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**CREDIT PROGRAMME, WOMEN'S EMPOWERMENT
AND CONTRACEPTION: THE ROLE OF CONTEXT**

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1. INTRODUCTION

Emphasis on the explanation of the changes in contraceptive behaviour in Bangladesh has been shifted from socio-economic and cultural factors to the change of women's status in recent years. The development projects have been believed to contribute in modifying women's role in household decision-making, changing women's perception of their own well-being, self-efficacy, and gender inequality. Therefore, a better understanding about the social forces that accompanying the projects in propelling these changes is important for policy processes.

The social, economic and cultural factors have played important role on contraceptive use in developing countries (Lapham and Simmons, 1987), although specific mechanisms through which development factors influence contraceptive behaviour are not clearly known (Koenig and Simmons, 1992). Education helps women not only to understand the options available to them, re-think traditional cultural values, but to challenge the authority and domination of men over women (Caldwell, 1982). Exposing women to new knowledge may influence their reproductive outcome by reducing desired family size by (Le Vine et al., 1991). Work outside home exposes women to new ideas, better access to family planning services and informed choice. Reinforced by group support, this may lead to a higher contraceptive use (Mahmud and Johnstone, 1994). Involvement in such activities enables them to gain social legitimacy of her own choice and exposes women to wider options to regulate her fertility aspirations.

The society limits the chance of women to change in such innovative behaviour as adopting contraceptive by forcing to play an almost complete dependence of women upon men for protection and economic support and a subordinate role in familial decision making within a patriarchal societal form (Cain, 1984; Mason, 1984; Dyson and Moore, 1983). Control over their own income and ability to provide financial assistance to the household promote their sense of identity and reduces their dependence on men, reduces gender inequalities and raises decision making role (Amin and Pebley, 1990; Schuler and Hashemi, 1994). A clear view of the power relations between women and men within the household is expected to help understand the role of women's increased empowerment on contraceptive decision-making (Mahmud and Johnstone, 1994). Nevertheless, studies remain inadequate to clearly demonstrate how women's empowerment, which depends on many factors and has multiple dimensions, affects contraceptive behaviour.

The role of micro-credit [Note1] based development programme in empowering poor rural women and raising contraceptive use has been well documented (Pitt et al., 1995; Schuler and Hashemi, 1994).

These programmes were reported successful in bringing down poverty and modifying contraceptive behaviour by providing population education and primary health care intended to influence the behaviour of poor women (Korten, 1991; Khondker and Latif, 1994). What is not clearly known is whether the contribution of credit-based development projects in changing contraceptive behaviour varies from one context to another. Micro-credit based developments in Bangladesh have not only introduced the collateral-free credit for the rural poor women, but a package of support services such as group formation, skill training and reproductive health services. The process has transformed the poor rural women, enabled them to gain collective power and prestige. This has reduces physical and social isolation in the home and provides opportunity to earn. Women's role in the decision-making process modifies as a result (Schuler and Hashemi, 1994).

The contraceptive use in Bangladesh has consistently been increasing during the last two decades (Egero and Hammerskjold, 1996; Cleland and Phillips, 1993). The variation in contraceptive performance has been reported very wide and the growth of contraceptive use has never been uniform across the country (Mitra, 1992). In this research, our sample areas are categorized into low and high performing regions based on the contraceptive prevalence during the time of survey. The low and high performing regions are termed as transitional and post-transitional demographic stages respectively [Note2]. This study has three specific objectives. First, the role of credit-based development programmes on selected indices of women's empowerment is estimated. Secondly, the linkages of these empowerment indices with contraceptive use are examined. Finally, the paper assesses how the credit-empowerment--contraception linkages differ between transitional and post-transitional demographic settings in Bangladesh.

