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Family Planning Field Workers In Bangladesh as Influence Agents: Some Policy Implications

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Abstract

The family planning program in Bangladesh is one of the country's success stories. However, in the quest to gain cost efficiencies, there are suggestions to scale back the role of the family planning field workers so that clients receive health and family planning services from fixed facilities established throughout the country. It is hoped, as a result, that clients will adopt more permanent methods of contraception. What are the implications of scaling back the role of the field worker? Over nearly three decades, they have helped shape the demographic transition underway in Bangladesh. As the most direct point of contact with their clients and devoting much of their time to building ongoing relationships, the social capital the filed workers have apparently built and the consequent influence they may have over fertility behavior is likely to be substantial. Under the circumstances, dissipation of this social capital would represent to the program the loss of an intangible asset of great magnitude. This study examines, from the fieldworkers' perspectives, the extent of influence they have over their clients and the factors that explain their influence. Policy implications are discussed in view of the findings.

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Introduction

The family planning program is one of Bangladesh's success stories and has seemingly made a major impact in curbing population growth in the country. In 1980 the Government envisaged replacement levels of fertility in ten years by increasing the contraceptive prevalence rate (CPR) to 60 % (Planning Commission 1980). By 1993-94 the CPR was almost 50 % (Kamal 2000), reflecting significant achievements of the program. The population growth rate had also slowed down rather impressively from 2.5 % per annum to 2.2 % during the period 1981-91, while the national total fertility rate (TFR) fell from 6.5 births per woman in 1975 to 3.3 in 1996-97 (Mitra, et al. 1997). According to UN projections, the population growth rate is expected to further decline to 1.86 % by 2015 (UN 1998). And the recent Human Development Report (2002) by the United Nations Development Program reaffirms that while the annual population growth rate averaged 2.4% between 1975-2000, it was projected to come down to 1.9% between 2000-2015.

These are commendable achievements and it is important that they are sustained. To do so, it is vital to understand the factors that influence fertility regulation behavior. Phillips et al. (1993) summarize two major perspectives—the structural and the diffusion perspective—that theorists have used to explain such behavior. The structural perspective focuses on the determinants of demand for children that is associated with a broad range of factors including demographics, socio-economic conditions, and client perceptions and behaviors. Specifically, research indicates that fertility behavior is influenced by infant mortality and replacement considerations (Chowdhury, Khan, and Chen 1978), social class (Maloney, Aziz, and Sarkar 1980), female education and their role and status (Cleland and Wilson 1987; Khan 1977; Sathar, Crook, Callum, and Kazi 1988; Phillips et al. 1993), occupation (Chaudhury 1978), family income (Arthur and McNicoll 1978), the desire to have sons (Bairagi and Langsten 1986; Cain 1977; Rahman, Akbar, Phillips, and Becker 1992; Repetto 1972), religious affiliation (Andaleeb 1983; Obaidullah 1966), and perceptions that contraceptive methods are harmful and could affect the health of additional children (Andaleeb 1983). Legal measures to influence the prevailing early marriage of girls (i.e., increasing mean age at marriage) to bring down and sustain lower fertility rates represent another structural determinant of fertility (Amin and Lloyd 1998).

Similarly, power structures in the family have also been hypothesized to influence fertility regulation behavior. For example, in a study of marital power structure in India, Sud (1991) surveyed 291 women and categorized 210 of the marriages as egalitarian and only 81 as husband-dominated. This would suggest that most motivated women should be able to make fertility regulation decisions on their own. However, Vlasoff (1991) noted a decline in the perceived value of women, attenuating their status, power, and influence in the family unit. Under the circumstances the implications for fertility regulation are quite different. Similarly, Hossain (1987) found that women in Bangladesh have little to say in family decisions because of their dependent status. And a more recent study by Kamal (2000) found that husbands' disapproval of family planning is still a deterrent to women's regulation of fertility. She concludes that husbands' approval of family planning led to the increased use of a variety of methods used by females. Kamal attributes such behavior to the traditional structure of society in

Bangladesh, "…where women are expected to be guided by their husband's opinion in every sphere of life (p. 48)." These studies highlight the structural influences that explain fertility regulation behavior.

The diffusion perspective, on the other hand, emphasizes "the role of new ideas, technologies, and mass movements in fostering new demand" (Phillips et al. 1993). Cleland et al. (1994), for example, argue that program effort has been the predominant cause of fertility decline, thus suggesting the primacy of supply-side strategies. Such strategies include the massive recruitment of family planning field workers (FWs) since 1976 to visit households, build relationships, promote family planning, and supply modern contraceptive methods and related services. Boulier (1985) also claimed overwhelming support for fertility decline resulting from increased availability of contraceptive supplies. Similar studies on the effects of program effort (Mauldin and Lapham 1985; Mauldin and Ross 1991) have also shown that service and service related activities resulted in substantial fertility declines. The role of the media in shaping the desire for contraceptives is also not negligible (Simmons 1996).

The truth perhaps lies somewhere in the middle: that fertility behavior is influenced by both structural and diffusion parameters. Thus, the accomplishments of the Bangladesh family planning program might suggest that significant structural transformations may be underway in the society (subtle as they may be), that diffusion factors may be playing an ever greater role in achieving the current state of demographic transition, or that both are playing their independent and joint roles.

FOCUS ON FIELD WORKERS: RATIONALE

With the remarkable demographic transition already achieved in Bangladesh (as reflected in the CPS studies of 1983 and 1985, the KAP studies of 1985-86 and 1990, and the BDHS studies of 1993-94, 1996-97, and 1999-2000), attention is now being directed at reducing program costs as foreign donors and international agencies such as the World Bank and the USAID have become restive about the high costs of community-based distribution (CBD). Recommendations to increase cost-effectiveness include the promotion of longer acting methods like IUDs and injectables, urging adopters to use fixed facilities such as health clinics, and scaling back the role of field workers from their greater social role of door-to-door contact and re-supplying current users to motivating non-users only (Arends-Kuenning 2002). The scaling back of CBD may be grounded in arguments other than costs. For example Bairagi (2001) argues that over the years, the gap between actual fertility rates and desired fertility rates (around two sons and a daughter) may have been narrowed to a point where a decline in TFR will only come from further structural changes. Hence the family planning program may now have reached a plateau or saturation point as far as producing results similar to the past.

