

# **Three studies on the effect of BRAC interventions on the lives of the poor women**

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## **FOREWORD**

Empirical evidence points to a causal relationship between the socioeconomic status of individuals and communities and their health. Indeed improvement in health is expected to follow socioeconomic development. Yet this hypothesis has rarely been tested; at least it has not undergone the scrutiny of scientific inquiry. Even less understood are the processes and mechanisms by which the changes are brought about.

The Rural Development Programme (RDP) of BRAC is a multisectoral integrated programme for poverty alleviation directed at women and the landless poor. It consists of mobilization of the poor, provision of non-formal education, skill training and income generation opportunities and credit facilities. The programme is the result of 20 years of experience through trial and error. However evaluation of its impact on human well-being including health has not been convincingly undertaken.

The Matlab field station of ICDDR,B is an area with a population of 200,000, half of whom are recipients of an intensive maternal and child health and family planning services. The entire population is part of the Center's demographic surveillance system where health and occasionally socioeconomic indicators have been collected prospectively since 1966.

A unique opportunity arose when BRAC decided to extend its field operations (RDP) to Matlab. ICDDR,B and BRAC joined hands to seize this golden occasion. A joint research project was designed to study the impact of BRAC's socioeconomic interventions on the well-being of the rural poor, especially of women and children, and to study the mechanism through which this impact is mediated.

In order to share the progress of the project and its early results, a working paper series has been initiated. This paper is an important addition in this endeavour. The project staff will appreciate critical comments from the readers.

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**The links between BRAC inputs  
and  
'empowerment correlates' in Matlab**

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## Abstract

This paper addressed two current debates within the female empowerment literature using data from BRAC-ICDDR,B Joint research project at Matlab collected during April-July 1995. The first part explored the relationship between the socioeconomic status of the household and female empowerment and concluded that the two are positively correlated. The second issue that was focused on was the extent that membership in BRAC and borrowing from the organization contributes to empowerment of poor women in Matlab. BRAC's credit was the key input that was examined closely. A few tentative conclusions that can be derived from this work are: firstly, there appears to be a positive effect of BRAC's credit on two of the knowledge/awareness indicators<sup>1</sup> even after controlling for education variables. However, an obvious limitation of the data does not know whether any of the 'knowledge' is actually put into practice. Nevertheless, greater legal and political awareness is argued to be an important step towards female empowerment in rural Bangladesh as it has the potential to augment a woman's knowledge of her rights and entitlements within the household and in the community at large. Another broad conclusion that emerges from these results is the fact that greater amounts of borrowing enhance a woman's control and decision-making power over her assets. The loan threshold after which the level of asset-control appears to rise significantly is 10000 taka for women in our Matlab sample. This result is argued to be significant due to the emphasis placed on female control over assets in both the intra-household bargaining literature and in various studies on female empowerment. Finally, the other factors that contribute to a woman's empowerment were also those considered important in the literature namely marital status, contribution to household income and education.

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<sup>1</sup> Aware that dowry is illegal and aware of the local chairman's name

## 1.0 Introduction

Sen (1997) offers the following definition of 'empowerment'.

*'Empowerment is about change in favour of those who previously exercised little control over their lives. This has two sides. The first is control over resources (financial, physical and human). The second is control over ideology (beliefs, values and attitudes). (pp. 96)*

An important issue is 'whose empowerment' and related to this is the question of 'relative to whom'? Amin *et al.* (1994) contend that patriarchy and class structures are two powerful forces that govern the lives of rural women in Bangladesh. Social class is largely a function of landholding and as such 'empowerment of the rural poor' can be conceptualized in terms of the 'improvement' in the power relations between BRAC's target group, the functionally landless, and the wealthier classes. 'Empowerment of rural women', on the other hand, can be viewed against the backdrop of 'patriarchy', defined by Cain *et al.* (1979) as a 'set of social relations with a material base that enables men to dominate women' (cited in Amin *et al.* op.cit. pp. 123) and hence can be thought of in terms of an improvement in intra-household gender relations (Naved 1994, Kabeer 1995, Hashemi *et al.* 1996). Moreover given the institution of 'purdah' (loosely translated as 'veil'), a pervasive social construct which restricts the female sphere within the homestead, 'female empowerment' can also be viewed in terms of a woman's interactions outside the homestead and the acquisition of skills, knowledge and confidence that such interactions can bring (Amin *et al.* op.cit., White 1992, Mahmud 1994).

The focus of this paper is twofold. The first part examines the dual objectives of BRAC's Rural Development Programme (RDP), poverty alleviation and female empowerment, in order to understand whether they are consistent, or contradictory, objectives. A commonly used 'empowerment correlate', mobility, may be curtailed as a household's socioeconomic position improves (Montgomery *et al.* 1996), a fact which has been used to suggest that female empowerment may actually be hampered by rising socioeconomic status of the household. Hashemi *et al.* (1996) make a similar point, commenting on the fact that a woman who contributes to household income is more likely to be 'empowered' but is also more likely to be poor. This issue deserves a closer look using a range of 'empowerment correlates'.

The second part of the paper looks at the relationship between empowerment of rural women and their involvement with BRAC's credit programme in Matlab. This relationship is the subject of considerable controversy in the literature.

The literature on credit programmes and female empowerment provides us with a variety of empowerment measures. These include a borrower's control over her loan (Goetz *et al.* 1996, Montgomery *et al.* 1996), her knowledge of the enterprises' accounts (Ackerly 1995), her mobility, intra-household decision making power and general attitudes about her children's lives (Amin *et al.* 1994, Hashemi *et al.* 1996) as well as on her control over resources and incidence of domestic violence (Naved 1994, Hashemi *et al.* 1996).

This paper will start by reviewing the literature on credit programmes and female empowerment, which will be followed by a discussion of the link between various household models and female empowerment.

A broad set of 'empowerment correlates' will be developed from the Matlab 'women's questionnaire' and the work on 'poverty' in Zaman (1998) will be used to shed light on the relationship between poverty and empowerment. Multivariate analysis will then be used in an attempt to isolate the impact of BRAC on these indicators of empowerment. The aim is to see whether membership in a credit programme affects these 'empowerment correlates' through changes in intra-household gender relations and a greater participation of women in the public sphere.

A key limitation in the analysis is the problem of whether households who join BRAC are more likely to have certain unobservable characteristics that make them more prone to be 'empowered' compared to a random sample of households. This is essentially the 'selectivity bias issue' and a discussion of this problem in the context of this analysis is found in section 1.5. Another limitation of this paper is that it does not address issues of change in the relative power balance between different classes ('empowerment of the rural poor') due to data limitations, and as such the research is only a 'partial' analysis of the relationship between BRAC's credit programme and 'empowerment'.

### **1.1 Empowerment and micro-credit: a literature review**

There are three broad strands within the literature on credit programmes and female empowerment. One camp believes that credit programmes positively contribute to female empowerment and a variety of empirical results are used to argue this case. A second, more sceptical, viewpoint believes that credit programmes do little to alter gender relations in favour of females but in fact may contribute to reinforcing existing gender imbalances. A third strand avoids making judgements on the intra-household effects of micro-credit but instead address issues ranging from the institutional features of MFI's that are conducive to female 'empowerment' to the possible effect of female empowerment on a MFI's loan repayment rates. It is worth reviewing some of the main contributions to these three broad 'strands' as they provide a backdrop against which the indicators and arguments developed in the paper can be compared.

Amin *et al.* (1994) examine the effect of BRAC's credit programme on three different dimensions of women's empowerment, namely participation in household decision-making, mobility and general attitudes (regarding their children's marriage and education as well as their perceptions of the probability of divorce). Their work in thirty six villages in Manikganj district showed that membership in BRAC positively affected a woman's decision making role, her control over resources and mobility but less so on their attitudes regarding marriage and education of their daughters. The authors also comment that their respondents felt that membership in credit programmes is important from the standpoint of reducing their chances of desertion by their husbands given the fact that they were the source of an important resource. This last finding may be difficult to interpret from the 'empowerment angle' but it is nevertheless important to document as an example of the intangible benefits such programmes can bring about.

An important aspect of any impact analysis is to directly present the views of the programme participants particularly with regards to complex issues such as empowerment. Naved (1994) uses Participatory Rural Appraisal (PRA) techniques to identify the effect of participation in Save The Children's savings and credit programme in Manikganj. Naved (op.cit) reports that the women participants felt their status had improved within the household due to the fact that they were seen as income earners for the family through their access to credit. The women conceptualized this



improvement in status by stating that they were more active participants in household decision making and had more control over household income, particularly the portion which was derived from their own earning. The women in this article also discussed the benefits of participating in a group in the context of addressing social problems as a joint unit citing a number of incidents where group pressure helped resolve family disputes.

Mahmud (1994) distinguishes between a woman's 'power from within' (e.g. increased knowledge and skills and enhanced self perceptions) and 'power to do' such as control over assets and access to productive resources. The author believes that providing employment will only have a significant impact on female empowerment if the woman has control and decision-making power over her own income. Mahmud (op.cit) puts forward the view that external support networks such as savings groups can be important in challenging existing gender relations and potentially be a source of female empowerment.

Another seminal article supporting the 'favourable view' on credit and empowerment is that by Hashemi *et al.* (1996). The paper is related to earlier work done by Hashemi *et al.* (1993) in terms of the construction of a quantitative 'empowerment index'. This index is based on eight dimensions related to women's status namely mobility, economic security, ability to make small purchases, ability to make larger purchases, involvement in major decisions, relative freedom from domination by the family, political and legal awareness and participation in public protests and political campaigning. Each of these components had a series of related questions and households were assigned points depending on the answers given. Whilst this assignment is inherently subjective, the basis of these weights was an in-depth knowledge of rural Bangladesh by the authors through ethnographic research undertaken in six villages over a period of two years. Their analysis establishes that a woman contributing to her household's income is a significant contributing factor towards her empowerment, a claim also made by White (1992) based on her fieldwork in rural Bangladesh. However Hashemi *et al.* (op.cit) also show that the '*.... probability of empowerment is eight to twelve times as high for a woman who is contributing to family support or involved in a credit programme (and not contributing)*' (pp. 645 parenthesis in original text). In other words the authors argue that credit programmes can empower women independently of whether they contribute to family income or not, having controlled for other factors.

The authors also provide an interesting insight into the complexity of the term empowerment by noting that women's contribution to household income is likely to be higher in the poorest households. Hence, their analysis showed that whilst women contributing to household income is a significant determinant of empowerment, it could be inversely related to a household's socio- economic position, thereby suggesting that there may be trade-offs between poverty and woman's 'empowerment'. This is an issue that will be addressed in this paper.

Hashemi *et al.* (op.cit.) also comment on the issue of women's control over their loans. Using ethnographic data from sixty credit programme participants they conclude that whilst women who control their loans have the most chance of being empowered, even women who surrender all of their loans to their husbands are likely to be more empowered than non-members. The authors believe that this is because the family realizes the female programme member is the source of the loans and as such her status rises within the household.

A close look at changes in women's lives due to participation in BRAC's RDP suggests that whilst certain 'improvements' are noticeable it is difficult to attribute direct causality to BRAC (Mustafa *et al.* 1996). According to Mustafa *et al.* (op.cit), other factors such as village

conditions and degree of poverty heavily influence the extent that women's status changes within the household as a result of access to credit. The relative importance of various factors, aside from BRAC, will be considered in this paper.

One of the most cited articles from the 'sceptics' camp is one, which focuses on the aforementioned issue of women's control over their loans, an indicator used to proxy for female empowerment. Goetz *et al.* (1996) used a sample of 253 female borrowers covering four rural credit providers in Bangladesh and classified the extent of control by the loanee into five categories: full, significant, partial, very limited and no involvement. Their qualitative investigation of loan histories led the authors to conclude that *About 63% of the cases fall into the three categories of partial, very limited or no control indicating a fairly significant pattern of loss of direct control over credit* (pp. 49). Moreover in their study it appeared that women's ability to control their loans varied significantly according to their age and marital status; younger brides are less likely to be able to retain control in view of their subordination to their husband, mother in law and possibly even older wives. The authors disaggregated their data in terms of loan activity and concluded that investing in traditional women's work increased their chances of being able to control the loan. Moreover, the paper suggests that an inverse relationship between loan amount and control exists as well as diminishing control beyond a threshold level of membership age. This is explained by the gendered divisions of cash control within the household; women may be permitted to handle small amounts but men take control beyond a certain amount.

The authors challenge the assumption that providing credit to women will necessarily increase their status within the household; the mode of loan installment repayment is seen as an important gauge in this respect. If for instance the loan is invested by a male member of the household and he provides the loan installments regularly on a *'quasi contractual'* (pp. 54), basis Goetz *et al.* (op.cit) believe the woman can potentially become more 'empowered' in the process as she is seen as a source of household resources. On the other hand, if the male member controls the loan but fails to provide installment payments, then the female is left to her own devices in terms of searching for a means to meet her weekly obligations; in this case borrowing from a MFI could prove to be a 'disempowering' experience. The authors also report that a number of loanees felt that violence had risen due to installment-related tensions within the household. The article also implies that field officials prefer to lend to women in order to internalize the high transaction costs of lending to men and that *women in effect offset these costs by using intra-household gender relations of obligation and persuasion to recover weekly loan installments* (pp. 55).