2. DATA AND METHODOLOGY

2.1 *Conceptual and Measurement Problems*

Women's empowerment has been largely ignored until recently in demographic literature probably because of its unclear definitions, intellectual isolation from the mainstream, and poor conceptual analysis (Dormor, 1994). As there was no consensus regarding the concept of empowerment of women that can be identified and measured cross-culturally (Whyte, 1978), specific indicators of the situation of women were recommended to use (Dormor, 1994). Until recently, the concept of structured relationships within households was ignored. Gender inequality was often confounded with economic or class inequalities ignoring to measure or compare the position of women relative to men (Mason, 1984).

Another frequently reported problem in measuring women's empowerment is the variation of dimensions or indices of empowerment such as power relationship with family members, decision-making roles, control over resources by the social and cultural context and with life cycle (Greenhalgh, 1985). Women's empowerment indicators may become, therefore, location-specific and context dependent (Dormor, 1994).

In patriarchal household structure, women are forced to depend on men in which men control the household's resources but give women access to them (Mason, 1984). Ability to make purchases for the household members, if it is not the permitted by someone else may be used as an indicator of women's empowerment in many studies (Schuler and Hashemi, 1994). In measuring relative position of women within the household, these studies failed to distinguish between ability to use and control over resources (Mason, 1984; Dormor, 1994). Even the 'control over' does not entail a complete decision making capacity because the women's perception of how much she can control become much more important than actual control (Dharmalingam and Morgan, 1995).

Women's mobility outside home or labour-force participation is considered as key indicators of empowerment in many studies (Hashemi, Schuler and Riley, 1996; Amin and Pebley, 1994). But the belief that mobility enhances women's autonomy in all societies is heavily dependent on the context. Confining women to their homes reinforces gender inequality, but the forced movement within and between villages for their survival would be erroneous.

2.2 *Measuring Empowerment*

In Bangladesh, patriarchal institutions create a situation where women feel insecure and that force them to depend on husband or other male members of the households. In relating women's empowerment with contraceptive use, 'household' as the location is considered most relevant rather than the 'community' in this study.

Empowerment is a complex concept and is difficult to measure if it is considered as a process attributing to both the 'condition' and the 'position' of women in the society. We define empowerment as women's freedom from control by husbands, ability to manage their households and significance in decision meeting process within the household (Batliwala, 1994). We have focuses on three measures of women's empowerment [Note3].

Findings based on cross-sectional data may generate biased estimates of the role of credit programme on empowerment because women who are relatively innovative or already empowered may be

more likely than others to join the credit programmes (Amin, 1996; Hashemi, Schuler and Riley, 1996; Pitt et al., 1995). It has been suggested that in the absence of longitudinal data, the factors that might be influenced by endogeneity or selection bias should be adjusted in the multivariate analysis. However, the effects of selection bias were reported negligible in a study where longitudinal approach was employed to estimate the role of women's participation in credit-based income generating activities on women's autonomy and reproductive behaviour (Hadi, Nath and Chowdhury, 1996).

To minimize the possibility of selection bias, participants and non-participants are compared with respect to women's empowerment. We have also adjusted for region since the duration of operating credit facilities in different regions of the country is not similar. Also, logistic regression models have been used to control for differences in the socioeconomic and demographic characteristics of women in each category. Despite these steps, the estimated effects of the credit programme on empowerment of this study may reflect the selection bias that may distort the findings and the conclusions drawn from them.

2.3 *Study Design*

Data were collected from a nationally representative intensive monitoring system, known as *Watch* [Note4], in 70 villages located in ten districts of Bangladesh. The *Watch* was introduced to document the changes in social life of the community that was induced as a result of development programmes such as credit-based income generating activities, essential health care for the poor, and legal and social awareness for women. All households in the *Watch* villages were completely enumerated in 1996 where basic demographic and socioeconomic information was routinely collected. The study samples consisted of 50 married women aged <50 years selected at random, from each *Watch* district. Thus, information from a total of 500 women was successfully collected using semi-structured interviews during March -- May 1996.