If this explanation holds, and if diffusion of knowledge about family planning can be sustained by peers and family members (Simmons 1996), the need for FWs may indeed be redundant. But the risks of making this leap of faith are too great at this juncture and the demographic transition already achieved so painstakingly and at such great cost could be easily and quickly reversed if new modes of family planning practice are not quickly and readily adopted by clients. And there is no guarantee that they will be. Moreover, because the percent of new people attaining reproductive age and the percent of non-users, combined, are still quite significant, at least for the foreseeable future, and because studies have shown notable increases in dropout rates when field worker contact is relaxed (Hossain and Phillips 1996), the FWs' role should continue to be important.

If the role of the FW is seriously curtailed by donor and agency conditionalities in view of cost considerations, it is also important to ponder its implications for the substantial social capital they have

developed over the years. This social capital, describing the networks among individuals and the norms of reciprocity and trust that have developed, can even have economic value that needs to be understood and brought to the forefront. In fact social capital, defined as "the features of social organization, such as civic participation, norms of reciprocity, and trust in others that facilitate cooperation for mutual benefit" (Kawachi et al. 1997, p. 1491), has been tied to the health of communities. This capital reflected in the influence that FWs have gradually gained over the decades, stands to be dissipated and even lost if the role of the FWs is scaled back. Clearly, it is important to determine the extent of influence they currently wield and the factors that explain FWs' influence to shape client preferences and behaviors.

To understand FWs' influence, we focus on their perspectives directly. As the most direct point of contact with clients and being privy to insights that clients do not always share with outsiders such as researchers, the views of FWs are important. Their accumulated experience about fertility regulation behavior can actually be quite substantial, given the time they generally devote to the target group to build ongoing relationships. In the process, their influence over the husband-wife dyad may have grown to be quite substantial. Consequently, their ability to *influence* fertility behavior is of strategic importance. Removing this source of influence in view of the costs of CBD may, in fact, be premature and cause more harm than good.

Another reason for seeking FWs' assessment of influence is the social context of research with clients, especially women. Past studies on fertility regulation have often been based on data obtained directly from the target population. For example, the 1993-94 Bangladesh Demographic and Health Survey (BDHS) gathered data from female respondents, resulting in 9,640 completed questionnaires. The survey used direct personal interviews of women of childbearing age. However, the social context of the interaction between the researchers (or their agents) and the rural women, who have never met before, could introduce errors via response biases (Mita and Simmons 1995; Simmons 1996). Alauddin and Faruquee (1983), as well as Vlasoff (1991) support these contentions. For example, asking clients (especially female clients) about their intention to have more children, or asking them about their needs for family planning products and services, may not produce reliable data because respondents are more likely to provide quick answers to be done with the survey. Questions such as "Who has more influence over the fertility regulation decision and how much?" are also unlikely to elicit reliable answers from clients because respondents (especially women) are "expected" to provide socially desirable answers (i.e., that husbands have more influence).

This study addresses the following research questions:

1) To what extent do field workers have influence over their clients?
2) If field workers have sufficient influence, what explains their influence?

The findings are expected to provide additional insights to help shape policy measures regarding the scaling back of CBD and to find creative ways to use the FWs better so as to sustain and enhance the contraceptive prevalence rates achieved to date.

Conceptual Framework

There is evidence that FWs have influenced contraceptive prevalence in Bangladesh. For example Hossain and Phillips (1996) show through multivariate analysis that household outreach has had a pronounced effect on the continuity of contraceptive use and that the "overall odds of discontinuation are reduced by 65% if women are contacted at home at least once in a 90-day period…." Mita and Simmons (1995) also describe the FW as the "pebble in the pond" whose presence provides a

stimulus for conversations in which new knowledge and ideas are processed…." These views are indicative of the palpable influence that FWs have on their clients.

This study is exploratory and the conceptual framework addresses three possible sources of field worker influence. These include perceptual, demographic, and program variables. Their possible effects on the dependent variable are discussed as follows:

Dependent variable

Influence: Politicians use influence to obtain votes and get things done; salespeople convince customers to purchase products and services; doctors influence patients to adopt a particular regimen; and so on. Similarly, FWs must be persuasive if they are to influence clients to adopt modern methods of contraception. Hence, the subject of influence is integral to FWs as they visit door-to-door, establishing contacts and building relationships. Such influence, gained over time, represents a valuable asset to the family planning program and reflects the extent of social capital that has been built. Surely it has value that must be gainfully employed by the family planning program. It is defined here as the persuasive power that FWs have in swaying clients to adopt their point of view. Three questions using five-point Likert scales (anchored at strongly agree and strongly disagree) measured the extent of influence: 1) Clients are keen to listen to me on family planning issues. 2) Clients take my advice on family planning matters. 3) Clients rely on my advice. These questions were not asked sequentially.

Independent Variables

Perceptual Variables

Similarity: If FWs are to serve as role models to influence clients, there is a contention that their status and backgrounds ought to be higher (Caldwell and Caldwell 1992). If this is the case then similarity should be inversely related to FWs' influence. This construct was measured using three items: 1) my family background is similar to that of my clients. 2) My liking and preferences are similar to those of my clients. 3) My educational background is similar to those of my clients.