However the article is flawed in several respects. For a start the interpretation that 63% of women having 'partial, very limited or no control' whilst factually true is also misleading in the sense that one could sum up the figures and also conclude that 61.3% of the women have 'full, significant or partial' control over their loans and therefore a fair degree of control over their credit. Moreover, the disaggregation of the sample into small sample sizes makes comparisons of loan control across the four organizations studied unreliable. For instance the total sample size for one organization is thirty-nine women out of which percentage figures were derived for the five categories of control. Moreover in the case of BRAC the authors suggested complementing credit with social development inputs given the fact that only 28% of the cases fell in the 'full' or 'significant' loan control categories. However BRAC's social development inputs are more extensive than Grameen Bank's and yet the female loan control figures are higher for the more minimalist Grameen programme, which contradicts the authors' hypothesis. Whilst the paper recognizes that the low BRAC figure could be a consequence of the organization's focus on promoting non traditional enterprises for women, it fails to mention that for many such new activities BRAC takes responsibility for much of the decision making regarding

the enterprise and as a result the borrower's 'loan control' scores are likely to be reduced<sup>1</sup>. In view of the fact that the decision-making over the actual loan is likely to be shared by the borrower, her family members and BRAC depending on the end-use of the loan, it is more appropriate to focus on changes in the overall status of a woman that is brought about by the fact that she is a conduit for an additional household resource (Sen 1990).

Montgomery *et al.* (1996) also have reservations about the 'empowering effect' of BRAC's approach to micro-credit. Their argument is based largely on secondary sources and a small field survey of sixty seven BRAC borrowers focusing on the issue of control over household cash. The authors admit that their sample is too small to draw any major conclusions on the 'cash-control' issue although there was some tentative evidence to suggest that '*...control over the loan-assisted activity seems to be higher for successive female borrowers than for first-timers....*' (pp. 170). However, on balance the authors support Whites' (1991) view that micro-credit reinforces existing gender patterns and inequalities by promoting traditional income generation activities. Anecdotal evidence in their fieldwork is used to suggest that certain forms of 'collective action' undertaken by VO members would have taken place regardless of whether they had been members of BRAC. Once again the problem of the counterfactual, as discussed in the previous paper, acts as an obstacle in evaluating the 'true net effect' of BRAC's intervention.

The third strand of the literature can loosely be described as one, which links 'institutional issues' with female empowerment. Yaqub (1995) raises the intriguing question of whether empowerment may in fact contribute to higher rates of loan default in micro-credit programmes. He uses two sets of data from BRAC, one compiled from programme records and another collected from one particular RDP branch in 1991. The author shows that 'repeat' borrowers have significantly worse repayment rates than one time borrowers due to the fact that they have been in the programme longer and may have become socially and economically more 'empowered' after their involvement with BRAC. Older borrowers may also be able to access other alternative sources of credit as they may be seen as more creditworthy due to their BRAC borrowing history. Between 1979 and 1986 BRAC ran two parallel programmes to test the effectiveness of different development strategies; one stressed group formation, self reliance and jointly accessing resources (Outreach) and the other focused on savings and credit through village organizations (Rural Credit and Training Programme). Yaqub (op.cit) finds that repayment rates of members in the Outreach programme are significantly higher than those members who had been RCTP members. He contends that this could be due to a stronger emphasis on institution building in the former programme resulting in the members identifying closely with the group. However Yaqub's study must be seen in the context of the time the data was collected. The late eighties was a period in which BRAC was expanding its credit operation

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<sup>1</sup> Activities can be non traditional in the sense that they could be new to rural women or new in general in rural Bangladesh. BRAC provides loans to both types of activities as mentioned by Goetz *et al.* (op.cit) but provides a comprehensive 'support structure' mainly for the latter type as part of its 'integrated credit' programmes e.g. sericulture and social forestry. For instance in the sericulture sector BRAC supplies the eggs to the silkworm rearer, plants the mulberry trees, trains the entrepreneur in silk rearing, arranges for extension services by a BRAC rearing specialist, purchases the cocoons from the rearer from her homestead and supplies these to a BRAC silk reeling centre. As such the woman loses 'control' over her loan in that she does not make decisions regarding input supply or marketing but she is not losing this to another member of the household but to the organization. Moreover this 'loss' is likely to be temporary in that BRAC intends to withdraw its support mechanism over time once these currently 'non traditional' activities become more commonplace in rural society and complementary services are made available by either the private sector or the Government in terms of factor and output markets as well as extension services. However for activities common in rural areas but non traditional for women BRAC does not have this type of support yet e.g. rural restaurants and grocery shop loans as these activities are part of BRAC's 'minimalist credit' intervention. It is assumed that given the nature of these activities both sexes within the household will pool their labour to manage the activity; it is common to see the female supplying the food to the rural restaurants and an adult male, commonly her husband, serving the customers.

and developing its modus operandi with regards to loan recovery. Credit discipline tightened up considerably in the early 1990s and as such loan recovery rates improved considerably. The variations found in Yaqub's study amongst the different groups would not have been found using recent loan recovery data as all branches bar a few exceptions have averaged rates of over 95%.

Another study which looks at institutional design and female empowerment argues that the organizations most likely to promote female empowerment are those whose operational design ensures direct female involvement in the loan activity especially in the marketing and accounting aspects of the enterprise (Ackerly 1995). The author tries to quantify a female loanee's 'empowerment' by using the borrower's knowledge about the loan-financed enterprises accounts as the measurable proxy variable. The author concludes that '*knowledge and empowerment come through market access*' (pp. 64) and that individuals who are most likely to benefit from credit are those whose initial pre-loan attributes give them a 'medium' chance of being empowered even without credit.

## **1.2 Empowerment and theories of the household: where is the common ground?**

The unitary model of the household, most commonly associated with the work of Becker (1965 and 1981), is considered the traditional neo-classical 'benchmark' in household economics. The intra-household distribution of resources is made by the household head who acts as a 'benevolent dictator' who maximizes a joint utility function subject to the household's pooled resource constraint.

The unitary model of the household has been challenged from a number of angles. For instance the 'income-pooling' premise of unitary models has been questioned (Alderman *et al.* 1995). This assumption implies that the identity of the income earner has no bearing on the goods and services consumed by the household. However, Alderman *et al.* (op.cit) present a convincing case illustrating why this key premise of the unitary model does not hold in a number of circumstances.

A strong challenge to the Becker model has also emerged using a game theoretic approach. The two main strands of this approach, cooperative and non-cooperative bargaining models, view intra household distribution as the outcome of a bargaining process between two individuals, usually a 'husband' and a 'wife'. 'Cooperative' models (Manser *et al.* 1980, McElroy *et al.* 1981) illustrate how the utility to both individuals from 'cooperating' in household decision making within marriage is greater than the 'threat point' level of utility resulting from divorce. However, cooperative bargaining models have been criticized on the grounds that they rest on the restrictive assumptions of Pareto efficiency, perfect information and costless enforcement (Hart 1997).

Non-cooperative game theory does not assume Pareto optimality nor does it restrict itself to a single equilibrium solution. One model in the non-cooperative game theory literature describes an 'internal' threat point' whereby spouses do not divorce but instead do not cooperate with each other. This is argued to be a plausible scenario in traditional societies where socially prescribed gender roles divide the provision of household 'public goods' between the husband and the wife (Lundberg *et al.* 1993). Lundberg *et al.* (op.cit.) develop multiple equilibrium, non-cooperative bargaining model of marriage and show that intra-household distribution may depend on control over resources.

In his seminal article on intra-household gender relations, Sen (1990) argues that *'the members of the household face two different types of problems simultaneously, one involving cooperation (adding to total availabilities) and the other conflict (dividing the total availabilities among the members of the household)'* (Sen op.cit pp. 129).

Sen feels that bargaining models are limiting in that they assume that each individual has a clear perception of his or her needs, roles and claims whereas these themselves are a function of social conditioning. The author believes that improvements in a woman's status can arise out of three things. Firstly, an improved 'breakdown' position similar to the 'external threat point' in the bargaining literature. Secondly, an enhanced perception by the woman herself of her own identity and interests. Finally, a better understanding amongst other household members of the female member's contribution within the household. As such the author believes that the *'role of outside earning does seem to be a strong one in creating a difference within the family'* (pp. 139) given the fact that female domestic work is perceived to contribute very little to household income.

Kabeer (1994) is critical of the unitary model of the household on both conceptual and empirical grounds. The groups of bargaining models discussed above are also deemed inadequate as Kabeer (op.cit.) believes that the social sanctions, which govern intra-household bargaining outcomes, are not addressed. Sen's (op.cit.) 'cooperative-conflict' view is considered a better representation of reality but the author argues for a more inter-disciplinary approach to viewing the household unit. Kabeer (op.cit) stresses the need to incorporate 'cultural' norms and 'structural relationships' into household-level analysis, particularly when investigating gender relations.

However, whilst disagreements persist on how to analyze the household unit, it can be argued that in different ways Lundberg *et al.*, Sen and Kabeer all agree that a woman's access to resources influences her relative position within the household. For instance Lundberg *et al.*'s (1994) concluding sentence reads:

*'Thus our analysis of the repeated game confirms and strengthens the central insight of the separate-spheres bargaining model: that distribution within marriage may depend on control over resources. Whether it does is an empirical question.'* (pp. 136)

The basic objective of part of the work will be to test whether a woman's access to a new resource in the form of micro-credit has an effect on the intra-household distribution of assets and her decision making power over a range of issues. Mahmud's (1994) and Sen's (1997) argument that a woman's enhanced status can arise from increased knowledge and awareness ('power from within') also suggests that 'empowerment' can occur through processes that lie outside the intra-household bargaining framework. As such female access to micro-credit will also be used to assess the effect on knowledge and awareness variables.

A description of the data, which will be used to discuss various aspects of the 'empowerment' debate, follows.

### 1.3 The data

At the outset one must stress the importance of anthropological techniques in measuring subjective concepts such as 'empowerment'. There is generally a trade-off between the 'representative nature' of large sample surveys and detailed case study/participatory approaches in rural research. My analysis will primarily be using the former method due to the detailed depth of the Matlab 'female questionnaire' which was administered to 3713 ever-married females aged between 15-65 between April and August 1995. This questionnaire elicited information on various dimensions of women's lives. The questions were divided into several sections including 'ownership and control over assets', 'general and legal knowledge', 'fertility' and 'mobility'.

In terms of ownership and control over resources a list of common household assets was presented and the woman was asked whether she owned the items herself, if so whether she could sell them of her own accord, if she could keep the proceeds from the sale and whether the latter actually ever happened.

The legal and political knowledge section focused on the woman's awareness regarding dowry, marriage age, divorce and 'union *parishad*' chairman's (local elected representative) name.

The 'fertility' section probed into issues such as whether the woman decided to have a child (in conjunction with her husband) or whether it was due entirely to her husband's, or even mother-in-law's, will.

The mobility section lists a number of sites in the locality such as the marketplace and questions whether the female has visited these places in the last four months and if so whether she went alone or not.

Female interviewers were hired for the survey and trained by the Matlab project's core researchers. The responses were precoded; a typical example is the general knowledge section where interviewers ticked off 'correct', 'incorrect' or 'don't know' boxes.

Seventeen 'empowerment correlates' were developed from the responses to these questions. All of these 'empowerment correlates' are binary variables<sup>1</sup> with the value one for 'yes' and zero for 'no'. It was decided not to construct 'empowerment' indices of any sort due to the problem of assigning subjective weights to different responses. Whilst Hashemi and Schuler (op.cit) used an index of empowerment for their work, their weights were based on the authors' in-depth knowledge of the households in their sample villages based on two years of prior anthropological research. This paper prefers to assess all seventeen indicators separately and then come to some general conclusions on the effect of BRAC on different aspects of empowerment.

The conceptual framework on 'female empowerment' discussed earlier suggests that a large part of the discussion is on intra-household gender relations and more specifically whether micro-credit changes the female borrower's status in relation to a male head of household, usually characterized as the 'husband' in the 'bargaining' literature. As such the value of including female headed households in our analysis is placed in some doubt. In order to help us decide whether to retain female headed households in our sample a simple comparison between male and female headed households using

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<sup>1</sup> The responses were transformed into binary variables where necessary; for instance in the 'general knowledge' example discussed above, the 'incorrect' and 'don't know' responses were merged into one category.

the ‘empowerment correlates’ is carried out. As appendix 1.0. shows there is a clear difference with respect to several of the indicators of empowerment between the two groups and as such it was decided that the rest of the paper will draw on male headed households as a large part of the analysis is on the ‘power-relations’ between the female and male head of household. The final sample used is 2895 women<sup>1</sup>.

The next section describes the ‘empowerment correlates’ and addresses the debate on the relationship between socioeconomic status and empowerment.

#### **1.4 Are poorer women more ‘empowered’?**

BRAC eligibility will initially be used as the measure of a household’s socioeconomic position followed by the consumption based poverty measure developed in the earlier paper. When one compares eligible members with ‘non eligible’ members in table 1.1. one finds that the latter group, who are better off in Socioeconomic terms, also appear to have higher ‘empowerment correlates’ in several, if not all, indicators. The typical woman in a NTG (non-eligible) BRAC household is more likely to own poultry (at the 5% level) and jewellery (1% level) as well as have more control over the sale of her poultry (5% level) and use of her savings (1%) compared to a TG member. Moreover it appears that she is more mobile compared to TG members as measured by her visiting the Matlab market (5% level). However, not all the evidence points in one direction; for instance the ‘forced pregnancy’ variable suggests that the typical woman in the BRAC NTG group has significantly less control over her fertility than TG members (1% level).