Nearly a third of the sample women was found to participate in credit-based income generating projects operated by any non-government organization (NGO) while the other two-third were not involved with such development intervention. In our analysis, the non-participants are categorized into *never participated* and *not eligible* based on their eligibility to be involved with the credit-based development programme. This made the study to be based upon a three-cell experimental design wherein a third of all sample women had credit support from NGOs, nearly 26 percent of credit eligible women never received any support, and the remaining 42 percent women were non-eligible socioeconomically better-off women in the study villages.

The study focuses on contraceptive use and women's empowerment as a result of credit-based income generating programmes in rural Bangladesh. This has been done by modelling a dichotomous dependent variable, *contraceptive use* coded one if a woman has accepted any method and zero if otherwise. The main independent variables are *credit acceptance* by women during the study period and the three measures of *women's empowerment*. A number of socio-economic and demographic variables of study women are estimated and used as confounding variables that assume to modify our main hypothesis of credit--empowerment--contraception linkages. This assumption is then compared in two scenarios viz. where contraceptive use i) is in transition and ii) has reached to post-transitional stage. The analysis begins with a description of the comparison of study variables of sample women between two stages. To assess the relative influence of credit-based income generating activities, women's empowerment and socio-demographic characteristics, and to estimate the effects of socio-demographic confounders on contraceptive use, we used logistic regression because the dependent variable is dichotomous (Aldrich and Nelson, 1984).

3. RESULTS

The background characteristics of the study women are mostly similar to the national picture except literacy that seems to be slightly higher among the study women (Table 1). The regional variation (not shown) appears to be significant indicating some selection bias, but in most cases except contraceptive use, the differences between the two demographic settings are not very large. Mean number of living children is lower in the post-transitional than transitional stages, probably because the women in the post-transitional (high performing) setting is older on average than women in the transitional (low performing) stage. Education does not appear to have any positive association with contraceptive use at the regional level.

[Table 1]

Data also suggest that regional variation in empowerment exists and women who are relatively more empowered are more likely to use contraceptive than others. Similarly, involvement in credit and mean duration of involvement with credit programmes also appear to have positive relationships with contraceptive use. However, in the absence of longitudinal data, it is very difficult to conclude whether

empowerment or credit has any effect on contraceptive use or contraceptive users are more likely to join credit programmes or to be empowered than the non users.

[Table 2]

The participation in NGO-led credit-based development programmes is examined as a source of empowerment by strengthening both the social and economic role of women in the household (Hashemi, Schuler and Riley, 1996; Amin and Bayes, 1996). By holding weekly meetings, these NGOs give women culturally legitimate reasons to go outside home and have wider exposure through meetings with other women and men, and strengthening their self-confidence by exchanging and learning new ideas (Egero and Hammarskjold, 1996). Table 2 shows the effects of participation in development programmes and duration of involvement on three indices of women's empowerment. While the results indicate that participation tends to raise all indices of empowerment, the increase is not statistically significant except decision-making. Duration of credit programme involvement is categorized into 1-5 years and 5 years or more on the assumption that being only a programme participant for less than 5 years would not have visible change in raising buying capacity, household decision-making or power relationship with husband. Although the findings show that duration of involvement has positive association with each index of empowerment, the significant increase in most indices is viewed among those women who were involved with income generating schemes for more than five years. Unlike a number of studies conducted in rural Bangladesh where credit programmes for the poor rural women were found to have significant effects on several and largely similar dimensions of women's empowerment (Hashemi, Schuler and Riley, 1996; Khan, Chowdhury and Bhuiya, 1997), the credit programmes appear to have weaker effects on most indices of empowerment if duration of membership is less than five years. This relatively weaker association between credit involvement and women's empowerment at the initial stage is also reported in other studies (Amin and Bayes, 1996; Naved, 1994).

