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Women Empowerment in Bangladesh: A Study on Rural-Urban Differentials

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WOMEN EMPOWERMENT IN BANGLADESH: A STUDY ON RURAL - URBAN DIFFERENTIALS

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Submitted by

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DECLARATION OF ORIGINALITY

This dissertation entitled "Women Empowerment in Bangladesh: A Study on Rural - Urban Differentials" submitted by me in the Department of Population Science and Human Resource Development, University of Rajshahi for the degree of Master of Philosophy is based on my research work.

To the best of my knowledge, this research work neither in part nor in full has been submitted to any other University or Institution for the award of any degree.

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Dedicated to

My son Jareef

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ABSTRACT

Women empowerment has been considered as essential precondition for the elimination of world poverty and as central issue in the process of development for many countries in the world today. Reviewing many relevant literatures, this study tries to clarify the term – women empowerment and an attempt has been made to measure women empowerment index (WEI), the relation between contraceptive behaviour and women empowerment, the impact of women empowerment on fertility using Bangladesh Demographic and Health Survey (BDHS) – 2004 data.

WEI has been constructed averaging three important dimension indices namely, economic decision making index, household decision making index and physical movement index and consequently it has been found that four out of ten of Bangladeshi women have high level of empowerment. Comparatively low empowerment in physical freedom has been observed in comparison with economic and household decision making empowerment. Higher level of empowerment in all the three dimensions has been found for the 35 – 49 age grouped women, whose husband's age are 35+ years, who have same aged husbands and for currently working women as well. In addition, respondent's current age, educational level, children ever born (CEB) and media exposure have been identified as important determinants for the aforementioned three dimensions of women empowerment. The study also reveals that urban women are more empowered in all dimensions than their rural counterparts.

Using various types of mathematical models, here it is found that quadratic polynomial model is more applicable to WEI score in all areas on the basis of cross validity prediction power (CVPP) test. Regarding contraceptive behaviour, more use of contraception has been found for higher aged, higher educated women and for the respondents who have media access, discussed family planning more frequently with their husbands. The study also reveals that urban women use more contraception than their rural counterparts. In this study, respondent's current age, age at first marriage, work status, CEB, spousal discussion of family planning have been identified as significant factors affecting contraceptive behaviour on the basis of multinomial logistic regression analysis.

The study also shows that CEB increases with the increase in respondent's age, number of children dead and household decision making index. Finally this study tries to find out the significant factors affecting fertility using multiple linear regression analysis and confirms respondent's current age, age at first marriage, educational qualification, husband's educational attainment, number of children dead, religion, media exposure, discussion on family planning and household decision making participation as significant determinants. The findings of this study have a great importance to promote women empowerment in Bangladesh. Thus to face challenges in the coming future, the policy makers, planners should have to take not only necessary policies but also to implement them at their earliest convenience.

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Chapter One

Research Perspective

1.1 Background of the Study

Bangladesh is a country of South Asian region consisting about 147.3 millions population where approximately half of the total population is female (PRB, 2008). Patriarchal family is also pervasive in Bangladesh where women are treated as subordinate of men in almost cases. It is a well established fact that in a patriarchal society like Bangladesh, women are ascribed a lower status as men who have the sovereign power to control households and society as a whole, while women are often secluded in their homes (Balk, 1997). Actual norms and values of patriarchal family are ignored in our traditional society due to lack of sufficient knowledge in culture, customs, religious belief and proper education. Consequently, men still think that mainly women are the subordinate of them and in turn women have lived under the shadow of men. Men largely control the public sphere while women control the domestic one. In Bangladesh, traditionally the role of women has been considered as daughter, wife and mother. Actually, their activities in the socio-cultural milieu are primarily domestic in nature confined to the four walls of home. Women are vulnerable in every sector in Bangladesh. In some cases they have very minor access to justice on human rights in relation to race, ethnicity, culture, religion, social, and economic class

distributions. In a word, women are discriminated with a low status against men from home to parliament in Bangladesh. Due to male and female differentiation women's contributions are often ignored, rights are violated and decisions are despised. That is why women are interned the most deprived section of the society. In all spheres of life, they are suppressed by the so called patriarchal beliefs and traditional social norms and values. They are fully dependent on their male partners. Social thinkers believe that some organized and systematic efforts are needed to change the women lives.

As the world advances, we understand better the value of women's participation. Women's advancement is becoming one of the most important world-wide missions. The Beijing Declaration and Platform for Action has demonstrated the world's commitment towards the promotion of women and their rights. Globally women empowerment has recently gained considerable importance as an area for policy and policy interventions in most of the organizations of the world. They have recognized the benefits of the empowerment that can be achieved through effective participation of women. Mainly, the empowerment of women is one of the central issues in the process of development of countries all over the world. Empowerment is a multi-faceted, multi-dimensional and multi-layered concept. Empowerment means moving from a position of enforced powerlessness to one of power and women empowerment is a process in which women gain greater share of control over resources – material, human and intellectual like knowledge, information, ideas and financial resources like money – and access to money and control over decision-making in the home, community, society and nation, and to gain `power'. Though the empowerment of women is an essential precondition for the elimination of world poverty and the upholding of human rights (DFID, 2000), in the more patriarchal society, the less women empowerment we can chart. The World Bank study in Bangladesh highlights that women have limited role in household decision-making, limited access and control over household resources

(physical and financial assets), low level of individual assets, heavy domestic workloads, restricted mobility and inadequate knowledge and skills that leading to women's vulnerability (Sebstad and Cohen, 2000).

Indeed, the empowerment of women is one of the central issues in the process of development for many countries in the world today. In the quantitative research of women empowerment, the factors involved are women's education, their ownership pattern, their employment opportunities and the workings of the labour market. There is a lack of demographic research on women empowerment likely results from its particular conceptualization in the development literature where empowerment is treated as a process of change over time. This development–theory driven conceptualization of empowerment makes it extremely difficult to operationalize and measure in demographic research primarily dependent on the quantitative analysis of survey data. Consequently, qualitative as well as quantitative researches are very useful and necessary tools for better understanding women empowerment. Within sociology and demography, the major effort has been at measuring household decision-making processes, financial control, and social or familial constraints directly. This has been motivated by interest both in understanding empowerment itself and in outcomes such as fertility, contraceptive use, and child health and well-being. Qualitative research of Hashemi and Schuler (1993) identified dimensions of empowerment through in-depth interviews and participant observation in rural Bangladesh. They focused their framework on women empowerment in Bangladesh. They defined the empowerment of women through the use of six spheres: i) sense of self and a vision of the future, including resisting negative behaviors of the husband; ii) mobility and visibility, including how women are treated when they are traveling; iii) economic security, including cash income, new skills and knowledge; iv) status and decision-making power within the household, including making purchases on their own; v) ability to interact effectively in the public sphere, such as joining credit programs, and

vi) participation in non-family groups, such as credit programs and solidarity movements. They discussed that these dimensions are interrelated to each other so that a change in one dimension would likely affect other dimensions. The conceptual framework of their study was modeled in a pictorial diagram which is shown in the following figure.

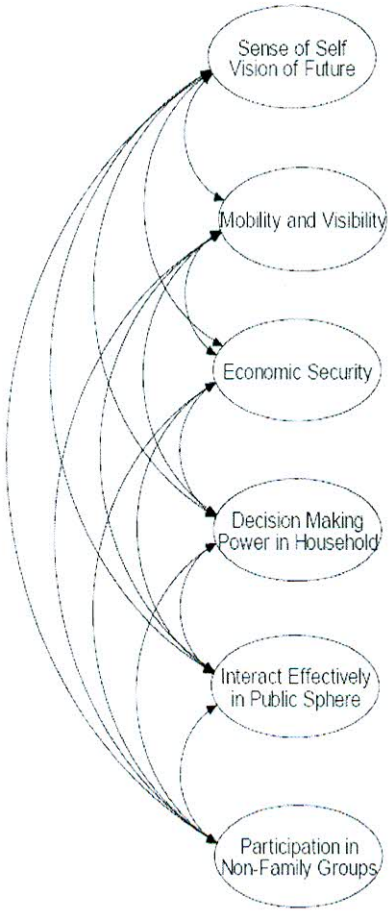


Figure 1.1: *Hashemi and Schuler's dimensions of empowerment*

In Bangladesh, research on women empowerment has centered around micro-credit and loan programs by the Grameen Bank (Steele, Amin and Naved, 2001; Schuler, Hashemi and Riely, 1997; Amin, Li and Ahmed, 1996; Hashemi, Schuler and Riley, 1996; Amin, Hill and Li, 1995; Schuler and Hashemi, 1994). Preliminary findings suggest a positive association between membership and

women empowerment status; a positive association between membership and willingness to control fertility or contraceptive use (Schuler and Hashemi, 1994; Amin, Li and Ahmed, 1996). So, contraceptive use as a measure of fertility regulation is directly or indirectly related to women empowerment. And women can play an important role in taking part in decision making on the use of contraception for better plan about family size.

In addition, Bangladesh has undergone a considerable decline in fertility in the last few decades although the country's economic circumstances appeared unfavorable. Bangladesh is in fact the only country among the world's twenty poorest countries where such a change has occurred (Khuda and Hossain, 1996). The rapid decline in fertility in Bangladesh has challenged conventional demographic transition theory, which associates fertility decline with economic development, and researchers have tried to understand the factors that have contributed to this change in Bangladesh. A World Bank study (Cleland et al., 1994) attributed the decline in fertility to the activities of national family planning program. According to the study, the decline occurred in spite of social, economic, and institutional circumstances that are unfavorable to reproductive change. Living standards hardly improved, very few women were engaged in cash-generating activities, and the Bangladeshi society has remained conservative, traditional, and agrarian. Children, particularly sons (Cleland et al., 1994), are seen as an insurance against risks for women in the case that they divorce. This is because women are usually unable to seek employment and would therefore rely on their sons for support. Caldwell et al. (1999), on the other hand, do not agree with Cleland et al. (1994) that little change occurred to the Bangladeshi society during the two decades between 1970s and 1990s. Their qualitative research, based on their fieldwork in Chittagong Division, found that the main reason given for using family planning methods is to allow for children's education and other family needs. Limited amounts of land means that more employment has to be found

outside of farming, and education is recognized as the main route to such employment. Therefore, the reduction in fertility is likely to have resulted from the change in society to one which parents need to carefully plan for their children's education and employment. Female education is found to be the most important variable affecting both contraceptive use and fertility regulation in Bangladesh (Khuda and Hossain, 1996). There is also evidence that improvement in women's status in terms of employment, mobility, and decision-making power has contributed to increased contraceptive use and consequent fertility decline.