Differences in means and proportions were also run between the two ‘non eligible’ groups. Paper two found that BRAC NTG households were worse off in socioeconomic terms compared to non-member NTG households. In the case of the ‘empowerment correlates’ however such a clear-cut pattern does not emerge. For a start the knowledge-based variables indicate that the BRAC member group are more informed about dowry and divorce rights (though not significant at the 10% level) compared with the ‘non-member NTG’ but significantly less informed about the legal minimum marriage age (5% level). Moreover the ownership of poultry (5% level) and livestock (1% level) is more prevalent amongst BRAC NTG households compared to the non BRAC NTG group. The savings figures suggest that females in BRAC NTG households are significantly more likely to have their own savings but are also less likely to retain control over them when compared to those

Relatively few NTG non-members who have their own savings. The reason for this is that whilst

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<sup>1</sup>Out of the 3713 women, 86.6% came from households where they were the only ‘ever married woman’ and 11.6% of them came from households where two women were interviewed and 0.8% came from households where more than three women were interviewed. After excluding the female-headed cases and after aggregating all the responses to the household level the sample size was reduced to 2895 households. The households, which had more than one respondent, had their responses ‘averaged out’ and rounded down to zero or up to one. In other words if the household had three ‘ever married females’ and only one of them had savings then the household was coded as not having savings. For the small number of cases where the mean was exactly 0.5 the frequency distribution for that variable was checked before deciding whether to score zero or one to the household. For instance given the fact that a minority of households know the legal minimum marriage age if in one household one woman knew that fact and the other did not then the household would be coded as one i.e. as knowing the legal age of marriage, because that household could be considered as relatively more ‘empowered’ than the majority of households where no respondent knew the correct answer. As such there is a degree of arbitrariness when individual responses are aggregated up to the household level but in this study it is kept to a minimum given the fact that for the majority of cases the individual response is the same as the households.

there is a far larger proportion of BRAC members who have savings<sup>1</sup> this is due to BRAC's compulsory savings requirement and hence those non-members who have their own savings are more prone to having control over their use. This difference in control over savings is also possibly the result of restrictions governing savings withdrawal from BRAC.

Prior to moving onto the 'consumption-based poverty' and 'empowerment' link we turn briefly to the comparison between BRAC TG members and TG non-members (i.e. similar Socioeconomic status) and empowerment.

It appears that TG members possess more assets than TG non-members but their ability to sell these assets without asking permission from their husbands appears to be the same except for jewellery and the use of savings. In the case of jewellery BRAC TG members appear more 'empowered' in terms of their greater ability to be able to dispose of this asset (1% level) when they wish but in the case of savings those eligible non-members who have savings appear to have more control over its use than the TG members who do (5% level). The rationale for this is likely to be the same as the reason for NTG non-members having more control over savings compared to NTG members.

In terms of knowledge related variables eligible BRAC households appear to be more informed about the legal way of divorcing compared to eligible non-members (5% level). The other four 'knowledge' variables show no significant differences.

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<sup>1</sup> The reason that there are a significant number of BRAC members who claim they do not have savings, despite the compulsory savings requirement, is because in many cases the women do not consider it as their own saving but rather the household's or husband's.



**Table 1.1: A breakdown of empowerment correlates and eligibility status**

	BRAC TG member (1) n = 379	BRAC NTG member (2) n = 149	TG non- member (3) n = 1193	NTG non- member (4) n = 1174
1 Aware that dowry is illegal	76.1	82.4	74.1	78.9
2 Aware of method of divorce	5.3	8.5	2.7	7.6
3 Aware of minimum marriage age	6.3	9.2	5.9	17.2
4 Aware of local chairman's name	55.8	60.6	51.6	61.3
5 Owns land	6.0	7.7	3.5	8.9
6 If owns land % that can sell land independently	44.4	54.5	60.0	57.1
7 Owns poultry	71.1	80.3	62.5	70.5
8 If owns poultry % that can sell poultry independently	65.0	76.3	66.6	73.4
9 Owns livestock	10.0	14.8	5.9	6.2
10 If owns livestock % that can sell livestock independently	60.0	66.7	61.8	55.2
11 Owns jewellery	50.2	64.1	42.2	62.8
12 If owns jewellery % that can sell jewellery independently	11.3	8.8	4.3	7.4
13 Has savings	68.4	62.0	12.7	21.4
14 If has savings % can use savings independently	56.3	72.7	67.1	83.7
15 Forced pregnancy	1.7	8.5	2.1	1.6
16 Visits local market	11	9.2	20.6	14.6
17 Visits Matlab market	18.9	28.8	10.9	21.2

Note: All figures are percentages, The figures for items 6, 8, 10, 12, 14 are based on the responses for those households which own the relevant assets.

**1 vs. 2:** 7 (5%), 8(5%) 11 (1%), 14 (1%), 15(1%), 17 (5%),

**1 vs. 3:** 2 (5%), 5(5%), 7 (1%), 9 (5%), 11 (5%), 12 (1%), 13 (1%), 14 (5%), 16 (1%), 17 (1%)

**2 vs. 4:** 3(5%), 7 (5%), 9 (1%), 13 (1%), 14 (5%), 15(1%), 16(10%), 17 (10%)

**Table 1.2: Differences in empowerment correlates amongst ‘poverty categories’**

Variables	Ultra poor (%) n = 858	Moderate poor (%) n = 430	Non Poor (%) n = 1574	Moderate vs. ultra poor	Poor vs. non poor
Aware that dowry is illegal	75.7	75.5	78.0	0.94	0.17
Aware of method of divorce	3.0	5.7	6.5	0.17	0.05
Aware of minimum marriage age	6.0	9.8	14.5	0.02	0.00
Aware of local chairman’s name	52.3	55.8	61.1	0.26	0.00
Owens land	4.1	4.0	8.0	0.96	0.00
If owns land % that can sell land independently	60.0	53.3	56.0	0.67	0.75
Owens poultry	67.9	62.6	65.8	0.08	0.84
If owns poultry % that can sell poultry independently	64.6	71.7	73.9	0.06	0.00
Owens livestock	6.4	3.2	8.2	0.03	0.01
If owns livestock % that can sell livestock independently	57.4	58.3	58.8	0.96	0.65
Owens jewellery	52.2	48.9	58.8	0.31	0.00
If owns jewellery % that can sell jewellery independently	6.3	7.1	8.6	0.70	0.42
Has savings	22.5	22.3	27.0	0.93	0.02
If has savings % that can use savings independently	64.8	63.9	76.6	0.88	0.00
Forced pregnancy	1.9	2.0	2.1	0.91	0.88
Visits local market	14.5	19.6	18.2	0.03	0.03
Visits Matlab market	16.7	18.0	20.4	0.58	0.00

Whilst ‘eligibility’ is a proxy for socioeconomic status, the food consumption based measures developed in Zaman (1998) allow us to directly explore the question of how empowerment and poverty are related. Table 1.2 provides a breakdown of the various empowerment indicators in terms of whether the household is ultra poor, moderately poor or not poor.

A first glance at the results from table 1.2. suggests that women from non poor households are more ‘empowered’ than those who are below the poverty line. Moving to specific indicators it appears that socioeconomic status and knowledge of legal and political issues is well correlated, aside from the universally high level of awareness that giving dowry is illegal. The differences in the knowledge of the minimum marriage age are related to poverty levels. The non-poor are significantly (1% level) more likely to be aware of the local chairman’s name which may reflect their greater involvement with local politics and decision-making.

A counter intuitive finding points to the significantly greater proportion of women from the poorest households owning poultry and livestock compared to women from moderately poor households. Around two-thirds of women in the sample own poultry and there is no significant difference between the poor and non-poor in poultry ownership. The differences in control over these assets suggests that women from better-off households have significantly greater autonomy over their poultry sales and savings compared to poorer women but the differences in control over livestock, land and jewellery are not significant. The results from the mobility

indicators are arguably the most interesting as they do not support the view discussed in the literature review section that poorer women are more mobile. In this Matlab sample, the degree of mobility seems to rise with socioeconomic status. The differences are significant between the poor and non-poor for both 'mobility indicators' and between the moderate and ultra poor for the 'visits the local market unaccompanied' variable.

We now move to the multivariate analysis to shed more light on the effect of BRAC membership and its inputs on these empowerment correlates and to ascertain the validity of some of the tentative inferences derived from this section.

### **1.5 Evaluating BRAC's effect on empowerment: the basic model**

Assessing the impact of BRAC's credit programme on the various dimensions of empowerment requires a brief discussion of the 'selectivity problem'. As noted in the opening section of this paper it may be the case that more enterprising, dynamic women join credit programmes and that they are more likely to be 'empowered' compared to a random sample of eligible women thereby overstating the effect of BRAC. Zaman (1998) discussed the Heckman procedure where a first stage equation with a binary dependent variable (participates/does not participate) was estimated and a continuous dependent variable (real consumption per adult equivalent) was used in the second stage. However, in the 'empowerment' case we have two binary variables (participation and an 'empowerment correlate'), which make the econometric estimation even more complex. Khandker (1996) claims that *'If both the treatment and the outcome are measured as binary indicators, identification of the treatment effect is generally not possible even with the specification of an error distribution'* (pp. 233). Maddala (1983) does not entirely eliminate the possibility of correcting for selectivity bias in this scenario but acknowledges that *'.... the expressions get very messy'* (pp. 282).

Given the difficulties with correcting for selectivity in such cases this paper opts for using simple logit regressions to estimate the factors underlying the various empowerment correlates. However the possibility of 'selectivity bias' influences the BRAC effect' will be taken into account in the discussion.

The reduced form equations will be estimated as logit regressions separately for the seventeen empowerment correlates. The basic 'empowerment correlates' model is described below in equation 1.0 with variable definitions in table 1.3.

Equation 1.0

$$y_i = \beta_0 + \sum_{j=1}^6 \beta_j h_{ij} + \sum_{k=1}^5 \beta_k w_{ik} + \sum_{l=1}^{13} \beta_l v_{il} + \beta_m b_{im} + \sum_{p=1}^3 \beta_p l_{ip}$$

Where

$y_i$  is one of the 'empowerment correlates'

$h_{ij}$  is a vector of household level variables

$w_{ik}$  is a vector of female specific variables

$v_{il}$  is a vector of thirteen village dummies

$b_{im}$  is a dummy variable for BRAC membership

$l_{ip}$  is a vector of dummy variables based on loan size

**Table 1.3 Variable definitions for the ‘empowerment correlates’ model**

<b>Variable</b>	<b>Definition</b>
<b><u>Household</u></b>	
LANDEQ	quantity of land owned per adult equivalent in decimals
AGHHH	age of the household head in years
AVED	mean years of education in household
ADULEQ	number of adult equivalent members in household
PROPWO	proportion in household who are female aged 15-60
HHHLBR	dummy variable; 1 if household head is a manual labourer, 0 if not
<b><u>Female specific</u></b>	
CONWOM	dummy variable; 1 if woman contributes to household income, 0 if not
MARWOM	1 if woman is married, 0 if divorced, abandoned, widowed, separated or widowed
AGEWOM	age of female
EDUWOM	number of years of education of ever married women
HLTHWOM	1 if woman is in ‘self-assessed’ good health, 0 if not
<b><u>BRAC specific</u></b>	
BRVO	1 if household is BRAC member, 0 if not
LOADUM1	1 if BRAC member and no loan; 0 if not
LOADUM2	1 if borrowed less than 5000 taka from BRAC, 0 if not
LOADUM3	1 if borrowed between 5000-10,000 taka from BRAC, 0 if not
LOADUM4	1 if borrowed more than 10,000 taka from BRAC, 0 if not
<b><u>Village specific</u></b>	
V01	Uddamdi
V02	Sardarkandi
V03	Nilokhi
V04	Char Nilokhi
V05	Fatepur
V06	Dhakhirgon
V07	Enayetnagar
V08	Masuakhal
V09	Naranpur
V10	Monsubdhi
V11	Shilmondhi
V12	Shanaterkandhi
V13	Shabazkhandi
V14	Sharkarpur

Land per adult equivalent<sup>1</sup> and occupation of the household head are included in the empowerment equation as a proxy for the households socioeconomic status. The number of years of female education and the household's average years of education are included as they are assumed to be positively associated with female empowerment particularly for the knowledge based variables. The literature also points to a woman's marital status, her age and whether she contributes to household income as important factors affecting her empowerment and as such they are included in the model (Mahmud 1994, Goetz *et al.* 1996, Hashemi *et al.* 1996). The female respondent's self-assessed health status is also incorporated in the model on the assumption that a healthy woman ought to be more 'empowered'. Moreover household size (as proxied by the number of adult equivalents) and the proportion of adult women in the household were also included in order to assess the effect of household composition on the respondents 'empowerment correlates'. The village dummies were included so as to capture village level factors, which could influence these 'empowerment correlates'. This model was constructed after a series of preliminary regressions had been run in order to identify the specification of the variables in the model as well as to retain a parsimonious number of variables in the final equation.

### **1.6 Estimating the effect of BRAC on different 'empowerment correlates': the results**

Equation 1.0 was estimated on a sample of eligible BRAC households in all fourteen villages. Logit regressions were estimated using sixteen<sup>2</sup> 'empowerment correlates' as the dependent variables. Given the large number of estimates involved only the regression coefficients and the predicted probability estimates of the 'BRAC variables' are reported in tables 1.4 and 1.5. Table 1.6 provides an indication of how the regression models 'fit' the data.

Predicted probability estimates are commonly constructed by holding all explanatory variables at their means and varying one variable in order to calculate either 'marginal effects' (for continuous variables) or 'impact effects' (for dummy variables). The discussion in this section focuses on 'impact effects' of BRAC membership and the different loan categories.

The 'knowledge' variables, on the whole, appear to be positively influenced by BRAC membership and BRAC credit, controlling for other factors. For instance, borrowing more than 10000 taka from BRAC, more than doubles the probability of a woman knowing the legal way of divorcing compared to a non-borrowing member (significant at the 5% level), although the change is only from 3% to 8%. A woman with more than ten thousand taka in cumulative loans is also 10% points more likely to be aware that dowry is illegal than an eligible non-member but this is not significant at the 10% level.

The chances of knowing the local chairman's name is also greater for a BRAC borrower than for non-borrowers or non-members. This is significant (at the 5% level) for the less than 5000 taka category and for the 'greater than 10000 taka' group. However, the results in the 'knowledge' category are not uni-directional; for instance the probability of women who have borrowed less than 5000 taka and between 5000-10000 taka from BRAC, knowing the legal minimum age of marriage is 7% points and 6% points (both significant at the 5% level) respectively lower than an eligible non-borrower. However the 'marriage-age regression' also has the lowest McFadden's R

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<sup>1</sup> The equivalence scales used are constructed as follows: adult male (1), adult female (0.83), 10-14 year olds (0.83), 5-9 year olds (0.7), 1-4 years (0.5), babies (0.2) (source Lipton 1983).