How can this weaker relationship be explained? In Bangladesh, women are not generally allowed to join a credit group without any resistance by the husband. They allow and in some cases encourage to join credit groups if the husbands have access to that credit. Naved (1994) found that sharing control of credit and income earned from that investment with husband at the beginning was a part of women's strategy to make them and their new roles more acceptable to their family. Women's bargaining power within the family gradually increases as a result of their increasing contribution to the economic survival

of their families, their increasing exposure to outside home and their participation in conscientisation efforts of the credit agencies. Another possible reason of minor differences in empowerment indices between non-participants and newly joined participants may be that the newly created opportunities for poor rural women, their visibly changed roles, and influence may have diffused to other women in the neighbourhood.

[Table 3]

The relationship between credit programme and women's empowerment is fairly well documented in recent literature. A number of studies have measured women's decision-making role, their freedom of movement, the power relationships within their families and with husbands, and their control over economic resources and associated these with credit programmes (Hashemi, Schuler and Riley, 1996; Khan, Chowdhury and Bhuiya, 1997). Not as well established are the mechanisms through which various dimensions of women's empowerment work to modify reproductive behaviour and contraceptive choice. The Model I in Table 3 indicates that each selected index of empowerment has strong and statistically significant positive effect on contraceptive use that re-inforce the findings of earlier studies. Although the three indices used in this study are correlated, impact of decision-making role appears to be much more relevant to contraceptive use than having greater buying capacity or more equitable relationship with their husbands. The observed weak association between credit programme involvement and contraceptive use is due to the inclusion of nearly half of the relatively better-off non eligible women to receive credit facilities in the 'not involved' category, a large proportion of whom may have already been practising contraceptives. The role of development programmes on contraceptive use, shown in Model II, indicates a credit-contraceptive linkage but suggests that the programme effect would be statistically significant if women are involved with the programme at least for five years or more.

Model III, where duration of credit involvement variable is added to Model I, shows that most empowerment indicators are significantly associated with contraceptive use. This result suggests that whether or not exposed to credit programme activities, women's empowerment is positively linked with contraceptive use. But the relatively weaker effect of empowerment on contraception after adding credit variable suggests that duration of involvement also explains a part of increase in contraception. The study, therefore, argues that the likelihood of accepting contraceptive would be more if the process of empowering rural women is aided by incorporating credit-based income generating programmes. Model

IV indicates that adding demographic, socio-economic and regional differences to Model III weakens the positive effects of women's empowerment on contraceptive use. This suggests that duration of credit programme involvement and socio-demographic variations also explain, albeit partially, the contraceptive use. In Model IV, the effects of empowerment indices further weaken as a result of adding credit and other socio-demographic variables. This indicates that empowerment of women has a strong linkage with contraceptive use although the sociodemographic variability and participation in development programmes also explain the contraceptive decision making among rural women in Bangladesh.

Raising contraceptive use in Bangladesh within a short span of time is remarkable by any standard. In the absence of significant economic development, this achievement appears to be driven primarily from the supply side by providing the massive community-based door-to-door services throughout the country (Larson and Mitra, 1992). Such a programme may itself have a profound effect on the consciousness of the rural population and have acted as a countervailing force against traditionally expected behaviours of women (Schuler et al., 1996). In a scenario where the contraceptive knowledge is universal, social costs of contraception been largely reduced, and the desire for small families is widespread (Cleland and Phillips, 1994), are the credit agencies, renowned to create demand for service among the grassroots, expected to behave differently?

The social context of the rural women has been changing as the economic life has become more complex and more volatile, having linked to the outside world by mass media and the proliferation of private voluntary development organizations (Cleland and Phillips, 1994). Such context has been favourable for poor rural women engaged for a while with credit-based self employment programmes to be better informed about the family planning and health services available in their community than others not so exposed to the community services. This newly gained traits may have convinced these poor women that contraception or delayed pregnancy is a good thing to adopt, economically beneficial if fewer numbers of children are born, and their lives would be worse without family planning (Schuler et al., 1996). The wider participation in decision-making, particularly for their own health and well-being, may have helped them decide to accept contraception. Women's basic insecurity and dependence on men, reinforced by patriarchy and religion, may have countervailed by their growing sense of identify and self-respect as reflected by modifying persistent unequal relationship with their spouse. As explained earlier, spousal resistance to use contraception diminishes as their bargaining capacity within the household increases. It appears that the process of empowerment has the likelihood to counter pro-natalist notions

and cultural role of procreation in life and diffused or even persuade them to agree in passively accepting contraception.

