immunization coverage. Current contraceptive use, desire for more children, future contraceptive intention (among current nonusers) and ideal family size were examined as measures of family planning attitudes and practices.

An empowerment index was constructed from three scales: a measure of a woman's freedom to manage household expenses without consultation with others; her autonomy in movement beyond the household; and her authority on family affairs. The questions that comprised the consultation scale concern whether a woman needs to consult her husband regarding expenditures on household goods, land purchases, children's education, medical treatment, clothing and food. The autonomy scale included items regarding a woman's freedom to visit the village market, the hospital and her parental home, as well as to use money to help relatives or for her own purpose. Finally, authority questions involved responsibility for decision-making regarding a woman voting in elections, adopting family planning practices, going outside the home, buying her favorite things and making day-to-day family expenditures.

Responses to the questions for the three scales were trichotomized, with each option given a different weight. For the consultation and autonomy scales the responses and weights were generally (1.0), occasionally (0.5) and never (0.0); for the authority scale they were wife alone (1.0), husband and wife together (0.5) and husband alone (0.0). Since these three different dimensions of empowerment had essentially similar relationships to family planning attitudes and practices and fertility, they were combined into a single index for use in the multivariate analysis.‡

Statistical Approach

To disaggregate the confounding effects of socioeconomic and demographic variables and to assess the net effect of program area and credit membership on the dependent variables, we performed a multivariate logistic regression analysis.[11] All dependent variables were treated as dichotomous, including ideal family size, which was coded 1 for women who desired more than two children and 0 for women who wanted two or fewer children. All independent variables were treated as continuous, except for residence in a program area, credit program membership and corrugated or concrete building structure, which were dichotomized. Variables controlled for in the analysis include respondent's age, number of living children, age at marriage, respondent's education, husband's education, amount of land owned, duration of program membership, and building structure of respondent's home. Variables that did not demonstrate a significant multivariate effect, such as amount of land, age at marriage, and yearly income, were excluded.

Results

Descriptive statistics for the independent variables are presented in Table 1 (page 160). The sample is typical of the poor in rural Bangladesh. A large percentage of residents own land, average household income is low (the equivalent of $624 annually for the sample as a whole) and less than one-quarter of respondents reported ever attending school. The mean age of respondents was 29, and the mean age at first marriage was 14.6. On average, the women in the sample had 3.1 living children.

Among women in the program area, those who were credit members were older (mean age of 33, compared with 26 among nonmembers), were of higher parity (3.6 children vs. 2.7 among nonmembers) and were of higher socioeconomic status than nonmember women (average annual income of $763 vs. $584). Credit members registered higher empowerment scores than did nonmembers or nonprogram women (1.0 compared with 0.9). The mean length of membership in the credit program was 48 months.

*The Association for Social Advancement concentrates its efforts on a minimalist credit strategy (one that entails little or no evaluation of the merits of loanee investments and no technical or business assistance) and covers various regions of Bangladesh. Rangpur Dinajpur Rural Service, a German Lutheran organization, provides a wide range of income-generating and welfare services across the northwest region of the country. The remaining three organizations are all indigenous and operate under financial constraints that limit their geographic reach; they provide comprehensive services in selected local areas.

†The comparison areas were neighboring geographic areas with no credit program but with characteristics (such as communication facilities, literacy rates, topography, access to motor vehicle transportation, and the presence of other development programs) similar to those of program areas.

‡Each of the three options in these indices was then assigned a weight proportional to its relative sample representation. The total score for the index was obtained by adding each respondent's weighted scores across all three scales. Thus, it is the actual percentage distribution of the response categories across the different questions that determines their weights.

Table 1. Characteristics of currently married women, by participation in credit programs, rural Bangladesh, 1995

Characteristics	Total	Program areas			Nonprogram areas	
	(N=3,564)	Member (N=1,164)	Nonmember (N=1,200)	t-value†	(N=1,200)	t-value‡
Socioeconomic variables						
% owning land	85.4	94.6	80.7	10.23**	81.3	9.89**
Average household income (U.S. dollars)	624	763	584	10.73**	529	15.27**
Avg. size of land (in decimals)§	59.8	60.0	60.7	0.18	58.7	0.25
% with husband in non-agricultural job	54.8	61.5	54.6	3.40**	49.1	6.06**
% with concrete or corrugated iron building structure	37.2	44.8	37.0	3.86**	29.9	7.49**
% ever attended school	21.2	23.1	22.3	0.46	18.2	2.94**
Mean years of schooling	0.9	0.9	1.0	0.63	0.8	2.34**
Mean years of husband's schooling	2.0	2.3	2.1	1.78	1.7	4.79**
Demographic variables						
Mean age	28.9	33.1	26.4	19.53**	27.2	17.44**
Mean age at first marriage	14.6	14.4	14.8	4.41**	14.6	2.93**
Mean no. of living children	3.1	3.6	2.7	12.02**	3.1	6.54**
Mean no. of births	3.7	4.2	3.2	11.93**	3.6	6.71**
Mean empowerment score	0.9	1.0	0.9	5.30**	0.9	10.57**

*p≤.05. **p≤.01. †=t-test of differences between members and nonmembers within program areas. ‡=t-test of differences between members in program areas and nonprogram-area residents. §100 decimals=one acre of land.