Therefore, taking the gloomy picture of women's situation in Bangladesh into account, it could be said that women empowerment issues have been stressed recently since women are representing the underpinning of sustainable development structure of society whatever its type is, rural or urban, at general and household levels. Since empowerment process is based mainly on possessing resources, controlling over resources, and enjoyment of equal citizenship rights as men, governments and women's organizations still work to achieve that objective; therefore, those organizations should work to liberate women from constrains that banned and still binding women to participate effectively in all social, economic, and politic aspects.

1.2 Conceptual Clarification

Empowerment may be defined as the process of removing the factors which cause the powerlessness. Kabeer (2001) defined empowerment as "the expansion of people's ability to make strategic life choices in a context where this ability was previously denied to them". "Empowerment" has been used to represent a wide range of concepts and to describe a proliferation of outcomes. The term has been used more often to advocate for certain types of policies and intervention strategies than to analyze them, as demonstrated by a number of documents from the United Nations (UNDAW, 2001; UNICEF, 1999), the Association for Women

in Development (Everett, 1991), the Declaration made at the Micro-credit Summit (RESULTS, 1997; DFID, 2000) and other organizations.

Bennett (2002) developed a framework in which "empowerment" and "social inclusion" are closely related but separated concepts. Drawing on Narayan (2002), Bennett described empowerment as "the enhancement of assets and capabilities of diverse individuals and groups to engage, influence and hold accountable the institutions which affect them." Social inclusion is defined as "the removal of institutional barriers and the enhancement of incentives to increase the access of diverse individuals and groups to assets and development opportunities." Bennett noted that both of these definitions are intended to be operational, and describe processes rather than end points.

In general, women do not take a central place in much of the literature on social inclusion or empowerment. While clearly, the broad reference to empowerment as the expansion of freedom of choice and action, as articulated in the World Bank's Sourcebook on Empowerment and Poverty Reduction (Narayan, 2002), applies to women as well as other disadvantaged or socially excluded groups, it is important to acknowledge that women empowerment encompasses some unique additional elements. First, women are not just one group amongst several disempowered subsets of society (the poor, ethnic minorities, etc.); they are a cross-cutting category of individuals that overlaps with all these other groups. Second, the household and interfamilial relations are a central locus of women disempowerment in a way that is not true for other disadvantaged groups. This means that efforts at empowering women must be especially cognizant of the implications of broader policy action at the household level. Third, women empowerment requires systemic transformation in not just any institutions, but fundamentally in those supporting patriarchal structures (Kabeer, 2001; Bisnath and Elson, 1999; Sen and Grown, 1987; Batliwala, 1994).

Thus, it is important to understand the actual meaning of women empowerment. Some have observed that the frequency of the use of a technical term is usually inversely proportionate to the understanding of its meaning. The term "empowerment" certainly proves that rule instead of actual meaning. It is a very widely used term, particularly in the context of women and the poor, but is often misused and poorly defined. It is not always clear whether those who use terms such as women empowerment, gender equality, female autonomy or women's status are referring to the same or different concepts. Some scholars argue that often there is no clear demarcation among these terms. For example, Mason (1998) and Mason and Smith (2000) treat empowerment, autonomy, and gender stratification interchangeably. Similarly, Jejeebhoy (2000) considered autonomy and empowerment as more or less equal terms, and defined both in terms of women "gaining control of their own lives vis-a-vis family, community, society, markets." She considered autonomy and empowerment to be fairly similar, she argued that the former is a static state — and thus measurable by most available indicators — while the latter changes over time, and is not so easily measurable. In contrast, other authors have explicitly argued that autonomy is not equivalent to empowerment, stressing that autonomy implies independence whereas empowerment may well be achieved through interdependence (Malhotra and Mather, 1997; Govindasamy and Malhotra, 1996; Kabeer, 1998). Various studies of "women's status" often covered aspects of empowerment without explicitly labeling it as women's status refers only the women's overall position in the community. Acharya and Bennett (1981) used the more general term "women's status" but located a nexus of gender-related power differentials in the household, noting how important the family unit is to understanding the operation of gender in a society. They also highlighted the links between women's economic roles and their control over resources and life options.

In addition, Dixon (1978) stated that women's power can be distinguished from women's status, in that status refers to women's overall position in the society, while power refers to women's ability to influence and control at the interpersonal level. Thus, female power can be defined as women's ability to control or change other women's or man's behavior and the ability to determine important events in their lives, even when older women are opposed to them.

Keller and Mbwewe (1991, as cited in Rowland's, 1995) described women empowerment as "a process whereby women become able to organize themselves to increase their own self-reliance, to assert their independent right to make choices and to control resources which will assist in challenging and eliminating their own subordination". The core of the meaning of women empowerment lies in the ability of a woman to control her own destiny. Almost all definitions of women empowerment include some reference to an expansion of choice and freedom to make decisions and take the actions necessary to shape life-outcomes (Malhotra and Schuler, 2005). At the core of these definitions there are two components of empowerment: resources and agency. According to the framework developed by the Task Force on Education and Gender Equality of the United Nations Millennium Project, resources can be seen as including capabilities (including health, nutrition, and education); access to opportunities (including access to economic assets and resources and political opportunity); and security (safety from violence and conflict). In the Task Force's conceptualization, the term gender equality reflected equality in access between women and men to each of these sets of resources. Such equality, however, is necessary but not sufficient to achieve empowerment. It creates the enabling context for an empowerment process, but does not guarantee empowerment. Agency, on the other hand, is the defining characteristic of empowerment. It refers to the ability to make strategic choices; to not just have access to resources but to be able to control them and make decisions that affect important life outcomes (Malhotra and Schuler, 2005).

Generating agency requires a process that stimulates participation and inclusion and recognizes women as agents of change in their own lives.

Some concepts such "women empowerment", "gender equality" and "gender equity" are separate, but closely related. The policy research report by the World Bank (2001) employs the term "gender equality", where it defines in terms of equality under the law, equality of opportunity (including equality of rewards for work and equality in access to human capital and other productive resources that enable opportunity), and equality of voice (the ability to influence and contribute to the development process). Gender equality implies "equivalence in life outcomes for women and men, recognizing their different needs and interests, and requiring a redistribution of power and resources." Gender equity recognizes "women and men have different needs, preferences, and interests and that equality of outcomes may necessitate different treatment of men and women (Reeves and Baden, 2000)".

From the above discussion, finally, it may be concluded that women empowerment is the process and the outcome of the process, by which women gain greater control over material and intellectual resources than the previous time and challenge the ideology of patriarchy and the gender based discrimination against women in all the institutions and structures of society.

1.3 Review of Literature

A review of the works had already done relevant to the present study reveals that a wide range of socio-economic and demographic factors affects women empowerment. The socio-economic and demographic characteristics of people vary from society to society. These may also vary from one geographical setting to another. Therefore, a review of literature is essential to know about the previous

works done in the field. Only the relevant literatures in the context of the present study, which are reviewed, are given in the following:

In 1991, Keller and Mbwewe described women empowerment as a process whereby women become able to organize themselves to increase their own self-reliance, to assert their independent right to make choices and to control resources which will assist in challenging and eliminating their own subordination.

Moser (1992) stated that the empowerment approach incorporates an understanding of the concept of gender as a social issue. It acknowledges the systematic subordination of women in all social relations with men.

Hashemi and Schuler's (1993) work provided an important starting place for the development of a theoretical model of women empowerment in rural Bangladesh. They identified six dimensions of empowerment based on activities women identified as important for their day-to-day functioning: (i) sense of self and vision of the future; (ii) mobility and visibility; (iii) economic security; (iv) decision making power in the household; (v) participation in non-family groups; (vi) interact effectively in the public sphere. They also found that these dimensions as interrelated, noting that a change in one dimension would likely affect other dimensions.

The indirect effect of gender system on fertility was showed by many studies. Balk (1994) was a pioneer at looking at attitudes that women hold as an indicator of women's status. She found that attitudes do not significantly affect the total number of children ever born. She stated that decision-making authority does indeed have a negative relationship with the total number of children ever born, however she found that the effects of decision-making are not as strong as other female autonomy variables such as mobility and leniency of a female's household.

This suggested that authority in household decision-making may influence fertility outcomes; however other dimensions of female autonomy may play a more important role.

The United Nations Population Information Network in 1995 stated five dimensions of women empowerment, such as women's sense of self-worth, choices, access to opportunities and resources, power to control own lives and ability to influence the direction of social change (Popin, 1995).

Stromquist (1995) argued that women empowerment depends on a range of factors including psychological, cognitive, economic, social and political dimensions. Among other things, the cognitive component involves "acquiring new knowledge to create a different understanding of gender relations as well as destroying old beliefs that structure powerful gender ideologies". According to her the successful integration of the competencies required in each of her four components results in an autonomous individual who can critically evaluate her situation and has the self-confidence and inner strength to make positive changes in her life.

Zuniga (1995) said that empowerment for women involves reclaiming "the right to make decisions about their own lives and to influence social change through their ability to gain control over crucial natural and cultural resources". She contends that an empowered woman has increased her power in terms of her own self-esteem and internal force rather than in terms of domination over others. When an empowered woman exercises control, she should be able to grasp the broader cultural context within which this control is exercised.

Beijing Conference (1995) focused on women issue as global issue that poverty, inequity, denial of human rights, lack of freedom and justice, and absence of peace and security are no longer acceptable to world community. A pre-requisite for an

effective democracy is the equal participation of women and men in decision-making in all spheres: from personal to the most public, starting within the family, socio-cultural norms, legal inequalities and an inequitable access to resources of all kinds deprives of women of decision making power. This inequality permeates all structures of social economic and political activity, seriously impeding women's ability to contribute as full citizens in shaping their society.

Kishor (1995) in a study of Egypt established that, for women, more authority in household decision-making is associated with contraception use. She finds this relationship to be stronger than other measures of female autonomy such as opinions and mobility. Similarly, examining data from Tamil, Nadu, India, Jejeebhoy (1991) found that contraceptive use is associated with females who have more power to make household decisions but there is no bivariate relationship between mobility and contraception use. However, Morgan and Niraula (1995) for Nepal found that women who experience more mobility are more likely to intend to have fewer children.

Anderson (1996) and Claridge (1996) had identified that the self-confidence and self esteem as essential 'first steps' to an individual's empowerment. This kind of power is termed by Rowland (1998) as the 'power within'. This inner power of a person is demonstrated in her/his self-confident behaviour that often results from successful action in the social or political domains (Friedmann, 1992). Lack of this power results in the feelings of worthlessness, which leads to oppression of women and hence, many interventions targeting to uplift women seek to bring about changes at the 'power within' level.