While the participation in credit-based income generating programmes has a demonstrated linkage with women's empowerment, the role of transformation or changes of the dimensions of empowerment on contraceptive use is far more complex. Correlates of empowerment may vary by context and time. Variation in each index of empowerment by region may be widespread (Jejeebhoy, 1996). A clear understanding of the conditioning effect of the context is very much relevant in setting up policy and programmes. The contraceptive prevalence has been increasing rapidly in Bangladesh since early eighties, co-incidentally when the credit programme has also begun expanding in the rural areas. The contraceptive prevalence varies widely in Bangladesh where the north-eastern and south-eastern regions and some pocket areas have been traditionally and consistently displaying poor contraceptive performance (Larson and Mitra, 1992).

[Table 4]

Do the development programmes and empowerment indices operate in similar fashion in such varying social and geographic contexts? Table 4 displays the differences in the effect of credit programmes on contraceptive use by contraceptive performing regions, when demographic and socio-economic conditions are controlled. Results clearly show that the role of development programmes on contraception is far greater in the low performing regions where the contraceptive use is in the take-off or transitional stage than the high performing regions where the contraceptive transition has already reached to a certain level. This opens a host of assumptions. Is it conceivable that the family planning service facilities are much better in the post-transitional than the region in transition and, thus, both the participants and non-participants of the credit programmes had equal access to family planning facilities while the situation was otherwise in the low performing regions? The poor service facilities in the low performing regions are well known and a number of NGOs is facilitating the national family planning programmes of the government in the low performing areas.

Another potential explanation of the differential effects of credit programmes on contraceptive use is that the contraceptive prevalence in the post-transitional stage may have already reached its peak (i.e., nearly 61 percent) where most of the unmet needs for family planning are met regardless of credit programme involvement. On the other hand, contraceptive use has just taken off and cultural barriers,

although persists, may have begun to reduce and the accessibility to services may have been increasing slowly in the region in transition. In such a scenario, the participants of development programmes in the community are most likely to be pioneer in taking the opportunity to accept contraception than non-participants.

[Table 5]

While credit programme is assumed to have a differential role in explaining contraceptive use in two distinct regions differed by performance, an understanding of how women's empowerment, a transitory or intervening variable in credit--empowerment--contraception linkages, relates with contraception may have important policy relevance. Table 5 compares the effects of three indices of empowerment on contraceptive use between the transitional and post-transitional demographic settings. While credit programme involvement appears to have statistically significant positive effect on contraceptive use in the region in transition, the programme loses its importance in the post-transitional stage. It is also clearly evident that the role of each index of women's empowerment in explaining contraceptive use differs greatly when credit involvement and socio-demographic variables are controlled. This signifies the increasing role of empowerment in the post-transition stage where, as indicated earlier, empowerment is expected to be much more prominent than in explaining contraceptive use.

4. CONCLUSIONS

The results, as found in other studies, suggest that the participation of rural women in micro-credit programmes increases women's control over their household affairs. Also, both the programme involvement and control over decision making process are associated with a greater likelihood of contraceptive use. Such control over household affairs that largely determine marital relations in rural Bangladesh depends on the social context where they live and interact (Mizan, 1994). The social context determines women's access to opportunities to work for themselves that is considered the source of and essential to create or develop a power base for them. Micro-credit based programmes have created an opportunity in isolated rural communities.