Family Planning Attitudes and Practices

Table 2 shows data on contraceptive use, desire for additional children, future contraceptive intention and average ideal family size among the female respondents, according to program status. Credit-program members were significantly more likely to be contraceptive users (62% compared with 47%) and to report desiring no more children (86% vs. 62%). Nonmembers within program areas reported levels of contraceptive use and desire for no more children similar to those of women in the nonprogram areas.

Modern methods of contraception prevailed among respondents, with 44% choosing the pill, 13% the injectable and 28% sterilization. Use of sterilization and the injectable was slightly higher among credit-program members, while nonmembers more frequently used oral contraceptives. However, nongovernmental organization workers rarely provided members with their contraceptive supplies. Regardless of residence in program area or credit-program membership, more than 90% of women received their contraceptive supplies from government clinics or hospitals or from government family planning workers (not shown).

Ninety-seven percent of credit-program members reported desiring no more than one additional child, compared to 83% of nonmembers and 86% of women in nonprogram areas. Additionally, a smaller family size norm was reflected in the lower ideal family size of credit-program members (2.24) compared with both nonmembers (2.29) and women in nonprogram areas (2.44). Among women not currently using contraceptives, credit-program members appear to be substantially less likely than nonmembers or those in nonprogram areas to report the intention to use contraceptives in the future (55% compared with 79–81%).

Table 3 lists various reasons for nonuse of contraceptives among women not currently using a method who report no intention of future method use. Among all nonusers, 28% indicated sickness as their reason for nonuse, while 17% reported amenorrhea, 12% reported wanting more children, and an additional 12% cited their religious beliefs. However, groups differed substantially on reasons for contraceptive nonuse. Thirty-one percent of credit-program members reported amenorrhea, compared with 5–8% of nonmembers and nonprogram women. Similarly, only 5% of credit-program members reported a desire for additional children, compared with 20% of nonmembers and 15% of women residing in nonprogram areas. Twenty-one percent of women in nonprogram areas identified religious beliefs as their reason for nonuse, compared with 10% of credit-program members and 7% of nonmembers in the program areas.

Multivariate Analyses

Results of the multivariate analyses are presented in Table 4. First, we examined family planning behavior and attitudes and controlled for the social and demographic characteristics of the female respondents. Women participating in a credit program were significantly more likely than nonprogram women to be current contraceptive users (odds ratio of 1.55) and to report that they do not desire additional children (odds ratio of 1.71). These women were also less likely than nonprogram women to indicate that their ideal family size was greater than two children (odds ratio of 0.67).

However, living in a program area without participating in a credit program appeared to influence childbearing decisions as well: Nonmember women had a greater likelihood than did women in nonprogram areas of desiring no additional children and a decreased likelihood of reporting a large ideal family size. Neither residence in a program area nor credit-program membership had a significant impact among nonusers of contraceptives on their future intentions to use a method.

Next, we controlled for women's score

Table 2. Percentage of women with selected family planning characteristics and mean ideal family size, by participation in credit programs

Characteristics	Total	Program areas			Nonprogram areas	
	(N=3,564)	Member (N=1,164)	Nonmember (N=1,200)	t-value†	(N=1,200)	t-value‡
% currently using contraceptives	51.3	62.0	47.4	7.13**	45.2	8.19**
% Female sterilization	28.4	30.6	26.1	2.37**	28.0	1.39
% Male sterilization	3.4	3.8	3.0	1.07**	3.3	0.66
% Injectable	13.3	15.8	9.3	4.78**	14.2	1.09
% IUD	3.1	3.2	3.4	0.28	2.7	0.72
% Pill	44.1	39.5	51.5	5.86**	42.2	1.33
% Condom	1.2	1.0	1.2	0.47	1.9	1.83
% Traditional methods	6.5	6.1	5.7	0.31	7.7	1.53
% desiring no more children	70.4	85.8	61.9	13.19**	65.2	11.62**
% desiring no more than one additional child	88.2	96.6	82.8	10.98**	86.2	8.98**
% intending future contraceptive use§	73.5	55.0	78.6	12.20**	80.6	13.34**
Mean ideal family size	2.33	2.24	2.29	1.45	2.44	6.15**

*p≤.05. **p≤.01. †=t-test of differences between members and nonmembers within program areas. ‡=t-test of differences between members in program areas and nonprogram-area residents. §Among only the 1,957 women not currently using contraceptives.

on the measure of empowerment. In this model, women who were credit-program members were significantly more likely than were nonprogram women to use contraceptives and significantly less likely to report a large ideal family size. However, the addition of empowerment to the model resulted in a decrease in the odds ratio for desire for no additional children (from 1.71 to 1.66), and credit-program membership was no longer significantly associated with this variable. Moreover, in the complete model, program membership was associated with a decreased future intention to use contraceptives among those currently not using a method.