Govindasamy and Malhotra (1996) provided more evidence that mobility is associated with fertility outcomes. Specifically, they found that the greater mobility a female has, the more likely she is to use contraception. They also found

that female household decision-making power is associated with contraception use; however once they control for the power females have in reproductive decision-making, the effect of household decision-making is no longer significant. This suggests that perhaps input in reproductive decision-making is more important then having input in household decision-making. They also examined the effects of attitudes about gender equality in financial matters and find a positive significant effect. However, once authority in reproductive decisions is added to the model, the variable attitude regarding financial matters is no longer significant.

Amin and Lloyd (1998) in a study of Bangladesh and Egypt on women's lives and fertility decline showed the continuity of gender inequality may not prevent the occurrence of demographic transition. The relationship between gender system and fertility is more effective on the cost of fertility regulation.

Angin and Shorter (1998) showed that the fertility decline in Turkey was due to changes in structural conditions, not the improvement of women's status. Use of contraceptives was not an indicator of men's or women's power. To use contraceptives, women relied on men and were very concerned about the side effects of the methods. Women preferred using male methods.

Rowland (1998) extensively discussed empowerment within the wider conceptual context of power. Drawing from other scholars' definitions of power, she categorized empowerment into four terms, "power over", "power to", "power with" and "power from within", each with its own meanings. She criticized the "power over" view in that it regards power as something that can be given by one person to another. This suggested that power can be as easily withdrawn as it is granted, discounting any structural change in power relations. "Power to" suggests enabling power that creates new possibilities without control, whereas "power

with" alludes to co-operation and working together. Finally, "power within" refers to a spiritual awareness at an individual level which means an individual power by believing in oneself and one's abilities by increasing one's self-esteem, awareness or consciousness raising and confidence building.

Amin, Stan and Byes (1998) splited the concept of women empowerment into three components each measured separately: inter-spouse consultation index, which seeks to represent the extent to which husbands consult their wives in household affairs; individual autonomy indices which represents women's self-reported autonomy of physical movement outside the house and in matters of spending money; and the authority index, which reports on actual decision-making power (which is traditionally in the hands of the patriarch of the family). Comparable components of empowerment are included in the eight indicators by Hashemi, Schuler and Riley (1996): 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 involvement in political campaigning and protests.

The empowerment concept has taken centre stage in the development discourse. It has been elaborated upon by numerous economists and development practitioners. Notably, Nobel Prize winner, Amartya Sen (1999), has built on the empowerment concept through his human capabilities approach in development economics to underscore the conviction that "each person is an end and not a mere means of the ends of others". His approach focuses on what individuals are actually able to do and be, as opposed to how many resources they are able to command.

Hogan, Berhanu and Hailemariam (1999) in a study found a clear and strong relationship between authority in household decision making and contraception

use for Ethiopia. In their study they found the evidence that women who participate in household decision-making are more likely to use contraception.

Sen and Batliwala (2000) indicated that empowerment is understood not only as an extrinsic control over resources (human, financial, intellectual) but also as a growing intrinsic capability, seen through greater self-confidence and an inner transformation of women's consciousness that enables one to overcome external barriers to accessing resources or changing traditional ideology.

Musokotwane and Siwale (2001) defined gender awareness as the recognition of different needs, expectations and life experiences of women and men that often create inequality between them but these are subject to change. In this study, gender awareness refers to the ability of women to identify problems arising from gender inequality and discrimination, which affect their ability to have access to and control over resources.

Longwe (2001) described that gender equality is an essential step in women empowerment, which involves awareness and understanding of the difference between sex roles and gender roles and that gender roles are socially created and therefore, can be changed to promote equality. Thus, awareness building about women's situation, discrimination, rights and opportunities is a step towards greater gender equality (Karl, 1995).

In Nigeria, Kirtz and Makinwa-Adebusoye (2001) looked at several different measures of women's authority in order to determine whether some dimensions have stronger and more robust relationships to fertility. In addition, they compared how authority indicators based on wives', husbands' and couples' perceptions differ from each other and look at whether women's authority when based on women's reports alone. Finally, they examined whether women's authority

influences the contraceptive use of husbands and wives when they approve or disapprove family planning. To study these issues, they used survey data from five Nigerian ethnic groups that have different gender traditions.

Sathar, Callum and Jejeebhoy (2001) proposed the argument that in South Asia, gender systems play a central role in conditioning the pace at which the fertility transition proceeds, and accounts thereby for the variation in the pace of demographic change across the region. They explored the extent to which the autonomy of women accounts for the different paces of fertility change and contraceptive practice in three cities in South Asia-Uttar Pradesh and Tamil Nadu in north and south India respectively, and Punjab in Pakistan. They expressed that South Asia is generally characterized by the subordinate role of its women and their limited ability to invest in their children's futures and make independent decision about childbearing.

Mason (2001) suggested that the higher degree of gender stratification within families or kinship systems is associated with a larger desired number of children. A higher degree of gender stratification can be seen in lineal and patriarchal families. The importance of labor, the distribution of the burden of caring for large numbers of descendents across the lineage, women's needs to their children's support, and sharing wealth within the lineage (rather than investing on their own children), could lead to such a demand. Mason also noted that the effect of gender systems on proximate determinates of fertility is through three factors: the demand for children, the supply of children and the cost of fertility control. Women with a high level of education and job outside home normally have fewer children. When education provides women with opportunities for work, the relationship between education and fertility tends to be negative. The relationship between fertility and employment is only significant for jobs outside the home. Industrialization may decrease the age at marriage (because with an industrial employment, young

people should not be waiting for inheritance since they can find appropriate jobs) and can lessen some practices for birth spacing (like postpartum abstinence). These could increase the level of fertility.

In critically assessing various definitions of empowerment, Malhotra, Schuler and Boender (2002) suggested that empowerment contains two important elements that distinguish it from the general concept of "power," the idea of process or change from a condition of disempowerment and the concept of human agency, which implies choices made from the vantage point of real alternatives without severe consequences. Women empowerment, then, is conceptualized as an increase in agency over time.

Baruah (2003) pointed out the challenges that the approach of many development agencies where gender is justified only if it helps to achieve other objectives such as controlling populations and sustainable development of poverty alleviation. This approach validates women's claim as political and economic subjects in their own rights. The promotion of women empowerment not only facilitates social justice as an important aspect of human welfare, but also women empowerment is a means to other goals. Amartya Sen's approach expands on the empowerment concept, identifying the importance of human "agency" and the freedom of individuals towards development goals. According to him, human functional capabilities comprise "life, bodily health and integrity, being able to imagine, think and reason, being able to emote and have attachments, practical reason, affiliation, recreation, and control over one's political and material environment". As this relates to gender equity, he believes that for positive change to happen, individual women must be able to exercise their "agency" through their empowerment and economic independence. Empowering women enables them to make the transition from the periphery to the centre of the situations and decisions that shape their lives (Yunus, 1996).

Mason and Smith (2003) in a working paper studied the multiple measures of married womens' empowerment in the domestic sphere in five Asian countries (India, Pakistan, Malaysia, the Philippines, and Thailand). They suggested that gender relations as heavily influenced by community norms and values, community is a far stronger predictor of women empowerment than individual traits and recommended the primary policy implication of changing community norms and values about gender relations for empowering women. They showed that empowerment is inherently a multi-dimensional phenomenon, with women relatively empowered in some spheres but not in others. They also suggested that raise of age at marriage, enhancing education, and greater employment opportunities help to empower women, at least in some respect.

According to the UNDP (2003) frequent use of Gender Empowerment Measure (GEM) is a composite measure of gender inequality in three key areas: political participation and decision-making, economic participation and decision-making and power over economic resources. It is an aggregate index for a population and does not measure empowerment on an individual basis. It is made up of two dimensions: economic participation and decision-making (measured by the percentage of female administrators and managers, and professional and technical employees), and political participation and decision-making (measured by the percentage of seats in parliament held by women). For our purposes GEM is limited and does not capture the multidimensional view of women empowerment. It cannot be assumed that if a development intervention promotes women empowerment along a particular dimension that empowerment in other areas will necessarily follow. A number of studies have shown that women may be empowered in one area of life while not in others (Malhotra and Mather, 1997; Kishor, 1995 and 2000; Hashemi, Schuler and Riley, 1996; Beegle, Frankenberg and Thomas, 2001).

Parveen (2007) in a study on the empowerment of rural Bangladeshi women assumed that the rural women empowerment can be attained by fostering their level of awareness of ten selected gender issues including under-valuation, educational gap, inheritance of property rights, timing of marriage, practice of dowry, divorce rights, sex bias, birth registration, political awareness and violence against women.

Tareque et al. (2007) expressed that there prevails an unsatisfactory women empowerment situation in Bangladesh. The empowerment of women increases with age and age at marriage of women. They also showed that there exists the lower empowerment for the women with big age difference with husband than the women with smaller age difference.

In a study, Mostofa et al. (2008) found that empowerment level of Bangladeshi women increases as age increases except the age group 45 – 49 years. They also concluded that women empowerment index follows a quadratic polynomial model.

1.4 Objectives of the Study

During the last two decades, much attention has been drawn to the study on women empowerment. Empowerment has been argued to be important for any country's development because it determines the extent to which women gain access to education, are able to seek employment or health care outside of the family, can acquire contraceptive information, and have the freedom to act on their fertility preferences or on the illnesses of their children, among other dimensions (Caldwell, 1986; Dyson and Moore, 1983; World Bank, 2001). Several different efforts have been made in recent years to develop comprehensive frameworks delineating the various dimensions along which women can be empowered (Malhotra, Schuler and Boender, 2002). Thus in light of these reviews, what

happens to the Bangladeshi women regarding empowerment needs to be properly investigated.

Study of the levels and differentials of women empowerment has been the subject of many researchers and a good number of surveys and studies were thus conducted related to this burning issue. The present dissertation is a detailed study on the measurement of women empowerment, the relation between contraceptive behaviour and women empowerment and the impact of women empowerment on fertility. Thus, the study tries to carry out the following objectives with rural – urban differentials:

- ✓ To construct the women empowerment index (WEI) for measuring the empowerment of ever-married women;
- ✓ To observe the present situation of the level of women empowerment in Bangladesh;
- ✓ To isolate the significant factors affecting different dimensions of women empowerment;
- ✓ To build up appropriate mathematical models to WEI scores;
- ✓ To identify factors affecting contraceptive behaviour in relation to women empowerment; and
- ✓ To assess the dimensions of women empowerment and socio-demographic factors those significantly affect fertility.