<sup>2</sup> One such 'empowerment correlate', control over land, had to be dropped from the analysis due to the fact that the small sample size for this category (n=62) meant that some of the villages did not have any observations and hence model 1.1. could not be estimated.

squared value (table 1.6) out of the four ‘awareness’ indicators, which casts some doubt on this result.

Borrowing from BRAC appears to have a mixed impact on female asset ownership. The probability of owning poultry is 15% points greater for a non-borrowing member than for a member with more than 10000 taka (significant at the 5% level) in loans controlling for other factors<sup>1</sup>. Women who borrow less than 5000 taka are 3% points more likely to own livestock (significant at the 10% level) compared to a non-borrower. BRAC membership is a highly significant determinant of a woman having savings. A non-borrowing BRAC member is 41% points more likely to have savings compared to a non-member (significant at the 1% level) and this figure rises steadily with loan size. The results from the ‘asset control’ indicators support the view that greater access to resources in terms of micro-credit enhances female control over her assets. Women who have borrowed more than 10000 taka are 26% points more likely to be able to sell poultry independently compared to an identical non-borrowing member (significant at the 1% level). However the McFadden’s R squared figure for the regression on ‘poultry control’ is relatively low compared to the other ‘asset control’ regressions (Table 1.6).

A female’s decision-making power over her jewellery also appears to increase with loan size. Borrowers with more than 10,000 taka in cumulative loans are twice as likely to have control over their jewellery compared to an identical non-borrowing member (significant at the 10% level). Whilst women from BRAC households are far more likely to have savings, controlling for other factors, they are also less likely to have independent control over their savings compared to the relatively smaller number of female non-members who have savings. As mentioned earlier a likely reason is that access to savings is restricted by BRAC. However, a notable feature of the control over savings result is that a woman’s decision-making power over the use of her savings increases with loan size. The results indicate that holding other factors constant a woman with more than ‘10000 taka’ in total loans from BRAC is 16% points more likely to have control over her savings than a non borrowing member (significant at the 10% level). The BRAC loan coefficients for the ‘control over livestock’ regression are not statistically significant at the 10% level.

One can question whether women who have more control over their assets in the first place are more likely to borrow larger cumulative amounts. The literature suggests that the decision to take increasing amounts of credit is largely a function of membership length, the experience with previous loans and the household’s repayment capacity (Mustafa *et al.* 1995, Montgomery *et al.* 1996). There is little evidence to suggest that it is a function of the amount of control a woman has over her assets. Hence, whilst recognizing the possibility of selectivity bias putting an upward bias on the coefficients of the BRAC loan variables, it is unlikely that the results are significantly affected.

The incidence of a woman becoming pregnant against her own wishes varies little with BRAC membership or loan size. Being a BRAC member also does not appear to significantly influence the ‘mobility’ variables. The exception is the result for the 5000-10000 taka loan category which suggests that households who have borrowed in this range are 13% points more likely to visit the local market *al.*one compared to an identical non-borrowing member (significant at the 5% level).

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<sup>1</sup> It ought to be noted that by the end of 1995, less than 1% of the Matlab RDP Area Office’s total loans disbursed went to poultry rearing activities (Husain *et al.* 1996).

**Table 1.4 Coefficient estimates of BRAC variables in ‘empowerment correlates models’ (n = 1568 except for the categories indicated)**

	BRVO	LOADUM1	LOADUM2	LOADUM3
Aware that dowry is illegal	0.033	-0.001	0.047	0.077
Aware of method of divorce	-0.006	-0.01	0.007	0.045**
Aware of minimum marriage age	0.036	-0.076**	-0.064**	0.008
Aware of local chairman’s name	0.021	0.160**	0.089	0.123**
Owens land	0.112**	0.036	0.106*	0.058
Owens poultry	0.121***	-0.094	-0.133**	-0.144**
If owns poultry % that can sell poultry independently (n = 980)	-0.103*	0.048	0.007	0.245***
Owens livestock	-0.046*	-0.058*	0.036	0.046
If owns livestock % that can sell livestock independently (n =103)	-0.178	0.021	0.094	-0.265
Owens jewellery	0.08*	-0.014	-0.093	-0.089
If owns jewellery % that can sell jewellery independently (n = 694)	0.017	0.032	0.011	0.079*
Has savings	0.473***	0.086*	0.110**	0.118***
If has savings % can use savings independently (n = 379)	-0.345***	0.085	0.064	0.151*
Forced pregnancy	0.004	-0.035*	-0.006	-0.001
Visits local market	-0.037	0.084	0.097**	0.029
Visits Matlab market	-0.038	0.037	0.026	0.007

\*\*\* significant at the 1% level \*\* significant at the 5% level \* significant at the 10% level



**Table 1.5. Predicted probabilities of the impact of BRAC's credit on selected 'empowerment correlates' (n =1568 except for the categories indicated)**

<b>Empowerment correlates</b>	Eligible non-member	Eligible non-loanee member	BRAC loanees		
			< 5000	5000-10000	> 10000
Aware that dowry is illegal	0.73	0.76	0.76	0.80	0.83
Aware of divorce law	0.03	0.03	0.03	0.02	0.08
Aware of minimum marriage age	0.06	0.10	0.03	0.04	0.11
Aware of local chairman's name	0.51	0.53	0.70	0.62	0.67
Owens land	0.04	0.04	0.05	0.06	0.04
Owens poultry	0.62	0.75	0.65	0.60	0.58
If owns poultry % that can sell poultry independently (n = 980)	0.67	0.56	0.62	0.56	0.82
Owens livestock	0.07	0.04	0.07	0.06	0.07
If owns livestock % that can sell livestock independently (n =103)	0.67	0.47	0.45	0.55	0.25
Owens jewellery	0.44	0.52	0.51	0.42	0.43
If owns jewellery % that can sell jewellery independently (n = 694)	0.06	0.08	0.10	0.09	0.16
Has savings	0.11	0.52	0.61	0.64	0.66
If has savings % can use savings independently (n = 379)	0.80	0.46	0.54	0.53	0.62
Forced pregnancy	0.02	0.03	0.02	0.02	0.02
Visits local market	0.19	0.14	0.13	0.27	0.17
Visits Matlab market	0.14	0.11	0.14	0.14	0.12

**Table 1.6 Goodness of fit statistics for the ‘empowerment correlates models’**

	Maximum likelihood (restricted)	Maximum likelihood (unrestricted)	McFadden’s R squared
Aware that dowry is illegal	-883.9	-770.3	0.13
Aware of method of divorce	-218.0	-171.3	0.21
Aware of minimum marriage age	-374.7	-340.8	0.09
Aware of local chairman’s name	-1082.6	-947.9	0.12
Owens land	-261.0	-250.6	0.04
Owens poultry	-1037.3	-947.5	0.09
If owns poultry % that can sell poultry independently	-624.7	-590.0	0.05
Owens livestock	-380.0	-349.6	0.08
If owns livestock % that can sell livestock independently	-69.3	-51.5	0.26
Owens jewellery	-1076.5	-962.2	0.11
If owns jewellery % that can sell jewellery independently	-184.7	-121.3	0.34
Has savings	-867.2	-575.4	0.34
If has savings % can use savings independently	-251.7	-216.0	0.14
Forced pregnancy	-171.4	-142.3	0.17
Visits local market	-764.0	-647.0	0.15
Visits Matlab market	-626.7	-562.9	0.11

### 1.7 What else matters? A look at the non BRAC determinants of empowerment

This paper has thus far focused on the effect of BRAC membership and its credit programme on different dimensions of empowerment. However the multivariate analysis also sheds light on the importance of a number of other variables affecting the ‘empowerment correlates’. Table 1.7 provides the marginal effects of the average education, female education and female age variables from estimating equation 1.0. on four ‘empowerment correlates’.

The female education variable has a small but significant effect on the ‘dowry knowledge’ variable. Each additional year of female education raises the probability of a woman being aware that the practice of dowry is illegal by 1.57% points (significant at the 1% level) holding other factors constant. An extra year of education will also raise the probability of a woman going to the local market independently by 0.22% but this result is not significant at the 10% level. An additional year of female education raises the probability of going to Matlab market unaccompanied by 0.4% (significant at the 1% level).

An extra year of average education in the household increases a woman’s control of her poultry by 3.13% points (significant at the 1% level). However, higher levels of average education in the household appear to reduce the mobility of a female from that household as measured by the ‘visiting market’ variables. One more year of average education reduces the probability of a woman being able to go to the local market unaccompanied by 0.32% (significant at the 10% level) and lowers the probability of visiting Matlab market *al. one* by 0.04% (not significant at the 10% level). The woman’s age variable is not significant across the four indicators chosen in table 1.7.

The results illustrate the importance of a female contributing to household income for her empowerment levels as pointed out in Hashemi *et al.*'s (1996) study. Table 1.8 shows that the odds of an earning female being aware that dowry is illegal is 1.67 times that of a woman who is not an income earner holding other variables constant (significant at the 1% level). Moreover, the odds of a 'contributing female' being able to go to Matlab market independently without asking anyone is 1.22 times greater than an otherwise identical non-contributing woman (significant at the 1% level). The odds of a 'contributing female' having decision making power over her poultry is 1.24 times greater than a 'non-contributing' female (significant at the 10% level).

Marital status is also a well-recognized determinant of female empowerment (Mahmud op.cit., Goetz *et al.* op.cit.). Even in a sample of 'ever-married women' the odds of a 'currently married woman' knowing that dowry is illegal is 2.6 times greater than a currently non married woman (significant at the 1% level). 'Purdah' restrictions for currently married women appear to be stricter than for those currently unmarried; the odds of a currently married woman being able to go to Matlab market unaccompanied is less than three quarters of a divorced, separated or abandoned woman.

**Table 1.7 Marginal effects of three non-BRAC factors in 'empowerment correlates models'**

	Dowry knowledge	Can sell poultry	Visits local market independently	Visits Matlab market independently
AVED	0.41%	3.13%***	-0.32%*	-0.04%
AGEWOM	0.16%	-0.23%	-0.01%	-0.03%
EDUWOM	1.57%**	-0.12%	0.22%	0.40***

\*\*\* significant at the 1% level \*\* significant at the 5% level \* significant at the 10% level

**Table 1.8 Odds ratios for two non-BRAC factors in 'empowerment correlates models'**

	Dowry knowledge	Can sell poultry	Visits local market independently	Visits Matlab market independently
CONWOM	1.67***	1.24*	0.98	1.22***
MARWOM	2.60***	1.40*	1.23	0.72*

\*\*\* significant at the 1% level \*\* significant at the 5% level \* significant at the 10% level

## 1.8 Concluding discussion

This paper addressed two current debates within the female empowerment literature. The first part explored the relationship between the socioeconomic status of the household and female empowerment and concluded that the two are positively correlated. BRAC has both poverty reduction and female empowerment as its twin objectives and this paper concludes that these dual goals are compatible with each other. The link between better Socioeconomic conditions of the household and improved women's status found in the paper was reiterated in many conversations with members of RDP households.

The second issue that was focused on was the extent that membership in BRAC and borrowing from the organization contributes to empowerment of poor women in Matlab. An a priori assumption was that membership in a body such as RDP's village organization could affect a woman's level of empowerment given the opportunity to interact in a sphere aside from the traditional one of her household. The ideas exchanged during discussions with BRAC staff and other women at VO or Issue-Based meetings were hypothesized to play a role in this 'empowering process'. BRAC's credit was the key input that was examined closely. Whilst it 'is difficult to generalize the findings from the numerous regressions that were run there are a few tentative conclusions that can be derived from this work. Firstly there appears to be a positive effect of BRAC's credit on two of the knowledge/awareness indicators<sup>1</sup> even after controlling for education variables. However, an obvious limitation of the data is not knowing whether any of the 'knowledge' is actually put into practice. Nevertheless, greater legal and political awareness is argued to be an important step towards female empowerment in rural Bangladesh as it has the potential to augment a woman's knowledge of her rights and entitlements within the household and in the community at large. Another broad conclusion that emerges from these results is the fact that greater amounts of borrowing enhances a woman's control and decision making power over her assets. The loan threshold after which the level of asset-control appears to rise significantly is 10000 taka for women in our Matlab sample.

This result is argued to be significant due to the emphasis placed on female control over assets in both the intra-household bargaining literature and in various studies on female empowerment. Finally, the other factors that contribute to a woman's empowerment were also identified in the process of running the regressions in this paper. Three of the variables that emerged as consistently significant determinants of female empowerment were also those considered important in the literature namely marital status, contribution to household income and education.

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<sup>1</sup> Aware that dowry is illegal and aware of the local chairman's name

## Appendix 1.0: Female headedness and sex of household head

Female headed households were excluded from the analysis of empowerment correlates. The rationale was that since issues of female resource control and decision making power were being viewed from the standpoint of rural Bangladeshi women who traditionally do not enjoy the same social status that males do given the prevailing norms of 'purdah' and patriarchy it would distort results if we included female headed households, who by definition are either the main decision makers or earners in the household. Appendix table 1.0 confirms this hypothesis. Female headed households have more decision making power and control over their assets (jewelry, poultry and savings are statistically significant) though they are worse off in their 'knowledge variables' and in terms of ownership of poultry and jewelry reflecting their relative deprivation in socioeconomic terms compared to male headed households.