Empowerment was significantly associated with family planning behavior. Women with high empowerment scores were more likely to use contraceptives (odds ratio of 1.72), less likely to report a large ideal family size (odds ratio of 0.59) and, among contraceptive nonusers, more likely to intend to practice contraception in the future (odds ratio of 1.98) than were women with low empowerment scores.

Discussion

The theoretical arguments for linking development and family planning programs are persuasive. By collecting empirical data from rural Bangladesh, this study provides additional evidence that credit-based participatory development programs promoted by nongovernmental organizations may lead to higher contraceptive use and smaller family size norms than those resulting from normal development and categorical family planning programs. These changes may occur even when nongovernmental organizations provide mostly information and referral, rather than direct family planning services, and when their beneficiaries are among the most disadvantaged.

Our findings indicate that credit-program membership may exert its effect on family-size desires through its impact on women's empowerment. When we controlled for women's empowerment, the impact of membership on contraceptive use decreased. Moreover, among nonusers of contraceptives, respondent's empowerment had a positive effect on future contraceptive intentions.

Credit-program membership and respondent's empowerment had a stronger impact on contraceptive use, desire for no more children and ideal family size than did other socioeconomic variables. Earlier studies also found higher empowerment among those participating in nongovernmental organization credit programs.[12] However, the higher socioeconomic status and higher empowerment scores of credit-program members in our study may partly reflect the effect of program participation, and partly its attraction to those who are already empowered or who are of higher socioeconomic status. Similarly, the lower prevalence of future contraceptive intentions among nonusing members may result from their older age and greater degree of amenorrhea.

Indeed, one of the flaws of our study is the potential for selection bias. This study utilized a cross-sectional design without random assignment of subjects. Thus, if credit programs tend to recruit women who are already using contraceptives or who are more favorably predisposed towards fertility control, then any relationship found between program membership and fertility behavior could be spurious. Selection bias may operate at the level of the village as well, if allocation of programs occurs in a nonrandom manner, such as in villages closer to accessible roads or with more modern attitudes and beliefs.

We took several steps to minimize such bias. First, data from credit-program members and nonmembers were combined and compared with data from women in nonprogram areas. Each of the nonprogram areas was in the same general vicinity as a randomly selected program area, which provides some assurance against systematic area-level differences between the two. Moreover, the program areas from which

Table 3. Percentage distribution of women who do not intend to use a contraceptive in the future, by reason for nonuse, according to participation in credit programs

Reason for nonuse	Total	Program areas		Nonprogram areas
	(N=411)	Member (N=174)	Nonmember (N=122)	(N=115)
Sickness	27.5	29.3	23.8	28.7
Amenorrhea	16.8	30.5	8.2	5.2
Against religious tenets	12.2	10.3	6.6	20.9
Wants more children	12.1	4.8	20.4	14.8
Carelessness	10.0	10.3	15.6	3.5
Husband opposed	5.4	4.0	4.9	7.8
Sterile	4.1	6.3	3.3	1.7
Side effects	4.1	1.1	8.2	4.3
Breastfeeding	3.6	1.1	4.1	7.0
Lack of supply	1.5	0.6	0.8	3.5
Husband's absence	1.0	0.0	1.6	1.7
Other	1.7	1.7	2.5	0.9
Total	100.0	100.0	100.0	100.0

Table 4. Odds ratios for family planning behavior and attitudes, by controls used in multivariate analysis, according to selected respondent characteristics

Characteristic	Controlled for social and demographic characteristics				Controlled for empowerment score			
	Current contraceptive use	Ideal family size >2	Desire for no more children	Future contraceptive intention†	Current contraceptive use	Ideal family size >2	Desire for no more children	Future contraceptive intention †
Nonprogram area	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Program area								
Credit member	1.55**	0.67**	1.71**	0.71	1.42**	0.66**	1.66	0.65*
Nonmember	1.12	0.63**	1.45**	0.74	1.09	0.64**	1.43*	0.71
Age of respondent	1.03**	0.01	1.13**	0.81**	1.03**	0.99	1.13**	0.81**
Number of living children	0.99	1.20**	3.75**	1.03	0.99	1.26**	3.75**	1.04
Woman's education	1.04	0.95*	0.98	1.04	1.03	0.94*	0.97	1.03
Husband's education	1.04**	0.92**	1.02	1.02	1.04**	0.94**	1.02	1.02
Concrete/iron building structure								
No	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Yes	0.93	0.84*	0.77	1.00	0.94	0.83**	0.77*	0.98
Empowerment	na	na	na	na	1.72**	0.59**	1.21	1.98**
Model X^2	*105.3*	*184.8*	*1026.0*	*631.6*	*145.7*	*215.0*	*1532.6*	*647.7*
df	*7*	*7*	*7*	*7*	*8*	*8*	*8*	*8*