Communication: Communication plays a key role in helping realize mutual benefits between [two parties] (Mohr and Nevin 1990). It helps achieve coordination through sharing of information and fosters confidence in the continuity of a relationship (Anderson and Weitz 1992). It can be defined broadly "as the formal as well as informal sharing of meaningful and timely information between [two parties]" (Anderson and Narus 1990, p. 44). Research suggests that the strength of the relationship between two parties varies with the extent of their interaction and communication (Hakansson 1982). We believe better communication between FWs and clients will lead to greater FW influence. The three items measuring the nature of communication with clients include: 1) Clients do not express their family planning needs to me (reversed scale) 2) Clients discuss their family planning problems and concerns with me. 3) Clients do not hesitate to tell me what I want to know about their family planning product and service needs.

Client Relations: Relationship models posit that interactions with clients affect satisfaction with contact persons as it may ease using services and add value by increasing the utility of services (Crosby and Stephens 1987). In the family planning program, clients may have varying attitudes toward the program and the FWs may not always be well regarded. Many clients question the FWs' role because of religious and other structural factors. In fact, past research indicates the hostile attitudes of clients that FWs faced while performing field work. This was documented by a Planning Commission (Bangladesh)

study (undated). Andaleeb (1983) also found in his study of field workers that 70% of them felt insecure during field work. Similarly, Simmons, Mita, and Koenig (1992) indicate the recalcitrant stance of potential clients. When such relationships are conflict- and tension-ridden, the FWs are less likely to be able to influence clients. Clearly, the extent to which the FWs are accepted or resisted by their clients is likely to explain their influence. The three items measuring this construct were: 1) when I go for field visits, my clients are not very welcoming. 2) During field visits, I feel strong social pressures. 3) When I visit clients' homes, they are not happy to see me.

*Client Knowledge***:** The effects of product class knowledge have been examined in contexts other than family planning (Alba and Hutchinson 1987; Brucks 1985). However, not much is known about the link between an individual's product class knowledge and the extent to which she can be influenced. In one study Moorman, Deshpande, and Zaltman (1993) posited that research users are expected to be more willing to trust researchers [and hence be influenced] because of their lack of company, marketing, or research knowledge.

A counterintuitive argument is that users with more knowledge and confidence in their own ability are less likely to rely on researchers. However, Johnson and Russo (1984) suggested that customers high in product knowledge are likely to engage in greater information search. For FWs that would suggest a positive role to be able to provide information and be able to influence clients. Thus, if clients are knowledgeable about family planning and the long term social benefits it offers, it may be easier for the FWs to influence them. This knowledge can come from FWs, the media, or even the casual conversations among adopters and non-adopters, as well as with peers and family members. We believe that FWs are a major source of clients' knowledge about family planning which leads them to have greater influence over them. The two items measuring this construct were: 1) my clients are knowledgeable about the family planning program and birth control methods. 2) The awareness level of my clients about family planning is high.

*Societal Resistance***:** This societal-level construct concerns FWs' perceptions about how society views family planning. It is generally understood that Bangladesh society has not entirely come around to accepting family planning wholeheartedly (CPR is indicative of this contention). For example, some regions may be more resistant than others because of a variety of socio-economic factors. When FWs perceive that society is resistant to family planning, as some areas or regions of the country may well be, they will feel less able to influence their clients in that area. This construct was measured by the following items: 1) our society still does not have a favorable opinion abut family planning. 2) Our society has a strong aversion to family planning.

Demographic Variables

To determine whether demographic characteristics of the FWs were important "influence" factors, their age, gender, education, and income were included in the explanatory model. In particular, we felt that those higher in age would have more influence on a salient matter such as family planning. The counterintuitive rationale is that adopters may relate better to people of their own age; hence the effects of FWs' age may be conditioned by the age of the clients. On gender, because the program focuses largely on female clients (the use of different interventions indicates that females are the major thrust of the program) and given the norms and strictures of the Bangladesh society, we felt that female FWs would have greater influence. We also felt that better educated FWs would be more effective in

communicating with the clients, especially because their status may be better reflected in their education. Hence level of education was identified as an important factor. Finally, income was also included as a status variable: FWs from higher income groups were expected to be more influential.

Program Variables

Several program variables were deemed important and included in the model. For example, if the FWs are exposed to a variety of training programs they are likely to have acquired insights and become better prepared to perform their work of influencing clients; hence, the number of training programs FWs had attended was included in the model.

Another variable was whether the FWs worked for government or non-government organizations. There is a general belief that the NGOs are better organized, better funded, externally affiliated, and hence better enabled to deliver social services. The growth in the NGO sector in Bangladesh, reflecting how government agencies have been bypassed for social development projects, also implies their efficacy. Thus, FWs working for NGOs were expected to be more influential.

The number of years FWs were with an organization was also expected to shape their ability to influence clients by way of having learnt more during their tenure. However, the possible collinearity of this factor with the number of training programs was not lost to us.

Finally the quality of supervision afforded to the FWs was deemed as a potential candidate for the model. It was felt that if supervisors were knowledgeable and involved, FWs would be able to function better and have greater influence. Supervisor's knowledge was measured on three items: 1) My supervisor is a capable individual, 2) My supervisor has a lot of experience regarding the family planning program, and 3) My supervisor is knowledgeable about family planning products and services. Supervisor involvement was measured by: 1) My supervisor helps me with planning for field visits, 2) I can discuss in details all the problems that I face during field visits with my supervisor, and 3) I depend on my supervisor's advice.

The unrestricted model tested in the study is a linear multiple regression model represented as follows:

$Y = \alpha + \Sigma\beta_i X_i + \Sigma\beta_j X_j + \Sigma\beta_k X_k + e$, where

Y = FW influence

X_i = Perceptual variables

X_j = Demographic variables

X_k = Program variables

α = constant term

β = regression coefficients

e = error term

Methodology

Questionnaire Design: A small pilot study using focus group interviews was first conducted with FWs. This exercise allowed the FWs to express their opinions about a variety of factors pertaining to the family planning program, including their job situation, their views about clients, and the extent of influence they had over the clients. Based on the open-ended discussions, a preliminary version of the questionnaire was developed in English and translated to the local language. The questionnaire was then pretested. FWs were asked whether they experienced any difficulty in understanding the questions. While minor modifications were made, the questions were generally unambiguous.