**Appendix table 1.0: Sex of household head and empowerment correlates**

	Male headed*	Female headed*	P value of difference in means
Aware of legality of dowry	76.4	54.5	0.00
Aware of method of divorce	5.4	3.9	0.14
Aware of minimum marriage age	10.6	9.2	0.32
Aware of local chairman's name	56.2	40.6	0.00
Owens land	6.1	4.8	0.32
If owns land % that can sell land independently	56.5	63.0	0.53
Owens poultry	67.3	44.8	0.00
If owns poultry % that can sell poultry independently	69.9	86.2	0.00
Owens livestock	7.1	7.2	0.89
If owns livestock % that can sell livestock independently	59.4	73.2	0.10
Owens jewellery	52.2	39.7	0.00
If owns jewellery % that can sell jewellery independently	6.8	14.7	0.00
Has savings	25.2	22.4	0.16
If has savings % can use savings independently	69.7	82.7	0.00
Forced pregnancy	2.2	1.9	0.71
Visits local market	16.6	18.0	0.43
Visits Matlab market	16.6	16.9	0.86

The number of male headed households is 2645 and female headed 567.

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**WOMEN'S CONTROL OVER PRODUCTIVE ASSETS: ROLE OF CREDIT-BASED  
DEVELOPMENT INTERVENTIONS**

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**1998**



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## **Abstract**

This paper examines the degree to which participation in BRAC's development interventions has any impact on women's ownership and control over assets. Information was collected under BRAC-ICDDR,B joint research project at Matlab during April-August 1995 through structured interview. In addition to Socioeconomic and demographic characteristics, information regarding ownership and control over assets was elicited from 2295 currently married women between 15-55 years of age of whom 22% were BRAC members.

Bivariate distribution comparing members and non-members in terms of asset ownership and control were assessed through use of indices. Women's assets were categorized into big and small according to their relative value. Findings reveal those women's ownership and control over big assets increased with age. Currently married women tend to own more big assets and have greater control over those, but levels of schooling did not appear to effect either ownership or control. Women's ownership and control over small assets were not found to have any association with women's age or household head's occupational status. When compared with eligible non-members, BRAC members appeared to have greater ownership and control over assets, (both big and small). However, no difference was seen amongst members in terms of ownership and control over assets when BRAC membership was categorized according to duration, intensity and type.

## Introduction

It is often believed that Non-Governmental Organization's (NGO) intervention at the grassroots level enhances changes in the lives of the rural poor, particularly women. Women's empowerment is believed to be necessary to eradicate the specific forms of poverty and injustice which poor women face (Batliwala, 1993). Research on rural development suggests that credit plays a large role in the empowerment of women through different means<sup>1</sup> (Hashemi, Schuler and Riley, 1996). Low income women in Bangladesh often face a life of difficulty, and access to credit is seemed to be a means to achieve an improved life style through economic self sufficiency (Apte, 1988). Indeed it has been agreed that credit is the single most important need of destitute women (Yunus 1987 and Hasan, 1985 cited in Apte 1988).

BRAC's Rural Development Programme (RDP) is an integrated development initiative in which the provision of credit constitutes its major activity. The assumption underlying BRAC's credit programme is that a strong institutional and economic base is a precondition to improving the quality of poor people's lives in rural areas (Zaman, Rahman, Hussain and Rana, 1995). RDP works with the belief that the poor can be empowered if provided with training and financial assistance (BRAC, 1995)<sup>2</sup>. Credit is provided to the members of BRAC's Village Organizations (VO)<sup>3</sup> which are established to mobilize their collective strength with a view to empowering them to be self reliant (Khan, Chowdhury and Bhuiya, 1997). An average VO consists of 30 members all residing usually in the same village or *para* of whom 93% are women (Annual report, 1996).

Women's empowerment has been a major goal for most NGOs involved in development activities. It has also featured as key focus of research in the field of development. The term empowerment generally tries to capture women's situation (Jejeebhoy, 1997). Sen conceptualized empowerment as a process of gaining power to control over external resources and growth in inner self-confidence and capability. Sen and Kabeer believed that it was an essential component in addressing poverty. England on the other hand, has defined women's empowerment as resources that enable one to reach one's goals. She has mentioned 'resources' as indicators of women's empowerment and separated them into three broad categories: economic resources, favourable laws, institutional rules and favourable social norms<sup>4</sup>. Batliwala, while discussing women's empowerment programme in South Asia, has identified four broad approaches of empowerment: i) integrated rural development programmes; ii) economic intervention; iii) awareness building and organization; and iv) research, training and resource support. Indicators of empowerment through economic intervention included quantifiable increases in women's income; women's share of household income, women's greater awareness of their economic contribution, improved health and nutritional status; access to and control over credit facilities; ability to bargain; and rising self esteem and confidence within and outside home. Recent literature (Mason,

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<sup>1</sup> This research on rural credit programmes and women's empowerment in Bangladesh suggests that rural credit empowers women through strengthening their economic roles, increasing their ability to contribute to their families support and through other mechanisms.

<sup>2</sup> Credit is a major component of RDP's approach to development. The provision of credit to the rural poor is viewed not only as an end, but also as a means towards the process of institution building and meeting the basic needs of the poor. (cited from Zaman, Rahman, Hussain and Rana, 1995).

<sup>3</sup> VO members meet once in every two weeks to discuss credit and savings. They have personal interaction with other members and programme people. They discuss various local, social and economic issues, which affect their lives.

<sup>4</sup> While discussing economic resources as one of the indicators of empowerment, England has emphasized on access to money since it is the medium of exchange that can be used to purchase many other things that are important to one's well-being, family etc. Laws and institutional rules can both empower or disempower women. The very nature of a law or institutional rule will give direction to women's empowerment or disempowerment. Finally, informal norms as indicators of empowerment affect women's status.

cited in Schuler *et al.*, 1996) has pointed out that it is difficult to measure/define women's status and empowerment using proxy indicators such as women's education, employment, wife's age at marriage and spousal age difference. According to Mason this is because women's status and empowerment may refer to a wide variety of behaviour, attitudes and attributes. Schuler *et al.* agreed with Mason that such indicators are far more distant from aspects of gender inequality. As an alternative way to define/measure empowerment that captures aspects of gender inequality better, they identified a number of indicators such as freedom of women's mobility, economic security, ability to make small and big purchase, participation in family decision, etc. to measure women's empowerment.<sup>5</sup> According to them participation in credit programmes affects these indicators including women's ownership of productive assets.

Goetz and Gupta, on the other hand, challenged the belief of a positive relationship between credit and empowerment. They used 'loan control' as an indicator of women's empowerment and conclude that the different stages of a woman's life cycle, the nature of investment activity (such as traditional vs non conventional activities for women), loan size and duration of membership have a greater influence on women's control over loan-use than membership in credit programmes. However, according to them, individual control over loan is not the only tool for empowerment<sup>6</sup> (Rahman,1986, cited in Goetz and Gupta, 1996).

Clearly, control over economic resources<sup>7</sup>(whether household income, women's own income, NGO credit, productive assets) is widely recognized as one of the mechanisms for women's empowerment. In the context of rural Bangladesh where women generally have a very low status compared to men, do not typically own or control assets. The restrictive inheritance laws, limited opportunities for gainful employment, lack of access to markets and public domain, etc. all of which constrain women's direct ownership of assets. Even when they own assets they often have very little control over them as male family members manage these. Therefore, access to productive assets is considered to be a key indicator of the process of women's empowerment.

## Objectives

This paper considers the process of women's empowerment as indicated by ownership and control over productive assets. Specifically, it examines the degree to which participation in BRAC's RDP has any impact on women's overall ownership and control over assets.

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<sup>5</sup> The indicators to measure women's empowerment defined by the authors are : 1) freedom of mobility, 2) economic security, 3) ability to make small purchase, 4)ability to make larger purchases, 5)participation in important family decisions , 6) relative freedom from domination by the family, 7) political and legal awareness and 8) participation in political campaigns and public protests.

<sup>6</sup> Even where a woman is controlling the loan (which she has taken), her status within that particular household increases only because others acknowledge her as a source of income.

<sup>7</sup> It is also assumed that the degree of women's access to and control over material resources (such as food, income, land and other forms of wealth) and to social resources (such as knowledge, power and prestige) within family, in the community, and in the society at large determine women's status (Mason, cited in Becker (1997). For further detail see Mason (1986) 'The status of women: Conceptual and methodological issues in demographic studies' Sociological Forum 1(2) : 284-300.

## Conceptual framework

The following analytical framework is used for the analysis (Fig. 1): VO membership enhance as women's status<sup>8</sup> within the household, which leads to an increase in women's ownership of productive assets. In other words, participation in VOs (which includes the development of vocational skills, credit-assisted self employment and participation in other sectoral activities) will enhance women's decision making authority, access to resources, awareness, mobility etc.; and as a result increase their access to and control over productive resources. This outcome will contribute to the process of women's empowerment, which is one of the ultimate goals of RDP.

The nature of women's participation in RDP varies among members and is categorized according to three broad aspects of membership. These are duration, intensity and eligibility of membership. This categorization is needed because not all members have the same combination of RDP inputs or exposure to those inputs. Also, members are seen to come from both eligible and non-eligible groups within the village<sup>9</sup>. Since socioeconomic and demographic factors are known to influence women's status within the household over and above the effect of participation in RDP, several background variables at the individual and household level have been included. It is also expected that these background variables may influence the outcome of interest, namely ownership and control over productive assets, and hence differences in them need to be accounted for.

The variables used to indicate women's status are the household head's perception of women's contribution to household income and her actual income level.

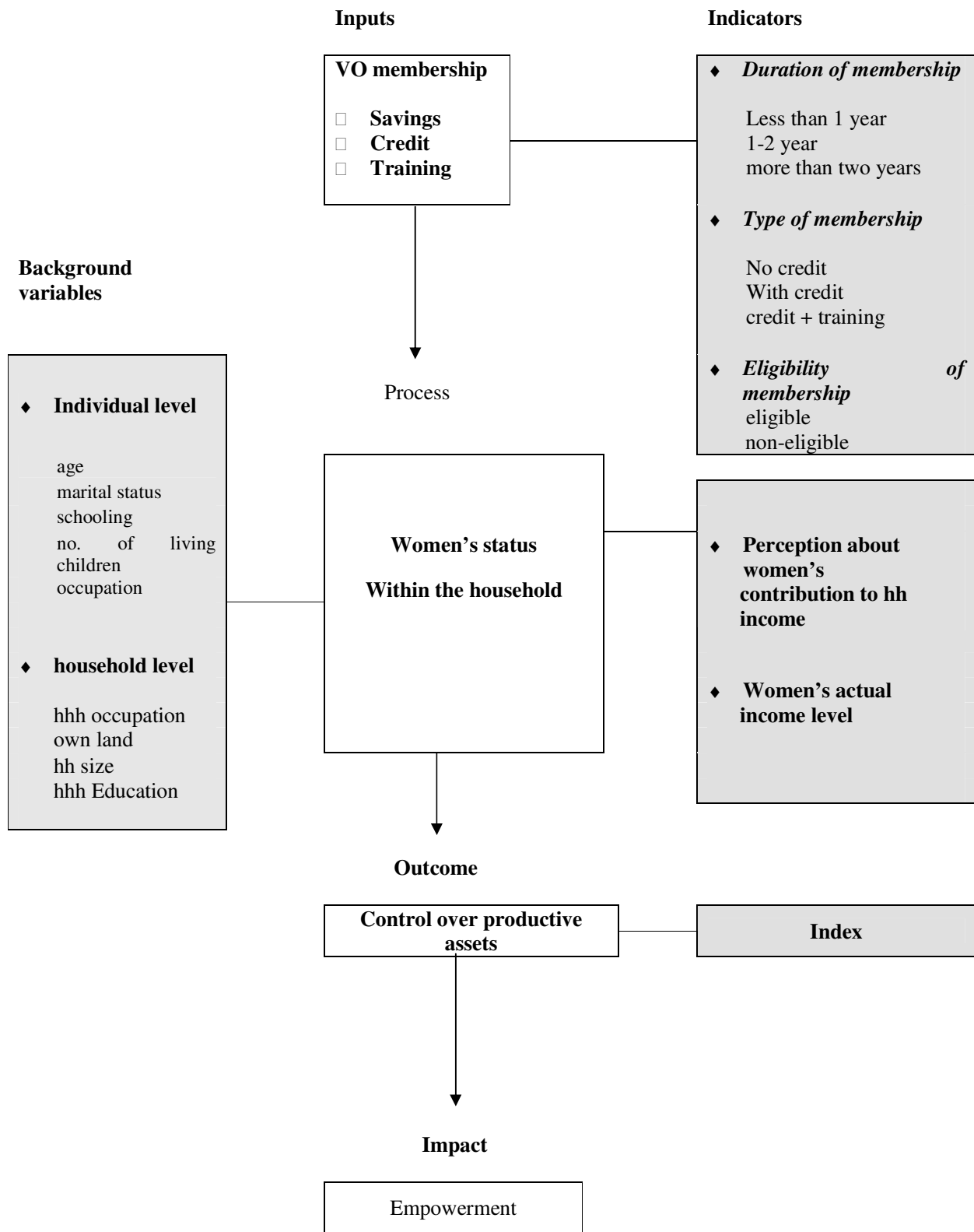
The outcome variables, which include ownership and control over productive assets, will be measured by two indices (described in the next section) constructed from women's responses to questions on asset ownership, and their ability to sell the asset and use the money from the sale.

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<sup>8</sup> 'Status' itself is a complex concept since it lacks concrete definition (For detailed discussion on women's status see Chen and Mahmud, 1995 and Mahmud, 1994).

<sup>9</sup> RDP has some strict eligibility criteria for villagers to receive loans. Households possessing less than 0.5 acre of land and selling manual labour for at least 100 days a year is considered eligible.