1.5 Limitations of the Study

The Bangladesh Demographic and Health Survey (BDHS) is intended to serve as a source of population and health data, more specifically, the information on fertility, child mortality, family planning methods, maternal and child health. It was not explicitly designed to focus on women empowerment, thus we have only a few questions on the issue in order to assess their relationship with socio-demographic variables. Due to the lack of sufficient data, we also could not

incorporate the important factors like control over resources, violence against women etc.

1.6 Organization of the Study

The study has been organized into seven chapters including the present one. The introductory Chapter One concentrates on the background of the study, conceptual clarification, literature review, objectives, limitation of the study. Data source, sampling plan, construction of index, methodology, and background characteristics of the study population are discussed in Chapter Two. In Chapter Three, we study the level of women empowerment according to some selected variables and later by using multivariate technique, the cause and effect of socio-demographic variables on different dimensions of women empowerment has been examined. The empowerment of women in contraceptive behaviour has been examined in Chapter Four. Also the trend in contraception use of currently married women and the multinomial logistic regression model has been fitted in this chapter to assess the factors affecting contraceptive behaviour. In Chapter Five, more appropriate mathematical models have been fitted to WEI scores using cross validity prediction power test. Chapter Six is devoted to represent percentage distribution of ever married and currently married women by children ever born, living children, mean number of children ever born and mean number of living children. Also the trends in children ever born and cause and effect of women empowerment indices and other socio-demographic variables on children ever born i.e. fertility have been discussed in this chapter. Last of all in Chapter Seven, we have discussed the summary and findings and have drawn policy recommendations for future implication on the basis of our findings.

Chapter Two

Materials and Methods

2.1 Introduction

The present study is an attempt to measure women empowerment in the domestic sphere for different dimensions such as economic decision making, household decision making and physical movement. For this regard, separate indices have been made considering several indicators such as women's participation in decision making for large household purchases, decision on how to spend money, decision on family planning, decision on child and their own health care, freedom of women to visit their relative's house, freedom to go to hospital or market etc. under the aforesaid dimensions and then we have measured the index of total women empowerment averaging these above three indices. Further this study intends to examine the rural – urban differentials in women empowerment. An attempt has been made modeling women empowerment, to examine contraceptive participation disparity between male and female, and the impact of women empowerment on fertility. For analytical purpose and the interpretation of the aforementioned subject some relevant methods would be needed. And this chapter is devoted to discuss the data source, sampling plan, construction process of the indices, background characteristics and different methodologies.

2.2 Source of Data

The major source of data of this study is the 2004 Bangladesh Demographic and Health Survey (2004 BDHS). Though there are several BDHS surveys viz, 1993-94, 1996-97, 1999-2000, 2004, only BDHS – 2004 data is used in this study only because of BDHS – 2004 data is more recent and reliable to fulfill the objectives of this study. The nationally representative survey namely 2004 Bangladesh Demographic and Health Survey (BDHS) was conducted under the authority of National Institute of Population Research and Training (NIPORT) of the Ministry of Health and Family Welfare. The BDHS survey was implemented by Mitra and Associates, a private firm located in Dhaka. ORC Macro of Calverton, Maryland, provided technical assistance to the project as part of its international Demographic and Health Surveys (DHS) program, while financial assistance was provided by United States Agency for International Development (USAID)/ Bangladesh.

The objectives of 2004 BDHS was to provide up to date information on fertility, childhood mortality, fertility preference, awareness, approval and use of family planning methods, women empowerment, breastfeeding practices, nutritional levels of mother and child, and so forth. The intension was to provide information about the above mentioned matters for evaluating and designing programmers' policies and strategies to improve health and family planning services in Bangladesh.

The 2004 BDHS survey collected data from 11,440 ever-married women of age 10-49 and 4297 men of age 15-54 from 10,500 households covering 361 sample points (clusters) in 122 urban areas and 239 rural areas throughout Bangladesh. The data has been collected from six administrative divisions of the country- Barisal, Chittagong, Dhaka, Khulna, Rajshahi, and Sylhet. Data collection continued for over a five month period from 1 January to 25 May 2004.

In this study the more relevant variables about women empowerment, contraceptive use and fertility are chosen from 2004 BDHS data to reach the goals.

2.3 Sampling Plan

The sample for the BDHS-2004 covered the entire population residing in private dwellings units in the country. Administratively, Bangladesh is divided into six divisions. In turn, each division is divided into districts and each district into upazilas. Each urban area in the upazila is divided into wards, and into mahallas within the wards; each rural area in the upazila is divided into union parishads (UPs) and into mouzas within the Ups. The urban areas were stratified into three parts, i) standard metropolitan areas ii) municipality areas iii) other urban areas.

For the 2001 census, subdivisions called enumeration areas (EAs) were created based on a convenient number of dwellings units. Because sketch maps of EAs were accessible, EAs were considered suitable to use as primary sampling units (PSUs) for the BDHS-2004. In each division, the list of EAs constituted the sample frame for the BDHS-2004.

A target number of completed interviews with eligible women for the 2004 BDHS were set at 10,000, based on information from the BDHS, 1999-2000. The BDHS-2004 sample is a stratified, a multistage cluster sample consisting of 361 PSUs, 122 in the urban area and 239 in the rural area. After the target sample was allocated to each group area according to urban and rural areas, the number of PSUs was calculated in terms of an average of 28 completed interviews of eligible women per PSU (or an average of 30 selected households per PSU).

Mitra and associates conducted a household listing operation in all the sample points from 3 October 2003 to 15 December 2003. A systematic sample of 10,811 households was then selected from these lists. All ever-married women of age 10-49

years in the selected households were eligible respondents for the women's questionnaire. For the men's survey, 50 percent of the selected households were chosen through systematic sampling. Interviewers interviewed one randomly selected man, regardless of marital status, in the age group 15-54, from each of the selected households. It was expected that the sample would yield interviews with approximately 10,000 ever-married women age 10-49 and 4,400 men age 15-54.

2.4 Construction of Index

Women empowerment is multidimensional and is very difficult to measure in numeric scale. It comprises the entire complex of interactions, roles, rights and statuses that surround being male versus being female in a given society or culture (Mason, 1997). However, Mason and Smith (2003) constructed some indices based on the three major dimensions viz. economic decision making, household decision making, and freedom of movement. They included the indicators "Who decides how to spend money", "Final say on large household purchases" and "Final say on making household purchases for daily needs" under **Economic Decision Making**, "Final say on own health care", "Final say on child health care", "Final say on food to be cooked each day" and "Decision on family planning" under **Household Decision Making** and "Final say on visits to family or relatives", "Goes outside the village/town/city alone", "Goes to a health centre or hospital alone" and "Goes shopping alone or with somebody else" under **Freedom of Movement** dimensions. They used actual score only for their study. But we ahead one step is indexing the scores according to Human Development Index.

In a study, Malhotra, Schuler and Boender (2002) synthesized and listed the most commonly used dimensions of women empowerment. They categorized women empowerment into six dimensions such as economic, socio-cultural, familial/interpersonal, legal, political and psychological. But due to unavailability

of all the data in BDHS – 2004 regarding aforementioned dimensions, here women empowerment has been divided into three dimensions viz, economic decision making, household decision making and physical movement.

Women empowerment in economic decision making refers to the women's ability to share or to control over the decision processes regarding domestic financial matters with husband or other male family members. Three indicators relevant with participation in the family's major economic decision have been taken from BDHS questions such as who decides how to spend money?, final say on large household purchases and final say on making household purchases for daily needs to construct economic decision making index.

Empowerment of women regarding household decision-making refers to the extent of women's ability to participate in formulating and executing decisions on domestic affair, child-welfare, own health care and family planning in coordination with other male family members. Therefore, four indicators such as women's participation in decision on their own health care, child health care, which food to be cooked each day and their participation in discussion on family planning have been taken from BDHS questions such as final say on own health care, final say on child health care, final say on food to be cooked each day and decision on family planning to construct household decision making index.

Empowerment in physical movement refers to the freedom of women to move to their necessary places without being escorted. Lastly, four questions such as final say on visits to family or relatives, goes outside the village/town/city alone, goes to a health centre or hospital alone and goes shopping alone or with somebody else have been taken from BDHS data to construct empowerment of women in physical movement.

The whole process can be presented in a diagrammatic form which is shown in Figure 2.1.