Scaling: Because established scales were not available in Bangla, the local language, the measures are new. Respondents rated their level of agreement with a battery of statements that solicited their opinions, feelings, and experiences with the family planning program. The ratings ranged from 1 (reflecting strong disagreement) to 5 (indicating strong agreement). Multiple-item scales were used to measure the perceptual variables, the demographic variables were based on single items, and the program variables consisted of a mix of both single- and multiple-item measures. Experts in survey research reviewed the measures for face validity in conjunction with the author. After detailed discussions, the set of items measuring each construct was established. These items were subjected to further analysis to establish their reliability and validity as explained in the analysis section.

Sampling and Data Collection: Two organizations employing family planning FWs were requested to participate in the study. Concerned Women for Family Planning (CWFP), which commanded a sizeable field staff of female FWs in several urban and rural areas of Bangladesh, was one of the organizations. Two urban and three rural/semi-urban areas were randomly chosen from the territory served by this organization and every FW in the five clusters was administered a questionnaire. Subjects' cooperation was gained in the following way: The headquarters office contacted supervisors in the randomly selected locations and asked them to assemble the FWs before they were assigned their daily client visitation plans. At this assembly, the supervisors introduced the investigators who explained the purpose of the study. Respondents were assured of anonymity; they were specifically asked not to reveal their identity anywhere in the survey instrument. They were also assured that neither their immediate supervisors nor their superiors at headquarters would have access to the individual completed questionnaires.

Enfants Du Mondé (EDM), another organization[1] involved in rural development, as well as family planning activities, also participated in the study. Along with their own field staff, this organization periodically trained family planning FWs from both government and non-government organizations on various aspects of fieldwork. EDM agreed to set apart some time during their training sessions to allow the questionnaire to be administered. Respondents were again assured of anonymity and the investigators conducted the survey. A total of 228 surveys were completed. Eleven of these were not used because of incomplete responses, resulting in a usable sample of 217 respondents.

Measure Purification: Several procedures were used to establish the reliability and validity of the measures. First each multiple-item construct was assessed for unidimensionality. This involved computing correlations between each item and the total score for the construct; when an item did not correlate highly with the total score it was eliminated. Next, the final set of items for each construct was factor analyzed; in each case a single factor emerged. The measures of all of the constructs (except the dependent variable) were then subjected to a single factor analysis with varimax rotation. The results, as shown in Table 1, indicated six factors with Eigenvalues greater than 1.00 that explained 70% of the cumulative variation.

Table 1

Factor Analysis Results

	Factors					
	Similarity	Commu	Crel	Knldg	Soc	N/A
Sim1	**.859**	-.049	.085	3.539E-06	.077	.025
Sim 2	**.845**	.035	.083	.028	-.082	.084
Sim 3	**.780**	.017	.037	.039	.017	.013
Com1	-.161	**-.764**	.165	.260	.068	.076
Com2	-.049	**.756**	-.023	.435	.081	-.003
Com3	-.131	**.738**	-.112	.379	.104	.069
Crel1	.024	-.204	**.851**	-.108	.069	-.031
Crel2	.035	-.236	**.734**	-.129	.049	.190
Crel3	.268	.268	**.588**	.007	.225	.068
Kn1	-.081	.212	-.038	**.787**	-.095	.041
Kn2	.187	.006	-.172	**.748**	.013	-.071
Soc1	-.018	-.019	.054	-.067	**.896**	-.084
Soc2	.034	.107	.214	.013	**.783**	.311
N/A	.034	-.031	-.049	.090	.045	**.880**
N/A	.094	.019	.337	-.153	.094	**.598**

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Factor 1: Similarity
Factor 2: Communication
Factor 3: Client Relations
Factor 4: Client Knowledge
Factor 5: Societal Resistance
Factor 6: (Dropped; low Cronbach's Alpha)

Note: Actual items are provided in the conceptual framework

For an exploratory study, these results are very encouraging. Coefficient Alphas were also assessed for each construct to determine the internal consistency of the measures. These values ranged from .58 to .79 and are also quite encouraging, especially since the relevant scales were not available from prior studies. One of the factors had a reliability coefficient of .44, which was dropped from the analysis. To assess discriminant validity, the correlation between one scale and another was compared with each scale's coefficient alpha, which suggested that discrimination was achieved (See Table 2).

Table 2

Correlations

		INFLU	SIM	COM	CREL	KN	SOC
INFLU	Pearson Correlation						
	Sig. (1-tailed)	.60					
SIM	Pearson Correlation	.056	.79				
	Sig. (1-tailed)	.205					
COM	Pearson Correlation	.538(**)	-.016	.71			
	Sig. (1-tailed)	.000	.409				
CREL	Pearson Correlation	-.208(**)	.237(**)	-.212(**)	.63		
	Sig. (1-tailed)	.001	.000	.001			
KN	Pearson Correlation	.318(**)	.019	.335(**)	-.221(**)	.58	
	Sig. (1-tailed)	.000	.392	.000	.001		
SOC	Pearson Correlation	.079	.060	.027	.315(**)	-.104	.66
	Sig. (1-tailed)	.124	.190	.348	.000	.064	

** Correlation is significant at the 0.01 level (1-tailed).
Figures in the diagonal represent reliability coefficients (Chronbach's Alpha)
Note: Client relations and societal resistance are negatively worded (see conceptual framework).

ANALYSIS

Several data analysis techniques were used. Frequency distributions were obtained to check for data entry errors and to obtain descriptive statistics. Correlations, factor analysis, and reliability analysis were used to purify the measures of the constructs as discussed in the previous section. Finally multiple regression was used to test two models, an unrestricted one and a restricted one, to explain FW influence, determine how much of the variation in the dependent variable was explained by the independent variables, and assess the impact of each significant independent variable on the dependent variable using standardized betas.