**Figure 1: An analytical framework for assessing effect of RDP on women’s control over productive assets**



## Methodology

### *Study area*

The data comes from Matlab thana which is located in Chandpur district, 60 km south-east of Dhaka. Matlab is a delta area intersected by numerous canals and branches of two major rivers, the Meghna and the Gumti. It is a rural area dominated by agricultural activity. About 85% of the population are Muslim and the rest are mainly Hindu. A medium scale embankment on the banks of the river Meghna and Dhanagada was constructed for flood control, drainage and irrigation. The embankment is also used as a mean of communication.

### *Data collection*

The data for this study is a part of the BRAC-ICDDR,B joint research project on socioeconomic development and human well-being<sup>10</sup>. The women were chosen from 14 randomly selected villages out of the 60 villages in the ICDDR,B Demographic Surveillance System (DSS) area where the base line survey<sup>11</sup> was done (see appendix B for description of selection of villages). The survey covered all households in 10 of the 14 villages and only eligible households in the remaining 4 villages. The reason for such selection was to have enough eligible households for analysis. The survey was designed to cover all ever married women aged 15-55 years in all households of the 14 villages. There were 3,831 women respondents altogether. A structured questionnaire was used to collect information on women's savings and loans, participation in income earning and wage work and expenditure, familial and environmental crises and coping strategies, child care, water and sanitation, mobility, political and legal awareness, decision making regarding small and big purchase, ownership of assets, violence against women, participation in protest, relationship with natal home, and fertility and reproductive health. Household information for individual women was taken from the household questionnaire. Information on membership length, cumulative savings, credit and training was collected from RDP MIS data file.

The present study includes only 2,295 women who are BRAC members or eligible non-members. Non-eligible households were excluded from this study since they are wealthier than either BRAC members or eligible non-members, and hence more likely to own assets.

### *Data analysis*

Bivariate distribution comparing members and non-members in terms of asset ownership and control were assessed through use of indexes. Some socioeconomic control variables were applied in comparing member and non-member differences.

Membership is characterized by duration, intensity and type. These three aspects of membership are assumed to be important in mediating RDP effect on women's lives. Members were divided into three groups according to duration of membership (in month). Intensity of membership was based upon BRAC inputs received (Intensity1=members with savings but no BRAC credit; Intensity2=members with BRAC credit, and intensity3= members with BRAC credit and who have received some form of training such as sectoral training, legal awareness training, etc.). Members were also differentiated according to BRAC's household eligibility criteria (BRAC eligible members and BRAC non-eligible members). Non-members include eligible non-members in two different settings i.e. non-members in RDP area and non-members in non-RDP areas.

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<sup>10</sup> For further details about the BRAC-ICDDR,B Joint Research Project see Chowdhury *et al.*, 1995. Working paper No. 6.

<sup>11</sup> See BRAC-ICDDR,B (1994) Socioeconomic development and health- a joint BRAC-ICDDR,B research project: baseline survey, Matlab, 1992.

### ***Construction of index for women's ownership and control over asset***

Women's assets were categorized into big and small according to their relative value. Big assets included land, livestock, cash, big trees, boat, and sewing machine. Small assets included poultry, small jewelry, vegetable garden, and fishing net.

The ownership index is constructed on the basis of the information on ownership of assets by women themselves, not their households. Responses for owning assets were dichotomous (yes or no) and coded 1 or zero. Respondents were given one point for owning any big asset. A respondent was given six points maximum for owning all big assets. Similarly one point was given for owning any small assets. Thus the range for ownership index for big assets is from 0 to 6 and for small assets is from 0 to 4.

The control index is based on three pieces of information regarding each asset - ownership, ability to sell without husband's permission/ knowledge and ability to use money from sale. All responses were dichotomous (yes or no) and coded 1 or zero. For any asset, if ownership was 'yes', ability to sell was 'yes' and ability to use was 'yes', then a score of 3 was given. If ownership was 'yes', ability to sell was 'yes', but ability to use was 'no', then the score was 2. If ownership was 'yes', but the others were 'no', the score was 1. If the ownership was zero, the score was zero. The score was then divided by the proportion of respondents who actually owned that particular asset. This was done to incorporate the relative frequency with which such an asset was owned by women in the survey villages, with the intention of allowing for the fact that assets which were commonly owned (such as poultry) had less weight, from the control perspective, than assets which were rarely owned such as land, irrespective of the ability to sell and use the sale value. In other words, in an absolute sense the lower the frequency of ownership of an asset, the higher the implied level of control over it in case of actual ownership.

The overall score for control over assets is obtained by summing the scores for individual assets. There is an index for big assets and one for small assets. The range for the control index for big assets is from 0-18 and for small assets from 0 to 12 (see appendix C for detail calculation of these two indexes)

There was no information on either the value of assets owned by women, or on the quantity of assets, although such information is important in the assessment of women's control over asset. Moreover the survey did not contain variables that may be used to proxy women's relative status in the household. Therefore, women's income level and the household head's perception about her contribution to household income were used to indicate relative status.



## Results

### *Profile of study population*

The distribution of the study population according to membership and non-membership status is shown in Table 1.

**Table 1. Distribution of the study sample**

<b><u>Membership status</u></b>	<b><u>N</u></b>	<b><u>%</u></b>
<i>Member</i>	498	22
<i>Non-member</i>	1797	78
<i>Total</i>	2295	100

<b><u>Membership (by duration)</u></b>	<b><u>N</u></b>	<b><u>%</u></b>
Less than one year	83	17
1-2 years	119	24
More than 2 years	296	59

<b><u>Membership (by intensity)</u></b>	<b><u>N</u></b>	<b><u>%</u></b>
With no BRAC loan	63	13
With BRAC loan only	293	59
With BRAC loan and training	140	28

<b><u>Membership (by type)</u></b>	<b><u>N</u></b>	<b><u>%</u></b>
Eligible member	355	71
Non-eligible member	143	29

<b><u>Non-membership status</u></b>	<b><u>N</u></b>	<b><u>%</u></b>
RDP area	688	39
Non-RDP area	1109	61

Of all the women in this study (N=2,295), 22% were BRAC members and 78% were non-members. More than half of BRAC members (59%) were members for more than two years. The second largest group (24%) were those who had been members for 1-2 years and only 17% were members for one year or less. In other words, most of the members were BRAC members for over one year.

In categorizing members according to intensity, it was found that majority (59%) of the members had only received BRAC loans<sup>12</sup>. The second largest group (28%) were those with BRAC loan and training. Only 13% of the members had not taken any BRAC loan at the time of survey and had only savings.

According to BRAC eligibility criteria, it was found that 73% members were classified as eligible and as much as 29% were non-eligible members. Sixty-one percent (61%) of the non-members were from non-RDP area, and the rest were from RDP area.

<sup>12</sup> BRAC loan refers to cumulative loan.

**Table 2. Selected individual level differentials**

	<b>Member</b>	<b>Non-member</b>
<b><i>Current age</i></b>		
Mean	35*	34
≤ 30 (%)	30	40
> 30 (%)	70	60
<b><i>Marital status</i></b>		
Currently married (%)	89	89
wid/div/aban/sep. (%)	11	11
<b><i>Literacy</i></b>		
Mean	1.1	1.1
No schooling (%)	77	77
1-5 years (%)	18	18
6+ years (%)	5	5
Write and read (%)	23	23
<b><i>Living children</i></b>		
Mean	3.0	3.2**
None (%)	13	20
1-2 (%)	22	28
3-5 (%)	52	40
6+ (%)	13	12
<b><i>Occupation</i></b>		
Only housework (%)	92	94
Labour sale (%)	3	3
Skilled services (%)	5***	3

Note: \*\*\*, \*\*, \* denote significance at 0.001, 0.01 and 0.05 level respectively

**Table 2a. Selected household level differentials**

	<b>Member</b>	<b>Non-member</b>
<b><i>Household head's education</i></b>		
Can sign (%)	32	51
Write and read (%)	68***	49
<b><i>Household head's marital status</i></b>		
Unmarried (%)	1	1
Currently married (%)	89	88
Not currently married (%)	10	11
<b><i>Household head's occupation</i></b>		
Farming (%)	15	12
Labour <sup>^</sup> (%)	39	39
Services (%)	9	8
Skilled services (%)	11	10
Housework (%)	12	16
Trade (%)	11	11
Others <sup>²</sup> (%)	3	4
<b><i>Household size</i></b>		
Mean	5.7	5.2
1-4 (%)	32	37
5+ (%)	68	63
<b><i>Household land (dec.)</i></b>		
Mean	35.5***	21.8
No land (%)	5	10
1-4 dec. (%)	26	22
5-49 dec. (%)	50	60
50-149 dec. (%)	16	8
150 + dec. (%)	3	†
<b><i>Non BRAC credit (in last four months)</i></b>		
Yes (%)	10	9
No (%)	90	91

Note: \*\*\*, \*\*, \* denote significance at 0.001, 0.01 and 0.05 level respectively

<sup>^</sup>Labour includes both agriculture and non agriculture labour

† <1%

<sup>²</sup> Includes unemployed, retired, disabled, old, student and chairman/member

Table 2 shows that members are slightly older than the non-members. But are similar with respect to their marital status and years of schooling. However members have fewer children than non-members despite being older. Members are more likely to be involved in skilled services than non-members (not shown). At the individual level, it is apparent that members and non-members are almost similar except for the difference in age and occupation.

The analysis of household characteristics indicate that education of the household heads and land holding of member households differed significantly between member and non-member

households (Table 2). However, member and non-member households are quite similar with regard to household head's marital status and occupation, household size, and households having non-BRAC loan. It also appeared that members came from better-off households than non-members.

### *Women's ownership and control over assets*

Table 3 and 4 look at the distribution of women's ownership and control over women's productive assets at the aggregate level. Assets such as poultry, *jewelry* etc. are commonly owned and considered as small assets in terms of value. Similarly assets such as land, livestock, etc. are not frequently owned by rural women since they are expensive. These are considered big assets. We analyzed two indices for big and small assets separately.

**Table 3. Index for ownership of and control over big assets by age, years of schooling, marital status and household heads occupational status**

	Index for ownership			Index for control		
1. <u>Age</u>	<u>&lt;30</u>		<u>&gt;30</u>	<u>&lt;30</u>		<u>&gt;30</u>
	0.31		0.38	0.04		0.13
2. <u>Schooling</u>	<u>No</u>	<u>1.5 years</u>	<u>6+ years</u>	<u>No</u>	<u>1-5 years</u>	<u>6+ years</u>
	<u>Schooling</u>			<u>Schooling</u>		
	0.35	0.39	0.31	0.10	0.11	0.10
3. <u>Marital status</u>	<u>Currently married</u>		<u>Wid/div/aban/se p</u>	<u>Currently married</u>		<u>Wid/div/aban/sep</u>
	0.39		0.04	0.11		0.03
4. <u>Household status</u>	<u>Labour selling hh</u> <sup>Ⓢ</sup>		<u>Non-labour selling hh</u>	<u>Labour selling hh</u>		<u>Non-labour selling hh</u>
	0.34		0.36	0.10		0.11
5. <u>Membership status</u>		<u>All age group</u>			<u>All age group</u>	
Member		0.89***			0.23***	
Non-member		0.35			0.11	

Ⓢ hh refers to households

Note: \*\*\* denotes significance at 0.001 level

Table 3 shows that women's ownership and control over big assets increases with age. Currently married women tend to own more big assets and have greater control over those, but levels of schooling does not appear to effect either ownership or control. The household head's occupational status does not appear important in influencing women's ownership and control over big assets.

However, when indices of ownership of and control over big assets are disaggregated further by membership status, members are found to own significantly more big assets and have greater control over them than non-members (not shown).

**Table 4. Index for ownership of and control over small assets by age, years of schooling, marital status and household heads occupational status**

Index for ownership				Index for control		
1. <u>Age</u>	<u>&lt;30</u>		<u>&gt;30</u>	<u>&lt;30</u>		<u>&gt;30</u>
	1.03		0.97	0.10		0.10
2. <u>Schooling</u>	<u>No</u>	<u>1.5 years</u>	<u>6+ years</u>	<u>No</u>	<u>1-5 years</u>	<u>6+ years</u>
	<u>Schooling</u>			<u>Schooling</u>		
	1.01	1.11	1.21	0.10	0.07	0.10
3. <u>Marital status</u>	<u>Currently</u>		<u>Wid/div/aban/se</u>	<u>Currently</u>		<u>Wid/div/aban/sep</u>
	<u>married</u>		<u>p</u>	<u>married</u>		
	1.11		1.00	0.10		0.00
4. <u>Household status</u>	<u>Labour</u>		<u>Non-labour</u>	<u>Labour</u>		<u>Non-labour</u>
	<u>selling hh</u> <sup>⊕</sup>		<u>selling hh</u>	<u>selling hh</u>		<u>selling hh</u>
	1.00		1.10	0.10		0.10
5. <u>Membership status</u>		<u>All age group</u>			<u>All age group</u>	
Member		1.24***			0.13***	
Non-member		1.00			0.10	

⊕ hh refers to households

Note: \*\*\* denotes significance at 0.001 level

Women's ownership and control over small assets does not reflect the same pattern like big assets (Table 4). Ownership and control over small assets such as poultry, jewelry etc. does not seem to have any association with women's age or household head's occupational status. The only difference identified was in case of marital status. In both cases, currently married women were slightly more likely to own more and have more control over small assets. However, when indices for ownership and control over small assets are disaggregated by membership status, once again members own significantly more and have greater control over small assets. (not shown).

Further analysis was undertaken to assess whether similar patterns appear in the case of members categorized according to duration, intensity and type. But it appears that in most cases, no difference exists amongst members. With regard to big assets, members with only BRAC credit were likely to own more big assets than members without credit or members with training and credit. Finally, non-members in villages in RDP areas are found to own more assets than non-members in non-RDP area.