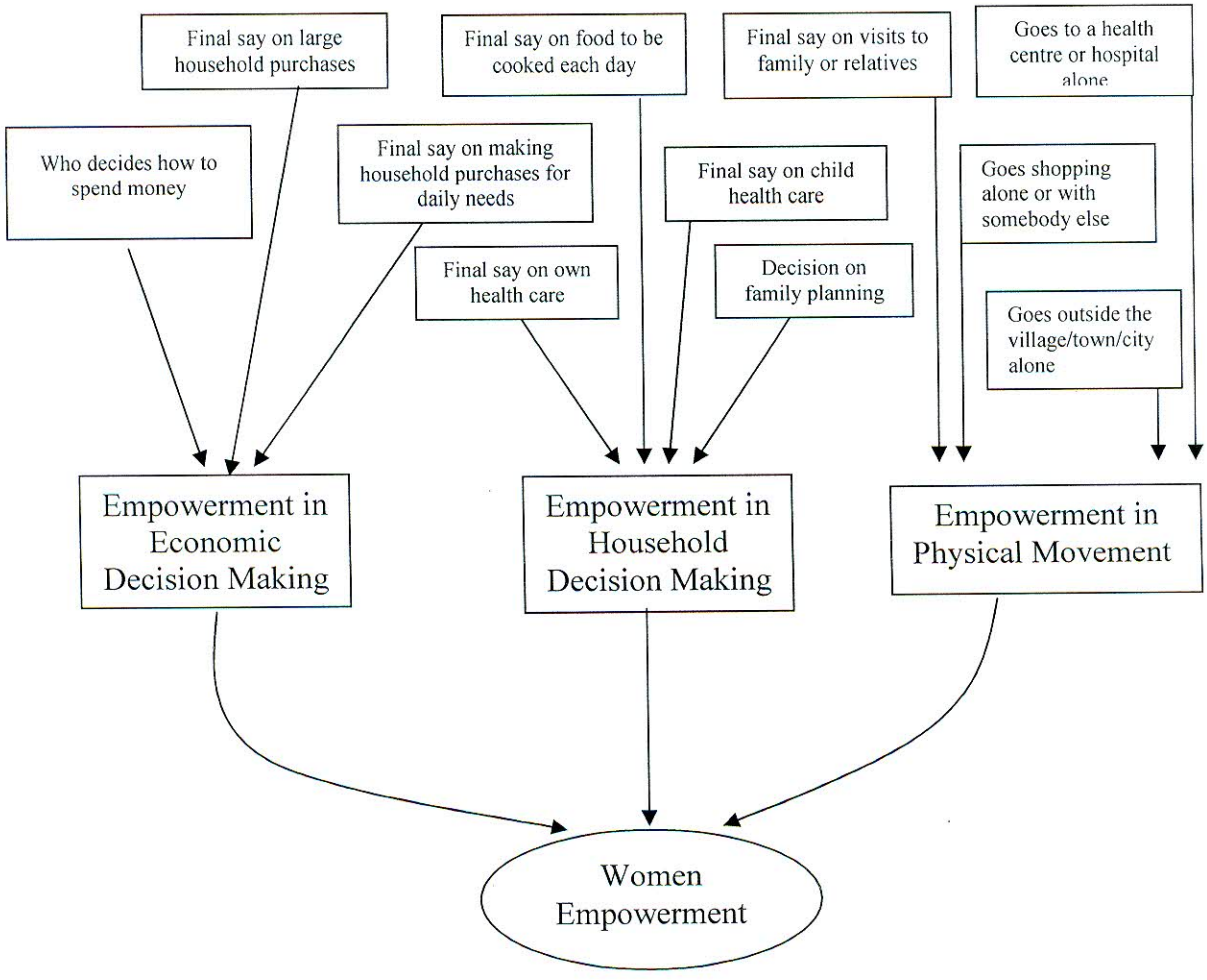


Figure 2.1: *Conceptual framework for the construction of women empowerment index*

In this study an attempt has been made to measure women empowerment in the domestic sphere by making women empowerment indices for three major dimensions, namely, (a) economic decision making, (b) household decision making, and (c) physical movement. The detailed description of these three dimensions with their relevant indicators is given in Table 2.1. The index of each dimension (economic decision making, household decision making, and physical movement) is constructed choosing minimum and maximum values (goalposts) for each underlying indicator. Performance in each dimension is expressed as the

minimum and maximum value between 0 and 1 in accordance with the construction of the Human Development Index (HDI) developed by the United Nations Development Program (UNDP, 2005) as follows:

$$Dimension\ Index = \frac{Actual\ score - Minimum\ score}{Maximum\ score - Minimum\ score}$$

If the respondent has the minimum score as her actual score among all respondents, she got the index value zero. That means she has least (zero) empowerment in relation to other respondents. And if she has the maximum score as her actual score among all respondents, she got the index value one. That means she has highest empowerment in relation to other respondents.

Since economic decision making, household decision making, and physical movement are linked very much with women empowerment. Thus women empowerment index (WEI) is computed in a straightforward manner. It is a simple average of these three indices according to the formula below:

WEI = 1/3 (Economic Decision Making Index + Household Decision Making Index + Physical Movement Index)

Table 2.1: *Description of indicators and dimensions for constructing women empowerment index*

No.	Dimension	Description of Indicator*	Coding	Measurement Scale	Frequency (Percent)
1.	Economic Decision Making	Who decides how to spend money	1=Respondent alone	1,2,3 = 1 4,5 = 0	48.0
			2=Respondent and husband/partner		36.3
			3=Respondent and other person		3.1
			4=Husband/partner alone		11.0
			5=Someone else		1.7
		Final say on large household purchases	1=Respondent alone	1,2,3 = 1 4,5,6 = 0	12.2
			2=Respondent and husband/partner		35.8
			3=Respondent and other person		9.4
			4=Husband/partner alone		30.5
			5=Someone else		12.0
			6=Decision not made/not applicable		0.0
		Final say on making household purchases for daily needs	1=Respondent alone	1,2,3 = 1 4,5,6 = 0	21.4
			2=Respondent and husband/partner		28.1
			3=Respondent and other person		8.2
			4=Husband/partner alone		30.0
			5=Someone else		12.4
			6=Decision not made/not applicable		0.0
2.	Household Decision Making	Final say on own health care	1=Respondent alone	1,2,3 = 1 4,5,6 = 0	21.5
			2=Respondent and husband/partner		22.1
			3=Respondent and other person		5.4
			4=Husband/partner alone		42.9
			5=Someone else		8.2
			6=Decision not made/not applicable		0.0
		Final say on child health care	1=Respondent alone	1,2,3 = 1 4,5,6,7 = 0	20.9
			2=Respondent and husband/partner		31.0
			3=Respondent and other person		5.4
			4=Husband/partner alone		28.3
			5=Someone else		7.0
			6=Decision not made/not applicable		0.0
			7=Not applicable/no child		7.5
		Final say on food to be cooked each day	1=Respondent alone	1,2,3 = 1 4,5,6 = 0	72.3
			2=Respondent and husband/partner		4.4
			3=Respondent and other person		9.6
			4=Husband/partner alone		3.2
			5=Someone else		10.5
			6=Decision not made/not applicable		0.0
		Decision on family planning	1=Mainly respondent	1,3 = 1 2,6 = 0	15.4
			2=Mainly husband		8.0
			3=Joint decision		76.4
			6=Other		0.2
3.	Physical Movement	Final say on visits to family or relatives	1=Respondent alone	1,2,3 = 1 4,5,6 = 0	16.4
			2=Respondent and husband/partner		34.0
			3=Respondent and other person		8.0
			4=Husband/partner alone		31.6
			5=Someone else		10.0
			6=Decision not made/not applicable		0.0
		Goes outside the village/town/city alone	0=No	1 = 1 0,2,6 = 0	30.9
			1=Yes, alone		22.2
			2=Yes, with children		43.5
			6=Other		3.4
		Goes to a health centre or hospital alone	0=No	1 = 1 0,2,3,6 = 0	9.1
			1=Yes, alone		30.9
			2=Yes, with children		20.1
			3=Yes, with husband		34.0
			6=Other		5.8
		Goes shopping alone or with somebody else	1=By herself	1 = 1 2,3,4 = 0	46.9
			2=With children		18.6
			3=With husband		22.5
			4=With relatives		12.0

Notes: Here the number of items (indicators) is 11;
Cronbach's alpha value is 0.706 and Cronbach's alpha value based on standardized items is 0.689.
* The questions concerning different indicators and their coding are taken from the BDHS data sheet - 2004

Then women empowerment index (WEI) is classified into three levels based on the UNDP criteria of human development level, which constitutes an indicator of the quality of life (UNDP, 2005), as follows:

1. Index value less than 0.5 is low level;
2. Index value between 0.5 and 0.79 is moderate level; and
3. Index value equal or higher than 0.8 is high level.

2.5 General Profile of the Respondents

In this study, only data of ever married women are considered. To investigate the empowerment situation, contraception practice, and fertility level of these women, we deal with a number of variables. For the suitability of this study some variables are recoded and at the same time some new variables are created by combining information of some other variables instead of the variables with the original codes. The selected socio-economic and demographic characteristics of the study population are briefly described below.

The demographic characteristics included in this study are respondent's age, age at marriage, age difference between spouses, respondent's age at first birth, children ever born, number of living children, number of children dead etc. This study also includes socio-economic characteristics which are respondent's education, respondent's work status, husband's education, religion, media exposure, discussion on family planning with husband etc.

Age of the respondent is an important proxy variable for the study of women empowerment and the empowerment of women increases with the increase of women's age (Tareque et al., 2007). This variable has been recoded and from Table 2.2 we observe that more than half of the study respondents belong in the age group 20 – 34 years in all areas i. e. in rural, urban and total Bangladesh. Here

we also observe that only about 15 percent women of the total areas are adolescents out of which 16 percent come from rural areas and only about 13 percent from urban areas. We also take into consideration the husband's age in our study. Only 0.7 percent husbands are under 20 years of age in all areas. Here highest numbers of husbands come from the age group 35 years and above in all areas whereas most of the women were in age group 20-34 years of age.

Age at first marriage is a very useful demographic variable. In societies where pre-marital relations and childbearing outside marriage are strictly prohibited, the age at first marriage is a good indicator of the time when women first enter into sexual union. Singh and Samara (1996) have noted that a woman's age at first marriage may be a useful indicator of her status and of the start of childbearing. The formation of the first marriage brings important changes in a woman's family situation and in her future expectations and opportunities. Henry and Piotrow (1982) observed that age at first marriage is less important than in the past in determining fertility because deliberate contraception on a worldwide basis has now become the most important factor determining family size. However, using World Fertility Survey data from different countries, McDonald, Ruzicka and Caldwell (1981) showed that fertility declines with increasing age at marriage. Age at marriage is also indirectly related to women's education, decision-making and interaction with a wider world, emotional autonomy and self-reliance. This variable is also recoded and from Table 2.2 it is observed that more than half of the respondents got married before 15 years of age in Bangladesh except the urban areas. Almost 95 percent rural women got married before age 20 years.

Big age difference between spouses is common in Bangladesh and it is found that same aged women feel free and friendly to opine in every spheres with their husbands but the women senior to their husband suffer from the inferiority. The age difference between spouses is calculated by subtracting respondent's age from

their partner's age and it is recoded into six groups. It is observed that the highest percentage exists in category 4 i.e. 6 to 10 years age difference. Here we also observed that about 0.3 percent women are senior to their husbands in rural and total areas whereas 0.4 percent exists in urban areas. The same percentages exist in no age difference group (i.e. same aged husband and wife) in all areas. About 4 percent respondents have senior husbands by 21 years and above in rural and total Bangladesh whereas in urban areas it is 3.4 percent.

Religion, in our study is coded in two categories namely Muslim and non-Muslim. Here non-Muslim category consists of Hinduism, Buddhism, Christianity, and others. The reason for including all non-Muslim women under one category was the small size of the non-Muslim sample. However, it should be remembered that most of the non-Muslim were Hindu in this sample. From Table 2.2, it is observed that almost nine-tenth of the study respondents are Muslim and the rest are non-Muslim in all areas.