*p<.05. **p<.01. †Among those not currently using contraceptives. *Notes:* The reference category for all continuous variables is set at that variable's mean value. na=not applicable.

the sample was drawn were densely covered, ensuring broad representation of women. Finally, logistic regression models were used to control for differences in the socioeconomic and demographic characteristics of women in each group.

Nonetheless, some of our findings are likely to be a consequence of selection bias. For example, the higher prevalence of amenorrheic women among credit program members may have been the reason for the lower level of contraceptive intentions among these nonusers. Alternately, the lower level of future intentions to practice contraception among credit-program members may be attributable to hard-core resisters of family planning who remain once the larger pool of motivated women has been reduced by the adoption of fertility regulation.

Participation in credit programs increases women's economic status and empowers women through the experience of group solidarity, increased mobility, access to information about contraceptive methods and services, and support from program staff. Moreover, women's involvement in credit programs increases their interaction outside of the home, relieving social isolation[13] and exposing them to new role models and behaviors, the adoption of which are reinforced through group membership. Through such exposure, poor rural women may abandon attitudes and behaviors that support high fertility. Additionally, while changes among program members are likely to result from direct participation in the credit program as well as from the indirect effect on women's empowerment, the shifts among nonmembers are likely to be, at least in part, a diffusion effect resulting from the changing fertility behavior of the credit-program members.

The financial, technical and human-resource constraints of developing countries may make it impossible to simultaneously pursue all of the broader social and economic prescriptions of the Cairo conference. One feasible alternative is to select self-sustaining interventions that promote socioeconomic well-being as well as reproductive health among poor women. Women's credit programs promoted by nongovernmental organizations appear to meet these criteria. These programs can play an important role in accelerating a fertility transition, by strengthening women's economic roles and empowerment and thereby increasing the demand for fertility regulation.

As more organizations ration their scarce financial resources to those women with the highest need for credit, the economic benefits of such programs may not be directly available to all members of a community. However, as we have shown, indirect benefits to women's empowerment and fertility behavior may be diffused throughout program communities, generating a self-sustaining momentum of socioeconomic change.

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Resumen

En muchos países en desarrollo, los programas de créditos sin garantías para mujeres han integrado sus actividades de mejorar la situación económica con actividades de promover el desarrollo del potencial de la mujer, de proporcionar información y motivación con respecto a la planificación familiar, de servicios de salud reproductiva y otras actividades que promueven el bienestar social. Una encuesta domiciliaria realizada en 1995 en las áreas objeto de los programas de cinco organizaciones no gubernamentales en las zonas rurales de Bangladesh que ofrecen este tipo de programas de créditos, revela que las mujeres que participan en ellos son más propensas a usar anticonceptivos, a no desear más hijos y a preferir familias menos numerosas que aquellas que no participan en el programa o que residen fuera de su alcance. Entre las participantes del programa de créditos, la mayor concienciación del potencial de la mujer está relacionado con el deseo de no incrementar el número de hijos. Entre aquellas que no participaban en el programa pero que vivían en zonas que éste abarcaba, también se manifestó el deseo de tener familias menos numerosas, lo cual sugiere que se han difundido estas normas a otras mujeres de la comunidad.

Résumé

Dans de nombreux pays en voie de développement, les programmes offrant un crédit sans garantie ont intégré le progrès économique avec la sensibilisation de l'opinion, l'information et la motivation en faveur du planning familial et des services de santé préventifs, entre autres activités aptes à promouvoir le bien-être social. Une enquête menée en 1995 auprès des ménages des zones soumises aux programmes de cinq organisations non gouvernementales offrant de telles conditions de crédit dans les régions rurales du Bangladesh révèle parmi les femmes qui participent aux programmes une tendance supérieure à pratiquer la contraception, à ne plus vouloir d'enfants et à désirer une famille moins nombreuse que les femmes non participantes ou qui résident en dehors des zones soumises aux programmes. L'habilitation accrue est apparue associée au désir de ne plus avoir d'enfants parmi les membres bénéficiaires des crédits. Les non-membres, dans les zones soumises aux programmes, ont également démontré un désir de familles moins nombreuses, laissant supposer la diffusion des normes établies par les membres parmi les autres femmes de la communauté.