## Discussion and Conclusion

This study is the part of larger study under BRAC-ICDDR,B Joint Research Project to explore the pathways through which socioeconomic development effects human well-being. Non-eligible non-members were intentionally excluded from the analysis since our intention was to compare members with eligible non-members of similar socioeconomic status.

BRAC strives to bring about positive changes in women's lives through different types of intervention. Such as through group experience and education aimed at increasing women's confidence and awareness of their social rights and responsibilities as the VO members continue their association with BRAC, they are expected to play a more active role in their households and communities (BRAC Report, 1997). Findings from this study indicate that the economic status of women is changing as a result of participation in RDP. Bivariate analyses of indices expressing women's ownership and control over assets suggest that members own more and have greater control over assets than non-members.

In the growing literature on women's development, credit has been popularly viewed as an instrument of women's empowerment ( see Hadi, Sen, England, 1997; Hashemi *et al.*, 1996). With credit women are encouraged to carry out different income generating activities which bring about short-term financial gains as well as long-term changes in women's self confidence and economic value. Through participation in VO meetings, issue based group discussions and training opportunities members gain confidence in group setting and establish an identity outside the family.

Although one might expect that levels of empowerment indicated by greater ownership and control over assets would increase with duration of membership or degree of BRAC involvement, this was not indicated by the study. It may be that the four year period in where RDP has been operating is still too brief to expect dramatic changes in women's lives.

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**Domestic Violence Against Women: Does  
Development Intervention Matter?**

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## **Abstract**

This article explores the effect of development interventions on prevalence of violence against women perpetrated by husband. During April-August 1995, 2038 currently married women aged 15-55 years were interviewed from a panel survey done in Matlab area under BRAC-ICDDR,B joint research Project. In addition to Socioeconomic and demographic characteristics, information regarding prevalence of violence by husband was collected. Bi-variate analysis reiterated the strong relationship between domestic violence and poverty. Multivariate analysis found BRAC members to be 1.6 times more likely, and members receiving savings and credit inputs 2+ times more likely, to suffer physical violence than non-members. For members who also received training, over time, the probability of violence decreased.

## Introduction

Gender-based violence against women, especially domestic violence perpetrated by intimate partners, has become increasingly recognized as a matter of international concern and action for the last two decades. Today, violence is perceived as a threat to women's security and well-being and as an obstacle to sustained development.

No one common, universally agreed definition of violence against women exists in the literature; moreover, the definition has to be broadened from time to time to include different new forms of abuses coming up everyday. An official UN definition of violence against women includes any act *"that results in, or is likely to result in, physical, sexual or psychological harm or suffering to women, including threats of such acts, coercion or arbitrary deprivations of liberty, whether occurring in public or private life (1)*. Domestic violence is said to happen when " ... violence (is) directed against a female member at home". Women may be subject to domestic violence from an intimate partner like husband or boy-friend or a female member on whom they are dependent e.g., maid servant abuse (2). Among the many forms of domestic violence wife-battering, verbal abuse, dowry-related deaths and acid throwing are some of the most common ones. Psychiatric morbidity like depression, stress-related symptoms, chemical dependency and substance abuse, and suicide are consequences observed in the context of violence in women's lives over time. Evidence is emerging on the direct association between domestic violence and psychiatric morbidity that constitutes an urgent public health concern (3).

Domestic violence has become a universal phenomenon and cuts across socioeconomic, religious and ethnic borders. Though patriarchy is blamed for gender-based violence in the third world countries, however, the developed countries also do not lag behind in this respect. In the US battery is the greatest single cause of injury to women (4). About 50% of all men beat their partners at least three times annually. Population-based surveys suggest that between 21 and 30% of American women will be beaten by a partner at least once in their lives (5). In a survey of issues of concern to women's groups in developing countries, MATCH International (a Canadian NGO) found that violence against women was the most common issue raised (6). In that survey it was found that in the United States, domestic battery causes more injuries to women than car accidents, rapes, and mugging. Reports from France suggest 95% of all victims of violence are women, 51% of these at hands of their own husbands. In Denmark, 25% of women cite violence as the reason for divorce. A three-year study in Austria uncovered a high level of wife abuse, as did official statistics from Poland. UN data in 1989 showed that about 1/2 of murder victims in the United Kingdom were killed by their husbands, lovers or boyfriends.

More than twice as many women are killed by their husbands or boyfriends as are murdered by strangers (7). A National Crime Victimization Survey by US Department of Justice found that over 2/3<sup>d</sup> of violent incidents against women were committed by an intimate (8).

In case of developing countries, traditional patriarchal system where women remain subordinate to men in all realms of life combines with other cultural, legal and political factors in aggravating the existing situation. Violence against women is widespread in India and takes many forms. Greed for money and tradition has joined to shape a unique form of wife abuse in the Indian subcontinent: dowry death by burning, usually by dousing the woman with kerosene and setting her on fire. The murder is disguised as a "kitchen accident" caused by the bursting of a stove used for cooking (4). No longer a gesture of love and devotion, increasingly dowry is seen as a "get rich quick" scheme by prospective husband and his family. According to India's National Crimes Bureau, 5623 wives were burned to death over dowry disputes in 1993 (9).

Kanhere describes how husbands ill-treat their wives to the point of starvation and death, as a means of getting an opportunity to remarry and collect another dowry (10). She also shows that many cases of suicide by burning among women may in fact be murders-"dowry deaths".

In Bangladesh, few data exist on domestic violence. In 1993, World Bank reported that intentional injury during pregnancy, motivated by dowry disputes or shame over a rape or a pregnancy outside of wedlock, caused 6% of all maternal deaths between 1976 and 1986 (11). In another study, Paltiel found that severe beating, usually by husbands, accounts for 49% of household deaths in Bangladesh (12).

Under the constitution and general laws, women in Bangladesh are entitled to equal rights and status to those of men. However, few women can in practice establish these rights. Lack of access to economic opportunities, education, and decision making power perpetuate women's subordination to men, and makes them more susceptible to violence. Marriage, an important event in a woman's life, usually occurs under unequal socioeconomic condition and with age gap of 3-20 years between spouses, inviting marital disharmony in later life. This along with dowry contributes to domestic violence against women (13). It is assumed that opening up economic opportunities for women through access to credit, skill and awareness training may enhance women's status within households and change their relationship with husband, hence reduce domestic violence. In a case study of 500 married women under 50 years of age from 10 districts of rural Bangladesh, it was found that women's participation in credit-based development programme reduced physical violence from 40% among eligible non-participants to 19% among participants (14). In another village study collecting data by in-depth interview, it was found that economic advancement does not always ensure reduction in violence. Findings revealed the existence of mental abuse (e.g., threat of divorce or second marriage whenever there is a problem, insulting the woman's parents, not allowing to visit natal home, preventing from interaction with other males etc) in households enjoying economic affluence. Goetz and Gupta (15) argued that getting involved in credit programme and bringing cash at home may create tension within household and precipitate domestic violence. Similarly, Schuler *et al.* (16) suggest that expanding women's access to economic opportunities and resources does not always make them less vulnerable to domestic violence, at least not right away. Rather, in some cases, credit creates a new arena of hostility and conflict. They concluded that as problem is deeply rooted, much more extensive interventions will be needed to significantly undermine it.

This paper explores the effect of a credit-based development intervention on violence against women perpetrated by husband and its determinants, from a set of cross-sectional data collected in 1995 at Matlab, Bangladesh.

## **Background and Conceptual Framework**

### *The BRAC-ICDDR,B Joint Research Project*

Founded in 1972, BRAC is a large indigenous non-governmental organization involved in rural poverty alleviation. BRAC's Rural Development Programme (RDP) targets the poorest of the poor with special emphasis on improving their health and socioeconomic condition through group formation (village Organization or VO), skill development training and collateral free loan for income generating activities. The eligibility criteria for participation in RDP is that the household possess less than 0.5 acres of land including homestead, and that the household sells manual labour for at least 100 days a year for survival. These households rank among the poorest of the poor. Households that are not eligible for BRAC's RDP are comparatively better off socioeconomically, and include rural elite as well.

The International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) has been operating a Demographic Surveillance System (DSS) in Matlab thana since the early 1960s. In half of the DSS area, ICDDR,B delivers a comprehensive Maternal, Child Health and Family Planning (MCH-FP) services through Community Health Workers (CHWs), backed by four mid-wives based in sub-centres. A research collaboration between BRAC and ICDDR,B was established at Matlab to examine prospectively the relationship between socioeconomic development and health and well-being of the rural poor since 1992 when BRAC moved to Matlab (17). Data were collected on socioeconomic, demographic and different aspects of women's lives in 1995 to explore the effects of socioeconomic and health interventions.

### *Conceptual Framework*

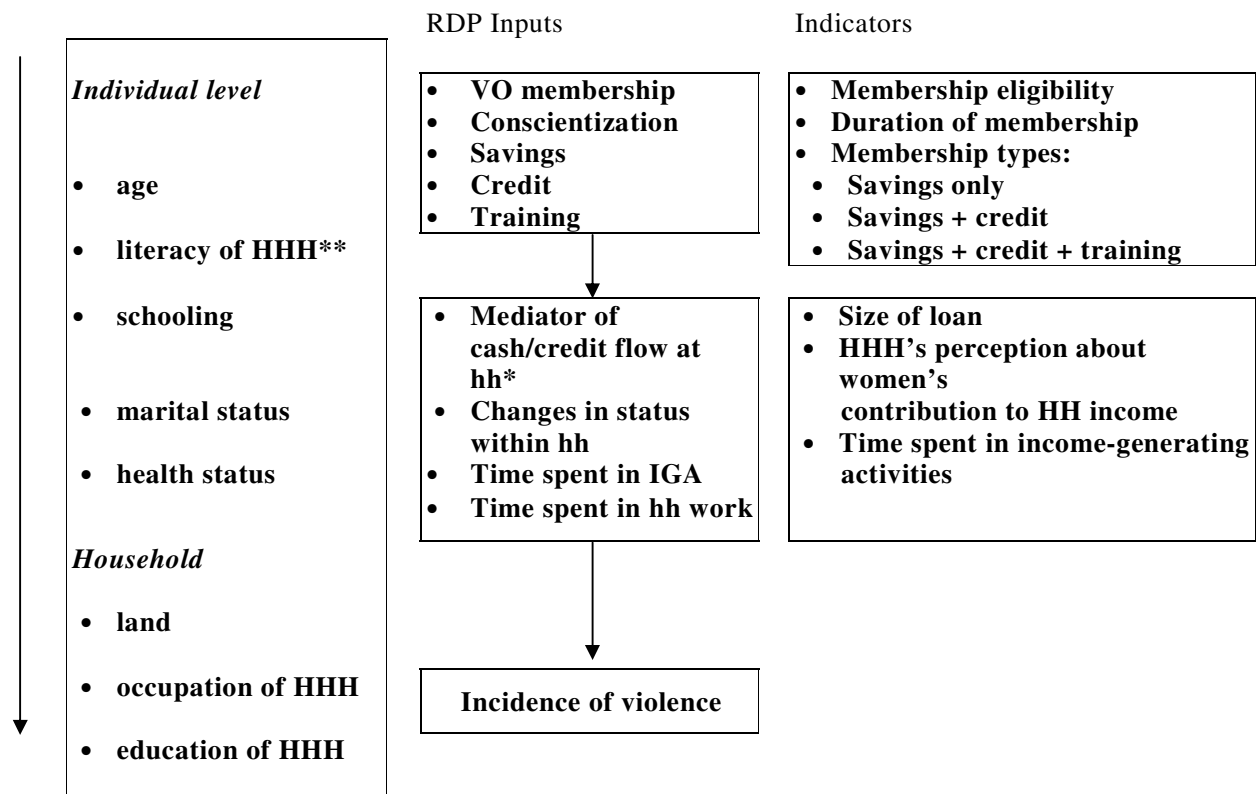
It is hypothesized that with the initiation of credit an increase in violence may occur due to increased tension resulting from cash flow in the household. However, with the passage of time, as the household benefits from credit-based income-generating activities, the incidence of this violence is expected to decrease over time and is a function of duration of membership.

The following figure graphically presents the conceptual framework based upon the hypothesis: The three boxes in the middle column represents successively the inputs provided by the RDP, the process occurring in-between and the outcome with available indicators in the corresponding boxes on the right side. After being involved with BRAC's RDP as a VO member, the poor women start savings and within six weeks receive credit for income-generating activities; after few months, they starts receiving different types of training. Through these inputs a process starts at household i.e., women become mediator of cash/credit flow at home which may change the status of women within household; at the same time, women may start spending more time on income generating activities which may interfere with her pre-determined household responsibilities. This process ultimately may result in incidence of violence at home in the short time. On the left-hand side, the socio-demographic background variables that could influence the whole spectrum are shown.

The different indicators used to explore these input variables are: membership— its duration, types (basic members with savings only, active members with savings + credit, very active members with savings + credit + raining) and eligibility.

Indicators like the size of loan, perception of household head about women's contribution to household income and time spent in income generating activities are used to see the processes. Outcome is measured by reported incidence of violence either physical or mental. The

demographic variables considered are: age, years of schooling, number of living children, occupation and health status of women and the household level variables are: years of schooling of household head, land size, household size and occupation of household head.



**Fig: Conceptual framework relating BRAC-RDP interventions to incidence of violence against women within household**

**\*HH: Household; \*\*HHH: Household**

## **2. Materials and Methods**

### **2.1 Study area**

The data comes from Matlab thana located in Chandpur district, 55 km of south east of Dhaka. Matlab is a delta area and is intersected by numerous canals and branches of two major rivers, the Meghna and Gumti. Agriculture is the principal productive activity. About 85% of the population is Muslim and the rest is mainly Hindu. A medium scale embankment on the banks of the river Meghna and Dhanagada was constructed for flood control, drainage and irrigation. The embankment also serves as a mean of communication in the mainly riverine area.