Educational attainment is, without doubt, the most fundamental prerequisite for empowering women in all spheres of society and the society's development as well as any country's development. Without education of comparable quality and content to that given to boys and men, and relevant to existing knowledge and real needs, women are unable to access well-paid, formal sector jobs, advance within them, participate in, and be represented in government and gain political influence. The links between women's education and reduced fertility, decreased rates of infant mortality, and higher gains from employment are now legendary. Chaudhury (1977) has found that education is inversely related to fertility and also positively related to the practice of contraception for Bangladesh. Female education is found to have relatively more effect on fertility and on the practice of contraception than husband's education. Some of the studies revealed that an inverse relationship exists between wife's education and fertility (Stoeckel and

Chowdhury, 1969; Chaudhury, 1977; PCFP Division, 1978). Schultz (1993) found that the higher the level of female education, the lower is the desired family size and the greater the success of achieving it. Husband's education is also important to understand the needs of wife, and involve wife in decision making and give freedom of choices along with movement. Furthermore, education is a powerful instrument for acquiring new values and, consequently, for modifying ones relationships with other human beings and the environment. Hence, it is an important instrument of social change and different stages of demographic transition. Table 2.2 shows that a huge number of women i.e. 38.6 percent in total, 42.4 percent in rural and 31.4 percent in urban areas are illiterate. We also observe that the urban women are more educated than their rural counterparts. In addition almost same percent husbands as their wives are illiterate in all areas. Similar to the respondent's education the urban husbands are more educated than the rural husbands. Again the most striking finding is that the husbands are more educated than their wives in all areas of Bangladesh.

Increases in women's education and labor force participation can enhance women's status vis-à-vis men, by offering women opportunities to control their own resources as well as their power to make decisions about demographic outcomes such as fertility (Riley, 1997). However, education and labor force participation can detract from the amount of time women devote to childbearing, which in some settings may result in a loss of status (Mason, 1987). From Table 2.2 it is observed that 22 percent women are currently working in total Bangladesh. More urban women (about 25 percent) are involved in working than the rural women.

Age of respondent at first birth is recoded and it is observed that 14.5 percent women in total, 15.3 percent in rural and 12.7 percent women in urban areas give birth in the early age i.e. before 15 years. About 65 percent women give their first

birth between ages 15 to 19 years in all areas. Age at marriage and age at first birth are very much linked. From Table 2.2 it is observed that more numbers of women exist in category 4 of both the variables – age at marriage and age at first birth for urban areas than the rural areas. So, it may be concluded that the urban women are more conscious about the bad effect of low age at marriage and low age at first birth. Thus the urban women are trying to get marry and to give birth in higher ages as compared to the rural counterparts. The study also reveals that the urban respondents are more conscious about increasing age at first birth than their rural counterparts.

Current contraception use is one of the core variables in our study. Jejeebhoy (1995) stated "contraceptive use depends to a large extent, on a woman's age, fertility, and duration of marriage; the education contraception relationship should ideally be viewed with these factors controlled". From Table 2.2 it is observed that 46.2 percent women in total, 48.9 percent in rural and 40.9 percent women in urban do not use any contraceptive method. About 10 percent women in all areas of Bangladesh use folkloric and traditional methods. Highest modern method users exist in urban areas as compared to the rural respondents and in total Bangladesh the modern contraceptive users are 43.7 percent. It may be due to the available modern facilities in urban areas than in rural areas.

It is observed that modernization can change individual's taste for goods and services and with modernization individuals tend to cumulate new modern durables for their households such as TV, radio. Miller and Inkeles (1974) showed that ownership of modern durables has a direct effect on acceptability of family limitation. Thus media exposure is considered here as proxy variable which is another index on exposure to mass media was formed using three questions asked regarding their exposure to the three media (print, audio and visual). Media is a medium through which a woman could obtain knowledge/awareness/information

outside school curriculum. The index divided the study women into two categories - women who were not exposed to any of these media and women who were exposed to at least one of these media. From Table 2.2 we observe that about 30 percent respondents are out of any media such as newspaper, radio, television etc. in Bangladesh. The study also reveals that the highest 85.1 percent respondents in urban areas have the access to any media whereas 37.4 percent women in rural areas are out of any mass media.

Husband-wife communication, discussion on any matter with husband increases the decision making power of women specially, discussion on family planning with husband is very crucial for limiting the family size. It is observed that about 58 percent Bangladeshi women do not discuss anything about family planning with their husbands while only 6.7 percent women discuss about family planning more frequently with their husbands. Almost similar pictures like total Bangladesh exist in rural and in urban areas.

High rates of child mortality reduce the supply of children, which in turn is likely to increase the demand for children. With a high rate of child survival, parents can be certain that they need not have many babies in order to maintain their desired family size. Moreover, with the death of an infant, duration of breast feeding and post-partum abstinence is curtailed, which promotes fertility. Thus, with the survival of children, intervals between births are likely to be widened. Here the variable, number of children dead is created by subtracting two variables – total number of Children Ever Born and number of living children. Table 2.2 depicts that about 73 percent women in total, about 71 percent women in rural and about 77 percent women in urban areas did not lose any child. We also observed that more women in rural areas lost one or more child than their urban counterparts.

Children Ever Born (CEB) is considered as one of the most important variable in our study which provides the measure of fertility. It is closely related to age at marriage and age at first birth. Table 2.2 shows that almost half of the total respondents have less than three children in all areas. The study also reveals that urban respondents have less CEB than the rural counterparts.

The construction process of the most important variable, women empowerment index is given in section 2.4 of this chapter. In addition we categorize this index into three groups and we observe from Table 2.2 that about four out of ten women have high women empowerment and about 39 percent women have medium empowerment in total Bangladesh. Here we also observe that urban women are more empowered than their rural counterparts and the highest percent i.e. 46.4 percent urban women lies in high women empowerment category.

Table 2.2: *Percentage and number of cases according to some selected socio-economic and demographic variables*

Variables	Codes and Categories	Rural		Urban		Total	
		Number of Women	Percentage	Number of Women	Percentage	Number of Women	Percentage
Respondent's age	1= <20	1205	16.0	498	12.8	1703	14.9
	2= 20-34	3895	51.7	2102	53.8	5997	52.4
	3= 35 - 49	2436	32.3	1304	33.4	3740	32.7
Husband's age	1= <20	51	0.7	26	0.7	77	0.7
	2= 20-34	2487	35.7	1191	33.3	3678	34.9
	3= 35+	4437	63.6	2361	666.0	6798	64.4
Age at first marriage	1= <15	4255	56.5	1880	48.2	6135	53.6
	2= 15-16	1901	25.2	881	22.6	2782	24.3
	3= 17-19	1009	13.4	751	19.2	1760	15.4
	4= 20+	371	4.9	392	10.0	763	6.7
Age difference between spouses	1= <0	18	0.3	14	0.4	32	0.3
	2= 0	23	0.3	13	0.4	36	0.3
	3= 1-5	1350	19.4	734	20.5	2084	19.8
	4= 6-10	3018	43.3	1589	44.5	4607	43.7
	5= 11-20	2275	32.7	1107	31.0	3382	32.1
	6= 21+	280	4.0	115	3.2	395	3.7
Religion	0=Non-Muslim	835	11.1	423	10.8	1258	11.0
	1= Muslim	6701	88.9	3481	89.2	10182	89.0
Respondent's education	0= No education	3193	42.4	1226	31.4	4419	38.6
	1= Primary	2327	30.9	1054	27.0	3381	29.6
	2= Secondary	1769	23.5	1180	30.2	2949	25.8
	3= Higher	247	3.3	444	11.4	691	6.0
Respondent's work status	0 = No	5994	79.5	2930	75.1	8924	78.0
	1 = Yes	1542	20.5	973	24.9	2515	22.0
Husband's education	0= No education	3046	40.5	1078	27.6	4124	36.1
	1= Primary	2047	27.2	856	21.9	2903	25.4
	2= Secondary	1785	23.7	1162	29.8	2947	25.8
	3= Higher	652	8.7	804	20.6	1456	12.7
Age of respondent at first birth	1= <15	1027	15.3	437	12.7	1464	14.5
	2= 15-16	2178	32.5	1016	29.5	3194	31.5
	3= 17-19	2338	34.9	1157	33.6	3495	34.4
	4= 20+	1157	17.3	836	24.3	1993	19.6
Current contraceptive method	0= No method	3685	48.9	1598	40.9	5283	46.2
	1= Folkloric method	47	0.6	19	0.5	66	0.6
	2= Traditional method	705	9.4	392	10.0	1097	9.6
	3= Modern method	3099	41.1	1895	48.5	4994	43.7
Media exposure	0= No	2820	37.4	580	14.9	3400	29.7
	1= Yes	4716	62.6	3324	85.1	8040	70.3
Discussed FP with partner	0= Never	4200	60.3	1946	54.5	6146	58.3
	1= Once or twice	2343	33.7	1339	37.5	3682	35.0
	2= More often	418	6.0	288	8.1	706	6.7
Number of children dead	0= None	5357	71.1	3002	76.9	8359	73.1
	1= One	1432	19.0	636	16.3	2068	18.1
	2= More than one	747	9.9	266	6.8	1013	8.9
Children ever born	1= <3	3582	47.5	2106	53.9	5688	49.7
	2= 3	1208	16.0	699	17.9	1907	16.7
	3= >3	2746	36.4	1099	28.2	3845	33.6
Women Empowerment Index	1= Low	71	22.4	52	16.3	123	19.3
	2= Medium	130	41.0	119	37.3	249	39.2
	3= High	116	36.6	148	46.4	264	41.5

Notes: FP indicates family planning

2.6 Analytical Methods

To assess the relationships between women empowerment and contraception use and to identify the influencing factors on contraceptive use and in turn fertility the study variables are described in extensive form. Bivariate analysis of women's contraception use for selected independent variables (demographic and socio-economic) is undertaken to examine their interrelationship. Multivariate analysis such as, Multiple Linear Regression and Multinomial Logistic Regression analysis were performed to assess the cause and effects of the independent variables.

Bivariate Analysis

To determine the age specific ever use and current use of contraception of ever-married and currently married women by different contraceptive method we use bivariate analysis. Also to determine which factors influence the current contraception use of ever married women, the percentage of current contraception use has been analyzed by categories of several independent variables. Although examining of percentages in a bivariate analysis is useful for first step in studying the relationship between two variables, these percentages do not allow for quantification or testing of that relationship. In this study, some of the independent variables are quantitative. In order to perform differential analysis, it is required to make these variables into categorical variables by differentiating each quantitative variable into various categories. In this study, different quantitative variables are women empowerment indices, age, age at marriage and children ever born.