A number of previous studies claims that the participation in credit programmes has immensely changed the life of poor women by raising economic security, wider mobility to make purchases, involving in household decision-making process with their spouse, etc., those studies have yet to address

the underlying structural factors of programme components that perpetuate the exploitation of poor women. None of the studies have reported that gender inequality, subordination or male domination has significantly reduced or the relative position of women has substantially improved as a result of minimalist credit programmes in Bangladesh. This argument, not necessarily mean that the women's position in Bangladesh has remained static over the past decade or so. The process of empowering women may have already begun as they have been encouraged to think for themselves or to make their own choices, encourage to alter their traditional belief and practices, establish their right to control resources, and participate equally in decisions within the family.

The notion that the self employment and income generating schemes for poor women by strengthening their economic roles and wider control over material resources as an approach for improving women's empowerment within the family should be re-examined. This study argues that in the post transitional (high performing) stage, the effect of current level of micro-credit programmes on contraceptive use is expected to be minimal. However, if the programme addresses to tackle the sources of subordination, provides access to information, help women gain self-esteem and ability to control over their own affairs, the possibility is there in creating a context to raise contraceptive use even further. Empowering rural women is not the only way to achieve the national priority of fertility regulation. Again, it can not be said that the credit programmes had no relevance to the rapid rise of contraceptive use in Bangladesh.

The reproductive transition in Bangladesh began in the absence of significant economic development but reproductive transition can not reach to its end without it. Such a transition, unlike many high technology development projects, requires participation of people (Egero and Hammerskjold, 1996; Hadi, Nath and Chowdhury, 1996). While the micro-credit approach can play an important role in raising contraception by empowering rural women, a sustained programme effort focusing on the growing contraceptive demands should be incorporated various development interventions in the communities.

NOTES

1. Micro credit-based development programme is designed primarily for the poor rural women, with a package of support services such as group formation, group savings and skill training provided the them the opportunity to earn by themselves and financially contribute to their family.
2. Transition of contraceptive prevalence in Bangladesh has been remarkable. The CPR was only 8 percent in 1975 that has reached nearly 45 percent in 1995. The contraceptive prevalence has a very wide regional variation (Mitra, 1992). In this study, our study areas are categorized into low and high performing regions based on the aerial prevalence rates. The low performing region, where CPR is found nearly 31 percent, is termed as transitional stage and the high performing region, where CPR is found 61 percent, is termed as post-transitional stage.
3. Women's empowerment is measured using the following variables:
Buying Capacity: Whether a woman can decide to buy such household items as food, grocery, clothing, medicines, etc. for herself or her dependants without her husband's permission and support.
Decision-making: Whether a woman can make her own decision or can actively participate in the decision making processes within the household. Decision issues include: education for children, type of treatment to be given for herself or her children, whether or when to visit natal home or other places, amount of money to be spent for the family members during festivals, and whether or how much money should be lend to or borrowed from others.
Power Relations with her Husband: This index is constructed on whether or how often a woman can resist from violent behaviour, influence husband to accept her decision, make the husband dependent on her at least to some extent.
4. *Watch* is a demographic and health surveillance system that covers 70 villages in ten districts distributed throughout Bangladesh where BRAC, Grameen Bank, Proshika, BRDB and other local development organizations have been operating credit-based income generating activities.

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ABSTRACT

CREDIT PROGRAMME, WOMEN'S EMPOWERMENT AND CONTRACEPTION: THE ROLE OF CONTEXT

This paper re-examines the widely held view of credit programme--women's empowerment--contraception linkages and assesses how such linkages differ between transitional and post-transitional demographic settings in Bangladesh. Using nationally representative sample survey data, the findings reveal that the role of credit programme participation in raising most indices of women's empowerment and contraceptive use is not statistically significant if duration of programme involvement is less than five years. The participation of women in micro-credit programmes significantly modifies their contraceptive behavior during the transitional stage. In the post transitional stage, the role of credit programme on contraceptive use is insignificant although women's empowerment plays a significant role in raising contraception. The study argues that credit-based income generating programme for women can be an effective way to increase contraceptive use if the social mobilization aspect of the programme can significantly reduce gender inequality and raises decision making authority among women.