FINDINGS

Descriptive statistics were first run to gain preliminary insights. Table 3 indicates a near unanimous assessment by the FWs that females are more motivated to adopt the means of family planning than their male counterparts in the husband-wife dyad. Only two respondents indicated that males were more motivated. Such overwhelming agreement among the FWs, whether they were males or females themselves, whether they conducted field work in rural or urban areas, and whether they worked for government or non-government organizations, clearly suggests that women are more motivated than men to regulate fertility and limit their family size. Only 3.3 % of the respondents (FWs) indicated that both members of the husband-wife dyad had about the same level of motivation.

However, these results must not be interpreted to say that men are not motivated; rather they reflect the "degree" of motivation among the genders. Thus, while the BDHS (1993-94) study suggests that 92% of the husbands "approve" of family planning (Kamal 2000), "how much" they are committed to it and whether they "actively pursue" it remains to be assessed.

Table 3
Most Motivated to Adopt Contraceptives

GENDER	FREQUENCY	PERCENTAGE
Husband	2	.9
Wife	205	95.8
About the Same	7	3.3
Total	214	100.0

Interestingly, Table 4 indicates that the group most motivated to adopt the means of family planning also had the least influence over the decision to regulate fertility: According to 48.6% of the FWs, husbands have greater influence over the decision. In contrast, only 12.6% of the FWs felt that wives had greater influence over the same decision. What is also significant and interesting is that about 35% of the FWs felt "they" had the most influence over a couple's decision to regulate fertility. This finding is strategically relevant for family planning program management and relates well with past studies that report the important role that FWs have played in the demographic transition in Bangladesh (Arends-Kuenning 2002; Simmons, Mita, and Koenig 1992; Phillips et al. 1993, 1996). Under the circumstances, the role of the FWs as "influence agents" should continue to remain in focus and be integrated in a multi-pronged approach to attain fertility regulation goals in the country.

Table 4
Most Influence on Contraceptive Adoption Decision

	FREQUENCY	PERCENTAGE
Husband	104	48.6
Wife	27	12.6
Mother-in-Law	9	4.2
Field Worker	74	34.6
Total	214	100.0

Table 5 indicates the mean scores and standard deviations of the constructs of interest. It is interesting to note that on a 5-point scale, the mean "influence" score is 3.86 with a standard deviation of

.63. Clearly the FWs feel they have reasonable influence over their clients' decisions pertaining to family planning. The FWs also felt that they were not very similar to their clients, that they have reasonably good communication with their clients, have established decent relationships, but that there is still notable societal resistance to family planning. Finally, on client knowledge, while KAP studies would suggest that family planning issues are well understood, the mean score suggests that this aspect demands greater emphasis as an overall strategy. In other words, if clients are not well-grounded about family planning and its methods, they are less likely to be adopters, being influenced more by traditional views and by the general uncertainty associated with unfamiliar products and services.

Table 5

Descriptive Statistics

Variable Name	*No. of* Items	*Overall* Mean	*Standard* Deviation	*Coefficient* Alpha
Influence	3	3.84	.63	.60
Similarity	3	1.88	.73	.79
Communication	3	3.62	.86	.71
Client Relations	3	2.60	.81	.63
Client Knowledge	2	2.79	.93	.58
Societal Resistance	2	3.25	1.02	.66

Multiple regressions were used to test the unrestricted model that included all the variables posited in the conceptual model. The model was significant with an overall F value of 9.21 ($p < .001$) and explained 34.6% of the variation in the dependent variable as indicated by the adjusted R^2 value. Interestingly, all of the demographic and program variables except gender were statistically insignificant in the model. Hence, a restricted model was tested. Table 6 presents this restricted model in which all of the perceptual variables continued to remain significant as in the unrestricted model. Gender (a dummy variable) was also significant. The restricted model with six independent variables was significant with an overall F-value of 19.89 ($p < .001$) and explained 34.7% of the variation in the dependent variable as indicated by the adjusted R^2 value. Societal resistance was significant at $\alpha = .10$ (indicating a Type I

error 10% of the time). The Wald Test was used to test the joint significance of the demographic and organizational variables. The F-value of 1.083 (for 6 and 189 degrees of freedom) was not significant, suggesting that the restricted model did not suffer as a result of dropping the X_j and X_k variables, except gender, from the model.[2]

For the restricted model, the effect of each independent variable was examined next. Since they were all significant, we looked at the standardized betas to determine, in order, which of the independent variables had the greatest impact on FWs' influence. Communication and gender had the greatest impact on FWs' ability to influence clients. Thus, when FWs felt they had established good communication with their clients, it had the greatest positive impact on their perceived influence over clients. Gender was next in importance: female FWs perceived they had more influence than their male counterparts. This finding confirms that female FWs, being the most direct point of contact with clients, should be more influential than male FWs who are found largely in supervisory roles, especially in the government program, or are involved with health delivery aspects of the program.

Table 6

Regression Results

Model	Indepen Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	Constant	2.610	.264		9.879	.000		
	SIM	.119	.051	.139	2.356	.019	.877	1.140
	COM	.265	.048	.365	5.489	.000	.693	1.443
	CREL	-.117	.048	-.152	-2.440	.016	.793	1.261
	KN	.095	.040	.141	2.367	.019	.859	1.165
	GNDR	-.257	.081	-.206	-3.194	.002	.736	1.359
	SOC	.064	.036	.104	1.767	.079	.883	1.133

Dependent Variable: INFLUENCE

$F_{(6, 207)} = 19.89$; $P < .001$;
$R^2 = .347$

The impacts of the next three variables on influence were comparable. The results suggest that greater similarities between the FWs and their clients led to greater FW influence, a finding that contradicts the notion that FWs from higher status groups would be more influential. For example, on recruitment, there is evidence in the literature that status-oriented approaches are more effective in persuading clients to regulate fertility because when FWs are from well-respected and educated families and support family planning, others of lower social status are likely to pattern their aspirations accordingly (Caldwell and Caldwell 1992). Our findings do not support this contention.