Multiple Regression Analysis

When we examine each independent variable individually, it can only provide a preliminary idea of how important each variable is by itself. So, the relative importance of all the variables has to be examined simultaneously by some multivariate methods. There are varieties of multivariate statistical techniques and multiple regression analysis is one of the techniques which give the cause and

effect relationship between dependent and independent variables. Multiple regression analysis is a multivariate technique, which takes care of the fact that the assessment of the total effect of the independent variables on dependent variable. It allows the study to single out of the net effect of each independent variable when the impact of the variables is controlled. So, to observe the effect of a set of independent variables which affect the dependent variable, we use multiple regression analysis.

Multinomial Logistic Regression Analysis

Nominal or polytomous response data are common in many field of research. In such cases we can not use binary logistic regression model and instead of binary logistic regression model one can use the multinomial logistic regression model which is analogous of binary logistic regression model. An important advantage of this approach is that it outputs an estimate of the probability that an object (documents in our application) belongs to each of the possible classes.

The Multinomial Distribution

Consider a random variable Y_i that may take one of several discrete values, which we index 1, 2, 3……, M. Let

$$P_{ij} = \Pr\{Y_i = M\} \qquad (1)$$

denote the probability that the i-th response falls in the j-th category. Assuming that the response categories are mutually exclusive and exhaustive, we have $\sum_{j=1}^{M} P_{ij} = 1$ for each i, i.e. the probabilities add up to one for each individual, and we have only M-1 parameters.

For grouped data it will be convenient to introduce auxiliary random variables representing counts of responses in the various categories. Let n_i denote the

number of cases in the i-th group and let Y_{ij} denote the number of responses from the i-th group that fall in the j-th category, with observed value y_{ij}. Note that $\sum_j y_{ij} = n_i$, i.e. the counts in the various response categories add up to the number of cases in each age group.

For individual data $n_i = 1$ and Y_{ij} becomes an indicator (or dummy) variable that takes the value 1 if the i-th response fall in the j-th category and 0 otherwise, and $\sum_j y_{ij} = 1$ since one and only one of the indicators y_{ij} can be on for each case.

The probability distribution of the counts Y_{ij} given the total n_i is given by the multinomial distribution

$$\Pr\{Y_{i1} = y_{i1}, \ldots, Y_{iM} = y_{iM}\} = \binom{n_i}{y_{i1}, \ldots, y_{iM}} P_{i1}^{y_{i1}} \ldots P_{iM}^{y_{iM}} \qquad (2)$$

The special case where M=2 and we have only two response categories is the binomial distribution. To verify this fact, it is to equate $y_{i1} = y_i$, $y_{i2} = n_i - y_i$, $P_{i1} = P_i$, and $P_{i2} = 1 - P_i$.

The Multinomial Logistic Model

We now consider model for the probabilities P_{ij}. In particular, we would like to consider models where these probabilities depend on a vector X_i of covariates associated with the i-th individual or group. Perhaps the simplest approach to multinomial data is to nominate one of the response categories as a baseline or reference cell, calculate log odds for all other categories relative to the baseline, and then let the log odds be a linear function of the predictors.

Typically, we pick the last category as a baseline and calculate the odds that a member of group i fall in category j as opposed to the baseline as P_{i1}/P_{iM}.

Modeling the Logistic

On this model we assume that the log odds of each response follow a linear model-

$$n_{ij} = \log \frac{P_{ij}}{P_{iM}} = \alpha_j + X_i^{/} \beta_j \qquad (3)$$

where, α_j is a constant and β_j is a vector of regression co-efficients, for M = 1, 2, ……, M-1. Note that written the constant explicitly, so we will assume henceforth that the model matrix X does not include a coloumn of ones. We have M-1 equations here. The M-1 multinomial logistic equations contrast each of categories 1, 2, 3, ……., M-1 with category M, whereas the single logistic regression equation is a contrast between successes and failures. If M=2 the multinomial logistic model reduces to the usual binary logistic regression model.

Modeling the Probabilities

The multinomial logistic model may also be written in terms of the original probabilities P_{ij} rather than the log-odds. Starting from equation (3) and adopting the convention that $n_{iM} = 0$, we can write

$$P_{ij} = \frac{\exp\{n_{ij}\}}{\sum_{k=1}^{M} \exp\{n_{ik}\}} \qquad (4)$$

for j=1,...M. Equation (4) will automatically yield probabilities that add up to one for each i.

2.7 Software Used in this Study

Different software has been used to complete successfully this study. The entire analysis of the study is done by most extensively using software SPSS (Statistical Package for Social Sciences) for windows (version 15.0). STATISTICA, MS Excel and MS Word are used simultaneously as they are also found to be necessary in different aspects. Some first hand analysis such as frequencies, bivariate analysis, multiple linear regression analysis and logistic regression analysis are performed through SPSS and mathematical models by STATISTICA.

Chapter Three

Factors Affecting Different Dimensions of Women Empowerment

3.1 Introduction

In Bangladesh, women constitute about half of the total population of which 80 percent live in rural areas (BBS, 2001). But their status has been ranked the lowest in the world on the basis of twenty indicators related to health, marriage, children, education, employment and social equality (NCBP, 2000). It is already said that in a patriarchal society like Bangladesh, women are ascribed a lower status as men who have the sovereign power to control households and society as a whole, while women are often secluded in their homes (Balk, 1997). The World Bank study in Bangladesh highlights that women have limited role in household decision-making, limited access and control over household resources (physical and financial assets), low level of individual assets, heavy domestic workloads, restricted mobility and inadequate knowledge and skills that leading to women's vulnerability (Sebstad and Cohen, 2000).

Empowerment of women is important for reduction of poverty and for the development of human life and thus the interest in women's empowerment among researchers has grown. Apparently, it is indicated that countries in which women and men have more equal economic opportunities are also the more affluent

countries. The relationships between economic development and gender empowerment, defined as improving the ability of women to access the constituents of development - in particular health, education, earning opportunities, rights and political participation. There is a reciprocal and intimate relationship between women empowerment and economic development. In one direction, development alone can play a major role in driving down inequality between men and women; in other direction, continuing discrimination against women can, as Sen (1990) has forcefully argued, hinder development. Empowerment can, in other words, accelerate development. There are vast evidence that poverty and lack of opportunity breed inequality between men and women, so that when economic development reduces poverty, the condition of women improves on two counts: first, when poverty is reduced, the condition of everyone, including women, improves, and second, gender inequality declines as poverty declines. So, the condition of women improves more than that of men with development. Thus, only economic development is not enough to bring about complete equality between men and women, a strong policy action is still necessary to achieve equality between genders. However, unfortunately, there remains confusion and confliction over the definition and measurement regarding this purpose. Also sometimes there are some overlapping terms in defining women empowerment but the most commonly used terms are: options, choices, control and power. Several different efforts have been made in recent years to develop comprehensive frameworks delineating the various dimensions along which women can be empowered. Although women empowerment is multidimensional however, in our study, considering the social structure and the reality we have considered three most important dimensions of women empowerment to measure the empowerment of women in Bangladesh. The dimensions we consider are economic decision making, household decision making and physical movement.

As we move from a discussion of conceptualizing empowerment to measuring it, it is important to note that measures of empowerment must involve standards that lie outside localized gender systems and a recognition of universal elements of gender subordination (Sen and Grown, 1987; Bisnath and Elson, 1999; Nussbaum, 2000). One of the major difficulties in measuring empowerment is that the behaviours and attributes that signify empowerment in one context often have different meanings elsewhere. For example, a shift in women's ability to visit a health center without getting permission from a male member of the household may be a sign of empowerment in rural Bangladesh but not in, for example, urban Peru (Malhotra, Schuler and Boender, 2002). The level of empowerment varies in different contexts and gender contracts; thus the same program may not achieve the same results in different areas or countries. Since empowerment is multidimensional and different dimensions can vary independently from each other, there is no guarantee that women who have gained high levels of empowerment in one dimension will automatically have high levels in others (Beegle, Frankenberg and Thomas, 2001; Hashemi, Schuler and Riley, 1996; Kishor, 1995 and 2000; Malhotra and Mather, 1997). This implies that to be empowered, women must not only have equal capabilities (such as education and health) and access to resources and opportunities (such as land and employment), they must also have the agency to use those rights, capabilities, resources, and opportunities to make strategic choices and decisions (such as is provided through leadership opportunities and participation in political institutions). Table 3.1 illustrates various dimensions of women's empowerment that are synthesized and listed by Malhotra, Schuler and Boender in 2002.

Table 3.1: *Commonly used dimensions of empowerment and potential operationalization in the household, community and broader arenas*

Dimension	Household	Community	Broader Arenas
Economic	Women's control over income; relative contribution to family support; access to and control of family resources.	Women's access to employment; ownership of assets and land; access to credit; involvement and/or representation in local trade associations; access to markets.	Women's representation in high paying jobs; women CEO's; representation of women's economic interests in macro-economic policies, state and federal budgets.
Socio-Cultural	Women's freedom of movement; lack of discrimination against daughters; commitment to educating daughters.	Women's visibility in and access to social spaces; access to modern transportation; participation in extra-familial groups and social networks; shift in patriarchal norms (such as son preference); symbolic representation of the female in myth and ritual.	Women's literacy and access to a broad range of educational options; Positive media images of women, their roles and contributions.
Familial/ Interpersonal	Participation in domestic decision-making; control over sexual relations; ability to make childbearing decisions, use contraception, access abortion; control over spouse selection and marriage timing; freedom from domestic violence.	Women's visibility in and access to social spaces; access to modern transportation; participation in extra-familial groups and social networks; shift in patriarchal norms (such as son preference); symbolic representation of the female in myth and ritual.	Regional/national trends in timing of marriage, options for divorce; political, legal, religious support for (or lack of active opposition to) such shifts; systems providing easy access to contraception, safe abortion, reproductive health services.
Legal	Knowledge of legal rights; domestic support for exercising rights.	Community mobilization for rights; campaigns for rights awareness; effective local enforcement of legal rights.	Laws supporting women's rights, access to resources and options; Advocacy for rights and legislation; use of judicial system to redress rights violations.
Political	Knowledge of political system and means of access to it; domestic support for political engagement; exercising the right to vote.	Women's involvement or mobilization in the local political system/campaigns; support for specific candidates or legislation; representation in local bodies of government.	Women's representation in regional and national bodies of government; strength as a voting bloc; representation of women's interests in effective lobbies and interest groups.
Psychological	Self-esteem; self-efficacy; psychological well-being.	Collective awareness of injustice, potential of mobilization.	Women's sense of inclusion and entitlement; systemic acceptance of women's entitlement and inclusion.