TABLE 1

Demographic characteristics of sample women, Bangladesh, 1996

Study variable	Performing Region		
	Low	High	Total
<i>Socio-demographic</i>			
Mean age (in years)	31.2	29.8	30.5
Mean living children	2.98	2.43	2.70
Mean years of schooling	2.3	1.7	2.0
Percent literate	41.4	29.3	35.4
Percent landless	53.0	47.0	50.2
Mean land (in decimal)	114	85	100
<i>Percent of women having</i>			
Buying capacity	45.8	61.8	53.8
Decision-making	46.6	67.1	56.8
Power relation with husband	18.7	29.3	24.0
<i>Credit programme</i>			
Mean duration of involvement	1.47	1.73	1.60
Percent involved in	32.3	36.5	34.4
Contraceptive use	30.7	61.0	45.8
N	250	250	500

TABLE 2

Log odds ratios of credit programme to predict various indices of empowerment controlling for age, education, land ownership, religion, exposure to media and regional differences (N=500)

Explanatory variable	Empowerment Indices		
	Buying capacity	Decision making	Power relation
<i>Participation in credit programme</i>			
Never	1.0	1.0	1.0
Participated	1.01	1.54*	1.33
Not eligible	0.84	0.68	0.87
<i>Duration of credit programme involvement</i>			
Not involved	1.0	1.0	1.0
1 - <5 years	1.02	1.50*	0.85
5 + years	0.88	2.66**	2.37***

Significant at * $p < .10$; ** $p < .05$; *** $p < .01$.

TABLE 3

Log odds ratios of selected explanatory variables to predict contraceptive use among women

Explanatory variable	Model			
	I	II	III	IV
<i>Empowerment indices</i> (ref. cat.=Low)				
Buying capacity	1.54**		1.54**	1.28
Decision making	2.29***		2.21**	1.84***
Power relation	1.44*		1.42	1.34
<i>Duration of credit programme involvement</i>				
Not involved		1.0	1.0	1.0
1 - <5 years		1.41	1.29	1.41
5 + years		1.68*	1.29	1.22
<i>Other indicators</i>				
Age				0.98
Living children				1.19**
Education				1.04
Land ownership				1.00
Media (rc=low)				1.57*
Region (rc=low)				3.25***
-- 2 Log likelihood	657.15***	684.86***	655.47***	609.01***

Significant at * p < .10; ** p < .05; *** p < .01.

TABLE 4

Log odds ratios of the duration of credit programme involvement to predict contraceptive use among women in both low and high performing regions controlling for age, living children, education, land ownership and media media

Duration of involvement	Performing Region	
	Low	High
Not involved	1.0	1.0
1 - <5 years	2.01	1.07
5+ years	3.22***	0.85
-- 2 Log likelihood	290.39***	318.47***

Significant at * $p < .10$; ** $p < .05$; *** $p < .01$.

TABLE 5

Log odds ratios of selected explanatory variables to predict contraceptive use among women in both low and high performing regions

Explanatory variables	Performing Region	
	Low	High
<i>Duration of credit programme involvement</i>		
Not involved	1.0	1.0
1 - <5 years	2.01**	1.60
5 + years	2.66**	0.81
<i>Other indicators</i>		
Age	1.00	0.96
Living children	1.08	1.36**
Education	1.04	1.02
Land ownership	1.00	1.00
Media (rc=low)	1.32	1.57
<i>Empowerment indices (ref cat=low)</i>		
Buying capacity	1.01	1.60*
Decision making	1.77*	1.78*
Power relation	1.33	1.35
-- 2 Log likelihood	286.42***	310.53***

Significant at * p < .10; ** p < .05; *** p < .01.