The results also suggest that when client relations are not good, the FWs feel they are less influential as change agents. It was also found that when clients are perceived as knowledgeable about family planning, the FWs feel they are better able to influence them. Finally we note that the effect of societal resistance on FWs' perceived influence is weaker than that of the other variables in the model. It

is also significant at α=.10, perhaps suggesting the gradual weakening of societal resistance to family planning. The implications of these findings are discussed next.

Discussion and Implications

Our findings suggest a variety of strategies to better use the FWs in the overall effort to sustain the prevailing population growth rates in the country. From the diffusion or supply-side perspectives, they have largely been instrumental in lowering fertility rates through their devotion and hard work. Hence, the finding that a significant proportion of FWs perceive having influence over the contraceptive adoption decision is not unreasonable and therefore of strategic importance. As the regression model (Table 6) suggests, enhancing FWs' communication skills, providing them with better communication materials, and creating better communication environments in which they can interact with clients represent strategic opportunities for the family planning program to continue to influence adopters, increase CPR, and bring down population growth rates even more. At the same time, it is important to continue and strengthen the ability of female FWs to spearhead direct contact and communication with clients at the field level.

The results also suggest the need to use FWs whose backgrounds are similar to those of their clients. This is an interesting finding because reference group theory would suggest quite the opposite: that people from a group who are perceived as credible, attractive, or powerful can induce behavior change in other groups (Schiffman and Kanuk 2000). This would usually mean that FWs whose status and backgrounds are higher than that of their clients would have more influence (Caldwell and Caldwell 1992). But our results suggest the opposite. Perhaps the literature on similarity and interpersonal attraction may explain and support our findings. For example, Berschied and Walster (1978) explained interpersonal attraction using the principle of reinforcement; i.e., we like those who reward us, and people similar to each other are more likely to reward each other than if they are dissimilar, thus leading to greater influence. The conundrum posed by this finding merits further research to ascertain whether FWs should have similar or dissimilar backgrounds to be perceived as more influential.

Efforts must also be devoted to enhance the acceptance of the FWs. As the correlation matrix in Table 2 suggests, tenuous client relations are significantly correlated with societal resistance. The implications are clear; efforts must be continued to educate the society about the positive role of family planning. This is best accomplished via mass media, educational programs (both formal and informal), and the use of peers or influential others to break down societal resistance. For example, the views of religious leaders favorably disposed to family planning ideas may be presented in various media, which can then be used in discussion groups in various quarters to foster more positive views about family planning.

In addition to our findings from the numerical data, we also draw upon the focus group discussions and what is generally known about fieldwork in Bangladesh to expand our policy prescriptions. For example, the field personnel are often challenged on a number of issues that seriously impede their ability to function effectively. If other government programs such as primary education and agriculture are any evidence, then FWs surely suffer serious adversities from a program implementation perspective. These adversities are reflected in problems of recruitment, lack of training, poor support for fieldwork, and poor or no rewards for good performance, each contributing to low motivation (Andaleeb 1998).

Recruitment strategies must address the crucial question of whether to select FWs from a similar background or from a higher social status than their clients to better influence fertility regulation decisions. Our findings suggest the former, although we also recognize the need for additional research on this issue.

Training programs should also be offered to all FWs to upgrade them continuously. Often, however, access to these programs is not fairly apportioned. For example, some FWs seem to have the opportunity to attend training programs more often than others. If such preferential practices prevail in the family planning program, the resulting inequities are bound to cause field worker motivation problems by way of perceived lack of distributive justice in the system. In addition, the quantity of training must be weighed against their quality and special attention devoted to the content and methodology of training. Poor or average quality of training will not be instrumental in upgrading the field personnel; it would merely represent a waste of resources. Particular attention must, therefore, be paid to the design, implementation, and evaluation of these programs.

Support for fieldwork is also often severely lacking. For example, lack of transportation facilities and office space, as well as reporting overload, represent day-to-day constraints that limit fieldwork efficacy and FWs' ability to provide greater levels of service support. These views were gleaned from the focus group discussions. The logistics system also stands out as a major fail point because of its inability to get the right product to the right place and at the right time to support fertility regulation behaviors. Field operations and the associated standards of delivery are other aspects of the program that must be revamped substantially to provide adequate support to the FWs to better conduct their outreach activities.

To motivate FWs to exercise their influence in appropriate ways, the reward structure should also be properly designed in the family planning program. As boundary spanners "selling" the family planning program and its message and providing related services, FWs can make a substantial difference when their efforts and attainments are recognized with the right combination of incentives. As the most direct link with clients at the field level, FWs are a valuable asset to the program. Their experience with clients and their accumulated influence need to be harnessed creatively so that program objectives are better attained.

Combined with the strategies suggested, we also draw attention to Tables 3 and 4. When both husband and wife in the dyad are motivated to regulate fertility, it is a win-win situation for the family, as well as for the family planning program. However, if one member is highly motivated while the other is less so or not motivated, the power asymmetry in the dyad becomes pertinent. Since men still seem to have the upper hand and because they seem less affected (physically and emotionally) by the addition of each new child to the family, being relatively less involved with bringing them up, fertility regulation may suffer if they are not motivated to limit family size.

From a program-management perspective, it is important to monitor future trends reflected in Tables 3 and 4. If the trends demonstrate increasing motivation among men to adopt contraceptives or a shift in the sphere of influence from men to joint influence or to women, these trends should have a greater impact on the goals of the family planning program. If the trends are in the opposite direction, further interventions may be desirable. For example it is important to devise or support means to empower women in Bangladesh to shift the locus of control and enable more women to decide and choose how they will regulate fertility. After all, it is their health that is affected more directly than the health of men when fertility is not properly regulated. Two very effective ways of empowering women,

as suggested by earlier research, are to educate them and to find ways to enhance their earning power. For example, early in the program's history, it was determined by The World Fertility Survey that married women who were gainfully employed had fewer children compared to those who had never worked (Salas 1982). Similarly, Wheeler (1985) showed through econometric estimation that female education dominated as a variable to explain both income and lowered population growth in the poorest countries. These views were supported by Cleland and Wilson (1987).