The study was conducted in 14 villages, randomly chosen from 60 BRAC-ICDDR,B study villages in Matlab DSS area.18). A total of 2038 currently married women aged 15-55 years were interviewed. Of these, 445 were BRAC members and 1593 were eligible non-members. Ninety-one non-member women from BRAC member households were considered as eligible non-members.

### **2.2 Data collection**

Two sets of pre-tested structured questionnaire were administered. The one on demographic and socioeconomic characteristics was administered to the household head and/or spouse while the other one which included information on different aspects of women's lives including domestic violence was administered to the respondent. This questionnaire on violence addressed five types of violence, which were: i) physical abuse ii) money taken against will iii) prevented from going to natal home iv) prevented from working outside and v) jewelry taken against will. The women were asked whether any of the five types of violence happened between herself and her husband in the past four months (from the time of interview). The categories ii-v are related to mental torture of various degrees and grouped as mental violence while the first category, as it relates to direct physical assault of various degrees, as physical violence.

### **2.3 Analysis**

Analysis was done in two stages: first, bivariate analysis was done to explore the different factors influencing occurrence of physical and mental violence in the study population. Next, a Logistic regression was run to identify the predictors of physical violence (coded physical violence=1, mental/no violence=0) in two models. Eleven socio-demographic variables were added stepwise for the first model: membership status, age, years of schooling of the respondent, no of children, occupation of the respondent, years of schooling of household head, household size, own land, occupation of the household head, health status of the respondent and women's contribution to household income. Most of these variables were found to be significant in bivariate analysis. Moreover, for predicting the effects of BRAC's development input on physical violence, membership type was included in model II instead of membership status. Here membership is categorized into BRAC-eligible non-members (=0) and BRAC members (=1) and, membership type into eligible non-members (=0), members with only savings (=1); members with savings + credit (=2); and, members with savings + credit + training (=3).



### 3. Results

#### 3.1 Background Information of the study women

Table 1 shows the demographic and socioeconomic characteristics of study women according to BRAC membership status of the households. BRAC members are found to be significantly older compared to the eligible non-members ( $p < .01$ ). They also have significantly more living children, own more land and come from households where the head has received more years of schooling ( $p < .001$ ).

**Table 1. Socioeconomic and demographic characteristics of the study population, Matlab, 1995**

	BRAC members (n=445)	BRAC-eligible non- members (n=1593)	All (N = 2038)	t-test
Mean Age of respondents	35 ( $\pm 8.2$ )	33 ( $\pm 9.8$ )	33 ( $\pm 9.6$ )	$p < .01$
Mean years of schooling	1.14 ( $\pm 2.2$ )	1.15 ( $\pm 2.2$ )	1.15 ( $\pm 2.2$ )	NS
Mean no. of children	3.6 ( $\pm 2.2$ )	3.2 ( $\pm 2.3$ )	3.3 ( $\pm 2.3$ )	$p < .001$
Mean years of schooling of household head	2.16 ( $\pm 3.2$ )	1.6 ( $\pm 2.8$ )	1.7 ( $\pm 2.9$ )	$p < .001$
Mean own land	36.0 ( $\pm 81.8$ )	21.4 ( $\pm 39.6$ )	24.6 ( $\pm 52.2$ )	$p < .001$
Mean household size	5.5 ( $\pm 1.7$ )	5.3 ( $\pm 1.9$ )	5.4 ( $\pm 1.9$ )	NS

#### 3.2 Prevalence of violence

In the study population, 6.3% reported having suffered from physical violence and 8.3% mental violence in the last four months (Table 2). The prevalence of physical violence is significantly greater among BRAC members than eligible non-members ( $p < .05$ ). No significant differences were seen in the prevalence of mental abuse.

**Table 2. Prevalence of different types of violence among the study women during past 4 months by BRAC Membership status, Matlab 1995 (%)**

	BRAC members (n)	BRAC-eligible non- members (n)	All (N)	t-test
Physical violence	8.8 (39)	5.6 (90)	6.3 (129)	$P < .05$
Mental violence*	7.9 (35)	8.5 (135)	8.3 (170)	ns
No violence	83.4 (371)	85.9 (1368)	85.3 (1739)	ns
N	445	1593	2038	

\* money taken against will, prevented from going to natal home, prevented from working outside, jewelry taken against will

**Table 3. Sociodemographic characteristics of study women by types of violence during past 4 months, Matlab 1995 (%)**

	No. of respondents	Physical Violence	Mental Violence
<u>Age</u>			
<30	829	8.1	11.3
30+	1209	5.1	6.3
$\chi^2$ significance		P<.01	P<.001
<u>Yrs. Of Schooling</u>			
No schooling	1535	7.2	8.1
1-5	389	4.1	9.3
6+	114	2.6	8.8
$\chi^2$ significance		P<.05	ns
<u>No. Children</u>			
No Child	117	3.4	8.5
All Boys	297	9.4	6.7
All Girls	287	7.7	9.4
Mixed	1277	5.7	8.5
$\chi^2$ significance		P<.05	ns
<u>Occupation</u>			
Housework	1973	6.4	8.5
Labour	36	2.8	2.8
Skilled Service	29	6.9	3.4
$\chi^2$ significance		ns	ns
<u>Health Status</u>			
Good	1221	5.9	7.3
Bad	817	7.0	9.9
$\chi^2$ significance		ns	P<0.5
<u>Household Size</u>			
1-4	670	7.6	9.3
5+	1368	5.7	7.9
$\chi^2$ significance		ns	ns
<u>Own Land</u>			
No Land	185	11.9	8.1
1-49 dec	1601	5.9	8.7
50-149 dec	204	4.9	5.9
150+ dec	34	5.9	8.8
$\chi^2$ significance		P<.05	ns
<u>Yrs. of schooling of household head</u>			
No schooling	1401	6.9	8.0
1-5	408	5.4	8.3
6+	229	4.4	10.5
$\chi^2$ significance		ns	ns
<u>Occupation of household head</u>			
Farming	282	4.6	8.2
Wage Labour	822	8.6	8.2
Service	638	4.9	9.4
Housework/Unemployed	296	4.7	6.8
$\chi^2$ significance		P<.05	ns
<u>Contribution to household income</u>			
Yes	945	7.9	3.3
No	1093	4.9	12.7
$\chi^2$ significance		P<.01	P<.001

To explore the demographic and socioeconomic correlates of physical and mental violence a bivariate analysis is performed (Table 3). Women who are significantly more likely to suffer physical violence are <30 years of age ( $p<.01$ ), without schooling ( $p<.05$ ), possess only male children ( $p<.05$ ), come from landless labour selling households ( $p<.05$ ) and are perceived to contribute to household income ( $p<.01$ ). Women under 30 years of age ( $p<.001$ ), suffering ill health ( $p<.05$ ) and those perceived to be economic dependents ( $p<.001$ ) are significantly more likely to suffer mental violence.

**Table 4: Occurrence of physical violence during last four months among BRAC members by length and type of membership**

<b>Length of Membership</b>	Physical Violence	Mental Violence	Total (n)
<1 year	10.3	10.3	78
1-2 years	11.2	10.3	107
2+ years	7.3	6.2	260
$\chi^2$ significance		NS	
<b>Type of Membership</b>			
Eligible non-member	5.6	8.5	1595
Passive member (Only savings)	5.4	3.6	56
Active member (Savings+credit)	11.2	8.6	268
Very active member (Savings+credit+training)	3.4	8.4	119
$\chi^2$ significance		$P<.001$	

Next, we examined whether the prevalence of physical violence among BRAC members varies according to the length of membership, or type of inputs received. When testing the association between duration of membership and occurrence of violence, it appears that physical violence initially increases in the first two years, and then decreases in the third year although this trend is not significant. When testing the association between type of membership and occurrence of violence, it appears that women who have savings and credit are significantly more vulnerable to physical violence ( $P<.001$ ); although, this goes down when women receive credit along with training (Table 4).

**Table 5: Logistic regression analysis of factor predicting occurrence of physical violence among study women, Matlab 1995**

	Model I			Model II		
	Wald	Estimate	Odds Ratio	Wald	Estimate	Odds Ratio
<u>Membership Status</u>	5.06					
Eligible non-member		0.00	1.00			
BRAC member		0.47	1.60*			
<u>Age (years)</u>	10.92			10.34		
<30		0.00	1.00		0.00	1.00
30+		-0.62	0.54***		-0.61	0.54**
<u>Women's Years of Schooling</u>	6.52			6.03		
No Schooling		0.00	1.00		0.00	1.00
1-5 years		-0.55	0.57		-0.51	0.60
6+		-1.07	0.34		-1.09	0.33
<u>Own land</u>	8.64			8.34		
No Land		0.00	1.00		0.00	1.00
1-49 decimal		-0.75	0.47**		-0.73	0.48**
50+ decimal		-0.73	0.48		-0.75	0.47
<u>Occupation of household head</u>	7.34			6.47		
Non-labour selling		0.00	1.00		0.00	1.00
Labour selling		0.51	1.67**		0.48	1.62*
<u>Contribution to household Income</u>	5.14			5.72		
Yes		0.00	1.00		0.00	1.00
No		-0.43	0.65*		-0.46	0.63*
<u>Membership Type</u>				13.93		
Eligible non-member					0.00	1.00
Only savings					-0.09	0.91
Saving + Credit					0.78	2.19***
Saving + credit + Training					-0.47	0.62
<b>-2log likelihood</b>		<b>913.05</b>			<b>904.96</b>	
<b>Model improvement</b>		<b>46.83***</b>			<b>54.92***</b>	

NB. \*p<.05; \*\*p<.01; \*\*\*p<.001

In logistic regression, two model were tested. In model I, the predictors or physical violence were those identified significant in the bi-variate analysis, with the exception that in the final model the no. of children was not included. All the predictors, which were significant in model, I was also found to be significant in model II; however, their level of significance is a little lower in model II. In case of the effect of BRAC development inputs on prevalence of physical violence, model II found it to be more than two times greater in case of BRAC members with savings and credit compare to eligible non-members, and also other types of members.

#### 4. Discussion and Conclusion

In Bangladesh violence, especially violence against women within marriage, is not new. Patriarchy, systematic discrimination against women since birth, patrilocal marriage system in Bangladesh where bride moves to the in-law's household away from natal home and, unequal power relations make them vulnerable to such incidences. In this study, data on violence were collected through structured interviews. There seems a bit under reporting which is plausible because without sensibly long-term good rapport-building with the respondents, women would not like to show up their subordinate position to an outsider as it is a question of their prestige.

Both bi-variate analysis and logistical regression show that young women under 30 yrs are more likely to be victims of physical violence, which corroborates findings from another study in BRAC (14). When a young woman enters into marital household leaving the security of natal home, she is thrust into unknown social realm and is in vulnerable position. The expectations of in-laws, especially mother-in-law, and husband are still unknown and errors in failure to comply with results in violence. It is surprising to note that no relationship was found between schooling and violence in the multivariate analysis. However, in the bi-variate analysis years of schooling of both women and their household head were found to be inversely associated with prevalence of violence.

The study findings reiterated the strong relationship between violence and poverty. Women from households owning some land are significantly less likely to suffer physical violence than those from landless households. Occupation of the household head tells a similar story. Women from non-labour-selling households are significantly less likely to suffer physical violence than those from labour-selling households. On the other hand, women who contribute to household income are significantly more likely to suffer physical violence. This finding further supports the view that violence is provoked by changes in power relations. The change in women's economic roles within the household is initially met with resistance /resentment and in extreme cases, with physical violence.

This study illuminates us about the dynamics of BRAC membership on the incidence of violence within the household. BRAC members are 1.6 times more likely to suffer physical violence than non-members. Type of membership indicates that members receiving savings and credit inputs are 2+ times more likely to be victims of violence. For members who also receive training, rates are somewhat less. However, the women who receive training are a bit different from the average BRAC member. A study found that 83% of the trainees were above the age of 40 years and that they are more likely to be from VO management committee and leaders of small groups within the VO (19). Also, it probably may be that BRAC members report violence more due to the fact that they are more socially aware and comfortable in revealing private details of their marital life compared to non-members. The evidence of a trend of change in violence incidence with duration of membership, however, indicates that this may not be a serious problem.

The last interesting observation from this study concerns the evidence, albeit insignificant, that violence decreases over time. Proportion of women suffering violence is high during the first years of membership, and declines slightly among those who have been members for more than two years. Quite a few explanations may be put forward to address this observation. It may be that women are better able to negotiate conflict and avoid violent situations with greater confidence, knowledge and information gained through awareness raising interventions of RDP in the form of VO meetings, group interactions and peer support. Or it may be that the husbands become habituated to the economic role of women and initial resentment gives way to acceptance

and even appreciation (?). Also, the greater visibility of women in public domain, and changing social norms about their status in society may make it less possible to get away with violence without incurring social scorn. The latter is supported by Hussain *et al.* in a nationwide Impact Assessment Survey of BRAC-RDP where the authors found that after being involved with BRAC for 4 years, women has become independent and they can move freely; household violence has now reduced and husbands do not dare to be too violent (20).

The probability of getting skill development training increases with duration of membership. Membership in a credit group gives women enough opportunity to learn many things, access to knowledge and information that also help women gain power and autonomy. Training through skill and awareness raising accelerates this process. Violence could also be preventable through educational strategies as findings from this and other studies show that education level of spouse is an important inhibitory factor for violence. But more attention should be given to the elimination of gender biases in the educational curriculum.

Violence by intimate male partner has long-term consequences for the physical and psychological well-being of women (21). Each recurrence of violence compounds previous health problems and stopping further incidence of violence can only reverse this. Early identification of abuse and effective community-based interventions are required to prevent the occurrence of such incidences.

This study raised opportunities for in-depth investigation on the dynamics and management of credit entering into the household, role of skill training on incidence of violence and how these interact in the context of micro-credit.

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