Cultivation is the principal source of income of the highest percentage of household heads under the survey. But in the mainland of Sirajganj handloom weaving is the principal source of income of the highest percentage of household heads. But day labour is the principal occupation for the largest percentage of households affected by erosion. In the case of these erosion affected areas the percentage of household heads with cultivation as the principal source of income decreased from 56.0 in their original locations to 12.5 in their present locations and with daylabour as the principal occupation increased from 14.7 to about 37.0 and with other occupations from 11.5 to 29.1.

The households in the survey area have on an average 2.4 housestructures. But the floor space of most of these houses appeared to be very meagre and the construction materials used in most of the structures also very poor in quality. In the erosion affected areas other than the spill channel area, the percentage of households with only one housestructure was 10.7 in their original locations, which has increased to 41.2 in their present locations. In almost half (48.4%) of the present housestructures, jutestick is used in the wall. The housestructures using thatching-grass in the wall constitute 26.6% and using tin 19.4%. In contrast to this situation of construction materials in the walls, the roofs of 68% of the housestructures are covered with tin while 30% are covered with thatching grass and only 2% with other materials.

The percentage of housestructures with age of less than one year is 36.6 in the spill channel area and 40.4 in the case of the households in other areas affected by erosion. The households from the erosion affected areas (other than the spill channel area) living at present in the houses constructed on government land constitute 52.3%. The percentage of households living on the land of other persons is 47.4 in the case of spill channel area and 29.1 in the case of the households from the erosion affected other areas.

An attempt was made to know from the respondents (household heads) whether they consider their habitation in their present locations as permanent or temporary. About 80% of the respondents consider their habitation in their present locations as permanent while only 20% consider their present habitation as temporary. But in the case of the respondents from the erosion affected areas (other than the spill channel area), 82.3% of the household heads consider the habitation in their present locations as temporary. Because of heavy erosion along the riverbankline on the western bank (Sirajganj), 32.1% of the respondents of the mainland consider their habitation in the present locations as temporary. For 79.2% of the households in the case of spill channel area, erosion of riverbank is the reason for settlement in their present places while erosion of char is the reason for present settlement for 92.0% of the households in the case of erosion affected other areas. About 69% of the households of the spill channel area and more than 97.0% of the households from the erosion affected areas (other than the spill channel area), have been living 1 to 2 years in their present location. More than 94% of the

households from the erosion affected areas (other than the spill channel area) had been living for more than 2 years in the places of their original habitation. Erosion has displaced them from the places of their original habitation in recent time.

Most of the households living in the area under survey are in different land relations. About 57% of these households are owner-occupier and 56.7% of the households are not owner but occupier of land while 17.5% of the households are sharecropper. These percentages of owner-occupier households from the erosion affected other areas in their original places were 62, not owner but occupier of land 48.2 and sharecropper 29.3. But because of loss of their land, their present occupation pattern has undergone much change. At present only for 12.5% households from these areas cultivation is the principal occupation, for 37% day labour is the major source of income while the remaining 50% earn their living from other sources.

The households in different parts of the survey area suffered losses of different types and degree due to flood and erosion in 1996. Of the total households about 25% lost housestructures, 32.6% cultivable land, 48% lost crop and 37.1% other assets. These percentages are the highest in the case of the households of the erosion affected areas other than the spill channel areas. The percentages of households adversely affected by the loss of house-structures is 79.6, by the loss of cultivable land 59.3, loss of crop 72.4 and loss of other assets 57.3 in these erosion affected areas. The average quantum of land lost by these erosion affected households as reported by the respondents is also the largest (282.4 dec.) compared to the households of other areas. Loss of land due to erosion is almost a common feature of the survey area. There was loss of land in the spill-channel area even before 1995 and in the erosion affected other areas before 1996. But the percentage of households who lost land due to erosion sharply increased in the spill channel area from 0.4 in the year 1994 to 46.1 in 1995 and in the erosion affected other areas from 26.3 in 1995 to 64.6 in 1996.