Thus, sustained and organized effort is needed to empower women. Efforts of grassroots organizations such as Grameen Bank, Bangladesh Rural Advancement Committee, Assistance for Social Organization and Development (ASOD) and others are laudable in this regard (Momtaz 2002). These organizations must be encouraged, supported, and strengthened by the government and other development agencies to help build programs that empower women. Women's organizations at the local level, such as Bangladesh Mahila Samity, Concerned Women for Family Planning, Nijera Kori, etc. are also spearheading attempts to raise the status and influence of women by educating them and creating job opportunities for them. The real impact of these organizations must be periodically assessed to allocate resources better and to improve their effectiveness.

It is also important to target the men. Traditionally, because they have wielded greater influence over family decisions, motivating them in appropriate ways deserves greater attention. Unfortunately, as Kamal (2000, p.49) points out, "...a more holistic approach to reproductive health is being advocated for the developing countries…However, no specific measures have been taken to increase the use of male methods of contraception or to increase spousal support for female users, or to provide more information to them." One wonders whether this lack of focus on men is because more family planning program planners and administrators are of the same gender.

Sensitizing men to play a more proactive role and to bear greater responsibility in the family must be strengthened via educational and media campaigns. Mechanisms must particularly be devised to involve men to take greater responsibility for their families, especially their children. In a culture where men seem to have relinquished the responsibility of bringing up children largely to their female counterparts, it makes it rather easy for them to moralize about or ignore contraception. It is no wonder, therefore, that their motivation to practice fertility regulation is perceived as lower than that of women. It is also important to "sell" to them the benefits of having a small family. Current program efforts directed at men are nowhere as prominent as programs directed at women on fertility control. Consequently, focused programs need to be developed and strengthened to educate and motivate men to take greater responsibility and make the right choices regarding fertility.

References

Alauddin, M. and R. Faruquee (1983), "Population and Family Planning in Bangladesh: A Survey of the Research," *World Bank Staff Working Papers*, 557, Washington, D.C.

Alba, Joseph W. and J.W.Hutchinson (1987), "Dimensions of Consumer Expertise," *Journal of Consumer Research*, 13 (March), 411-454.

Amin, Sajeda and Cynthia B. Lloyd (1998), "Women's Lives and rapid Fertility Decline: Some Lessons from Bangladesh and Egypt," Policy research Division, Working paper # 117, New York: Population Council.

Andaleeb, Syed Saad (1983), "Resistor Target Group: A Behavioral Analysis of Resistance to Family Planning Motivation," *Journal of Management Business and Economics*, 9, 2, 195-201.

Andaleeb, Syed Saad (1998), "Delivering Primary Education in Bangladesh: Enabling the Field Personnel," *International Journal of Public Sector management*, 11, 4 & 5, 379-396.

Anderson, Erin and Barton Weitz (1992), "The Use of Pledges to Build and Sustain Commitment in Distribution Channels," *Journal of Marketing Research*, 29 (February), 18-34.

Anderson, James C. and James A. Narus (1990), "A Model of Distributor Firm and Manufacturing Firm Working Partnerships," *Journal of Marketing*, 54 (January), 42-58.

Arends-Kuenning, Mary (2002), "Women's Lives in Transition: A Qualitative Analysis of the Fertility Decline in Bangladesh," *Studies in family Planning,* 27 (Sept-Oct), 5: 251-268.

Arthur, Brian and Geoffrey McNicoll (1978)," An Analytical Survey of Population and Development in Bangladesh," *Population and Development Review*, 4, 1:23-80.

Bairagi, R. and R.L. Langsten (1986), "Sex Preference for Children and Its Implications for Fertility in Rural Bangladesh," *Studies in Family Planning*, 17, 6, (Nov-Dec), 302-307.

Bairagi, R. (2001), "Demographic Transition in Bangladesh: What happened here in the 20th Century and What is Next?" Paper presented at the International Union for the Scientific Study of Population 24th General Conference, Salvador, Brazil, 18-24 August.

Berscheid E. and E. Walster (1978), *Interpersonal Attraction,* second edition, Reading, Massachusetts: Addision-Wesley.

Boulier, Bryan L. (1985), "Family Planning Programs and Contraceptive Availability: Their Effects on Contraceptive Use and Fertility," in Nancy Birdsall (ed), *The Effects of Family Planning Programs on Fertility in the Developing World*, World Bank Staff Working Paper No. 677: Washington D.C.

Brucks, Merrie (1985),"The Effects of Product Class Knowledge on Information Search Behavior," *Journal of Consumer Research*, 12, June, 1-16

Cain, Mead (1977), "The Economic Activities of Children in a Village in Bangladesh," *Population and Development Review,* 3, 3: 201-228

Caldwell, John C. and Pat Caldwell (1992), "What Does the Matlab Fertility Experience Really Show," *Studies in Family Planning*, 23, 5: 292-310.

Chaudhury, R.H. (1978), "Female Status and Fertility Behavior in a Metropolitan Urban Area of Bangladesh," *Population Studies*, 32 (2): 261-74.

Chowdhury, A.K.M. Alauddin, A.R.Khan, and Lincoln C. Chen (1978), "The Effects of Infant and Child Mortality on Fertility: Experiences in Pakistan and Bangladesh," in Samuel Preston (ed.), *The Effects of Infant and Child Mortality on Fertility*, New York: Academic Press.

Cleland, John, James F. Phillips, Sajeda Amin, and G.M. Kamal (1994), "Determinants of Reproductive Change in Bangladesh: Success in a Challenging Environment," Washington, DC: World bank Regional and Sectoral Studies.

Cleland, John and Christopher Wilson (1987), "Demand Theories of the Fertility Transition: An Iconoclastic View," *Population Studies*, 41 (1), 5-30

Crosby, Lawrence A. and Nancy Stephens (1987), "Effects of Relationship Marketing on Satisfaction, Retention and Prices in the Life Insurance Industry," *Journal of Marketing Research*, 24 (November) 404-11.

Hossain, Anwar (1987), "Women's Development and Population Control," *Journal of Business Administration*, 17, 2, 107-116.

Hossain, Mian Bazle and James F. Phillips (1996), "The Impact of Outreach on the Continuity of Contraceptive Use in Rural Bangladesh," *Studies in family Planning*, 27 (March-April), 2: 98-106.

Johnson, Eric and J. Edward Russo (1984), "Product Familiarity and Learning New Information," *Journal of Consumer Research*, 11 (June), 542-550.

Kamal, Nashid (2000), "The Influence of Husbands on Contraceptive Use by Bangladeshi Women," *Health Policy and Planning*, 15, 1, 43-51.

Kawachi, I., B.P. Kennedy, K. Lochner, and D. Prothrow-Stith (1997), "Socila Capital, Income Inequality, and Mortality," *American Journal of Public Health,* 87, 1492-1498.

Khan, A.R. (1977), Sterilization Campaign of 1977- A National Long-term Follow-up Survey, Dacca: Bangladesh Fertility Research me.

Maloney, C., K.M. Ashraful Aziz, and Profulla C. Sarkar (1980), *Belief and Fertility in Rajshahi, Bangladesh*, Institute of Bangladesh Studies: Rajshahi University.

Mauldin, W. Parker and Robert J. Lapham (1985), "Measuring Family Planning Program Effort

in Developing Countries," in Birdsall, Nancy (ed), *The Effects of Family Planning Programs on Fertility in the Developing World*, World Bank Staff Working Paper No. 677: Washington D.C.

_____ and John A. Ross (1991), "Family Planning Programs: Efforts and Results, 1982-89," *Studies in Family Planning*, 22, 6: 350-367.

Mita, Rezina and Ruth Simmons (1995), "Diffusion of the Culture of Contraception: Program Effects on Young Women in Rural Bangladesh," *Studies in family Planning*, 26 (Jan-Feb), 1: 1-13.

Mitra S.N. Ahmed Al-Sabir, Anne R. Cross, and Kanta Jamil (1997), Bangladesh Demographic and Health Survey 1996-1997, Dhaka: National Institute of Population Research and Training.

Mohr, Jakki and John R. Nevin (1990), "Communication Strategies in Marketing Channels: A Theoretical Perspective," *Journal of Marketing*, 54 (October), 36-51.

Momtaz, Salim (2002), "Microfinance, Self-reliance, and Sustainability: The Case of a Non-governmental organization in Bangladesh," *Journal of Bangladesh Studies*, 4,1: 1-11.

Moorman, Christine, Rohit Deshpande, and Gerald Zaltman (1993), "Factors Affecting Trust in Market Research Relationships," *Journal of Marketing*, 57 (January), 81-107.

Obaidullah, M. (1966), "On Marriage, Fertility, and Mortality," in *Demographic Survey in Pakistan*,PT II, Dacca: Institute of Statistical Research and Training, University of Dacca.

Phillips, James F., Mian B. Hossain, Ruth Simmons, and Michael A. Koenig (1993), "Worker-Client Exchanges and Contraceptive Use in Rural Bangladesh," *Studies in Family Planning*, 17, 6 (November-December), 329-342.

Planning Commission (1980), *The Second Five Year Plan 1980-85.* May, Dacca: Government of Bangladesh.

_____ (undated), "A Study on Performance of Family Planning Assistants and Family Welfare Assistants under Family Planning Scheme," 1975-78.

Rahman, Mizanur, Jalaluddin Akbar, James F. Phillips, and Stan Becker (1992), "Contraceptive Use in Matlab, Bangladesh: The Role of Gender Preference," *Studies in Family Planning*, 23, 4:229-242.

Repetto R.G. (1972), "Son Preference and Fertility Behavior in Developing Countries," *Studies in Family Planning*, 3, No. 4 (April), 333-352.

Salas R. (1982), *Reflections on Population*, Pergammon Press: New York.

Sathar, Zeba, Nigel Crook, Christine Callum, and Shahnaz Kazi (1988), "Women's Status and Fertility Change in Pakistan," *Population and Development Review*, 14 (3), 415-432.

Schiffman, L.G. and L.L. Kanuk (2000), *Consumer Behavior,* 7th edition, New Jersey: Prentice Hall

Simmons, Ruth, Rezina Mita, and Michael A. Koenig (1992), " Employment in Family Planning and Women's Status in Bangladesh," *Studies in Family Planning*, 23, 2: 97-109.

Sud, L. (1991), *Marital Power Structure, Fertility and Family Planning in India*, London: Sangam Books.

United Nations (1998), "World Population Monitoring-1996: Selected Aspects of Reproductive Rights and Reproductive Health," New York: United Nations

United Nations Development Programme (2002), Human Development Report*, Oxford: Oxford University Press.*

Vlasoff, Carol (1991), "Progress and Stagnation: Changes in Fertility and Women's Position in an Indian Village," *Population Studies*, 4, 6, 195-212.

Wheeler, David (1985), "Female Education, Family Planning, Income, and Population: A Long-Run Econometric Simulation Model," in The Effects of Family Planning Programs on Fertility in the Developing World, Nancy (ed.), *World Bank Staff Working Paper*, No. 677, Washington D.C. 116-206.

Endnotes

[i] Enfants Du Mondé (EDM) has now ceased to exist in Bangladesh.

2 Wald Test for the joint effects of Xj and Xk variables is given by :

$$F_c = \frac{(R^2U - R^2R)/(k-m)}{(1 - R^2U)/(n-k)}$$

U = unrestricted model

R = restricted model

k = variables in the unrestricted model

m = variables in the restricted model

n = number of observations