Source: Malhotra Schuler, and Boender, 2002: 13

Important conceptual progress has been made (Presser and Sen, 2000; Malhotra, Schuler and Boender, 2002) but the empirical evidence regarding the measurement of women empowerment is still lagging behind. Many studies of the relationships between gender and economic or demographic change have used the proxy variables such as education or employment to capture the concept of women empowerment, variables that actually measure women's resources or capacities. The results of such studies have been inconsistent and sometimes misleading (Govindasamy and Malhotra, 1996; Mason, Morgan and Smith, 1997). Mason and Smith (2003) studied women empowerment in an advance level indeed. They made measurement scales in five spheres namely economic decision making empowerment, family size decision making, freedom of movement, interpersonal coercive controls and community level gender attitude measures. However, they do not consider or calculate the total empowerment or even measure empowerment as a proportion of maximum empowerment. They have only measured the total score of participation of women in the aforementioned dimensions.

Empowerment is a dynamic process. Due to unavailability of all the relevant data for the six dimensions used by Malhotra, Schuler and Boender (2002), the process has been separated into three dimensions namely economic decision making, household decision making and physical movement. Reviewing different studies and considering the reality, in this study an attempt has been made to measure women empowerment in Bangladesh with its rural – urban differentials by making indices of those three dimensions. Later we have constructed the women empowerment index which is able to represent the real picture of women empowerment in Bangladesh. So far our knowledge goes, only few researchers have studied regarding this purpose. Thus, this chapter is devoted to explore the understanding of women empowerment and the influencing factors on different

dimensions of women empowerment in Bangladesh with rural – urban differentials.

3.2 Empowerment in Economic Decision Making

Wife's decision making refer to women's ability to express their opinion and influence on family decision processes. Control over decision-making is a fundamental component to the concept of empowerment. At a minimum, women should have a role in decision-making in the various arenas in which they live their lives (the home, the work place, or the community). Generally, as daughter, mother, wife, or worker, a woman who has a greater say in matters that affect her, is more empowered than one who does not. Women empowerment in economic decision making refers to the women's ability to share or to control the decision processes regarding domestic financial matters with husband or other male family members. It would uplift the status, control over resources, meeting the basic needs and altogether improving self-reliance, thereby reducing women's economic subordination. Indeed due to unavailability of all the indicators in BDHS-2004 data that are mentioned in Table 3.1, economic decision making empowerment is estimated using relevant three indicators viz, participation in the family's major economic decision, final say on household or daily purchases and opinion on how to spend money. This index is indicated as economic decision making index. The estimation procedure of this index has already been described in chapter two.

Table 3.2 presents the mean values of women's economic decision making index (EDMI) for some selected socio-economic and demographic variables of the study respondents by the place of residence. It shows how much the women are empowered in economic decision making for the characteristics such as respondent's age, husband's age, age difference between spouses, age at marriage, respondents' education, respondent's work status, husbands' education, religion, media exposure etc. by place of residence.

The study respondents are of 10 – 49 years of age. Age is a factor of life cycle that affects a woman's status in the family which is categorized as under 20, 20 – 34 and 35 to 49. Here we observe that older aged i.e. 35 to 49 years of aged women are comparatively more empowered in economic decision making in all areas than their younger counterparts. The mean values of EDMI increases as age of the respondents increases in all areas. It is also observed that the women aged 20 – 49 years are more empowered in economic decision making in urban areas than their rural counterpart. But the Table 3.2 shows that less than 20 years aged rural women are more empowered than the urban women of same age. Mean values of EDMI are increasing with the increase of husband's age in all the areas except urban areas. That means the women's economic decision making participation improves with the increase of husband's age.

Very few study respondents have the same aged husband and the low aged husband in overall Bangladesh. For age difference between spouses, we observe that the same aged women have the highest empowerment level in all areas strikingly the full empowerment in rural areas. The study also reveals that the women senior to their husbands have the lowest empowerment in economic decision making in comparison to the other groups in all areas of Bangladesh. This may be due to the fact that, same aged women feel free and friendly to opine in economic sphere with their husband but the women senior to their husband suffer from the inferiority.

In Bangladesh, age at first marriage is traditionally bounded below by menarche (Begum, 2003). In much of the developing world, adolescent and child marriage continues to be a strong social norm, particularly for girls. Early female marriage is associated with a number of poor social and physical outcomes for young women and their offspring. On average, girls who marry as adolescents attain lower schooling levels, have lower social status in their husbands' families, report

less reproductive control and suffer higher rates of maternal mortality and domestic violence (Jensen and Thornton, 2003). Singh and Samara (1996) have noted that marriage at later ages allow women to prolong their education and delay first births, such women tend to have fewer children. So, age at first marriage and child birth are considered as closely connected which needs decision making in all spheres of life since birth outside of marriage are rare or not reported. Our study shows that on an average about 82 percent economic decision were done with respondent's consent whose age at marriage are 20 years and above in total Bangladesh. The study also reveals that women with age at marriage 17 to 19 years are comparatively low empowered in economic decision making in all the areas than all other counterparts. Except 17 to 19 years, it may be concluded that the empowerment of women in economic decision making increases with the increase in age at marriage in all areas. It might be the reflection of self confidence, freedom of choices, negotiation behaviour etc. that are uplifted in accordance with increasing age at marriage.

Education is the backbone of any nation as it enriches national socio-economic and political development. It is essential for all citizen of a country so that they can understand their problems, can make decisions and have the capacity to implement them. The principal architect of any development plans and activities the implementers of these are the women and men of the country. And education provides enormous support to enable them to perform these responsibilities through flourishing their inherent capabilities and qualities. Educational attainment is, without doubt, the most fundamental prerequisite for empowering women in all spheres of society. Women's powerlessness arises from their illiteracy, lack of awareness, poor knowledge and skills and also from their lack of self-esteem and confidence (Lazo, 1995). Thus, even though women constitute almost half of the population in Bangladesh, their status has been ranked the lowest in the world on the basis of twenty indicators related to education, health,

marriage, children, employment and social equality (NCBP, 2000). With reference to the respondent's and their husband's educational level, it is obvious that the empowerment in economic decision making increases with the level of education. In both cases we observed that on an average about 84 percent and about 81 percent economic decision were done with the respondent's consent who had higher level of education respectively. It may be the fact that women with higher educational level are much more valued by the male members in the family than those who had lower educational qualification. Also the husband whose educational levels are high, they may want to take economic decision in their wives' consent than other whose educational levels remain low. But the women with secondary education are less empowered in economic decision making than illiterate and primary educated women. Also the women with primary educated husbands have lower economic decision making participation than women with illiterate husbands. This may be due to the fact that there is lack of functional education or families with little education are mostly conservative.

In Bangladesh, educational levels have also increased among women. From a mere 25.8 percent in 1991, the current literacy rate is 43.4 (BBS, 2002). It is expected that as educational levels are enhanced, women will have increased agency as well as negotiating powers both at home and at the work place. Other covariates of empowerment for example socio-economic status, regional variations, religious affiliation may also have an effect on the empowerment status of women. With regard to the religion, it is observed that Muslim women are more empowered in economic decision making in total and rural Bangladesh than their non-Muslim counterparts. But interestingly all women with different religious affiliation in urban areas have the same empowerment in economic decision making and the highest mean value of EDMI than all other areas.

Women play a crucial role in the economic welfare of the family. Women perform different tasks depending on their socio-economic structure, number of people in the family, the nature of professions they are involved in and many other factors (Reddy and Narayan, 1987). Here we mainly considered the respondent's work status as currently working or not working. Table 3.2 shows that 2280 women out of 11440 ever-married respondents are currently working and all the 2280 respondents were involved in economic decision making in domestic spheres.

With reference to media exposure, it can definitely be said that women who have access to media exposure i.e. women who have the access to newspaper or radio or television, get current information and organize themselves to fit for the current world. Information access is essential to increase people's knowledge and awareness of what is taking place around them, which may affect their perceptions and behavior. Though marked amount of empowerment have not seen, the result shows a little bit more empowerment of women with access to mass media than women who do not have access to newspaper or radio or television in all areas of Bangladesh. Moreover, the urban women are more empowered than the rural counterparts regarding media exposure.

Table 3.2: *Mean values of economic decision making index (EDMI) by some selected demographic and socio-economic variables*

Variables	Rural			Urban			Total		
	Mean	Frequency	Percentage	Mean	Frequency	Percentage	Mean	Frequency	Percentage
Respondent's age (years)									
<20	0.577	85	6.3	0.526	57	6.2	0.556	142	6.2
20-34	0.699	763	56.1	0.756	505	54.9	0.722	1268	55.6
35-49	0.756	512	37.6	0.835	358	38.9	0.789	870	38.2
Husband's age (years)									
<20	0.167	2	0.2	0.778	3	0.4	0.533	5	0.3
20-34	0.644	283	24.8	0.688	200	27.2	0.663	483	25.8
35+	0.699	854	75.0	0.798	531	72.3	0.737	1385	73.9
Age difference between spouses (years)									
<0	0.667	2	0.2	0.625	8	1.1	0.633	10	0.5
0	1.0	3	0.3	0.917	4	0.5	0.952	7	0.4
1-5	0.690	219	19.2	0.744	180	24.6	0.714	399	21.3
6-10	0.686	493	43.3	0.749	305	41.6	0.710	798	42.7
11-20	0.670	364	32.0	0.818	201	27.4	0.723	565	30.2
21+	0.737	57	5.0	0.771	35	4.8	0.750	92	4.9
Age at first marriage (years)									
<15	0.709	830	61.0	0.770	503	54.7	0.732	1333	58.5
15-16	0.733	309	22.7	0.757	196	21.3	0.742	505	22.1
17-19	0.662	148	10.9	0.755	125	13.6	0.705	273	12.0
20+	0.781	73	5.4	0.844	96	10.4	0.817	169	7.4
Respondent's educational level									
Illiterate	0.706	741	54.5	0.786	415	45.1	0.735	1156	50.7
Primary	0.747	346	25.4	0.755	249	27.1	0.750	595	26.1
Secondary	0.662	223	16.4	0.708	153	16.6	0.681	376	16.5
Higher	0.807	50	3.7	0.861	103	11.2	0.843	153	6.7
Respondent's work status									
Yes	0.713	1360	100	0.773	920	100	0.737	2280	100
Husband's educational level									
Illiterate	0.711	692	50.9	0.806	360	39.2	0.743	1052	46.2
Primary	0.694	330	24.3	0.711	224	24.4	0.701	554	24.3
Secondary	0.731	259	19.1	0.736	201	21.9	0.733	460	20.2
Higher	0.756	78	5.7	0.843	134	14.6	0.811	212	9.3
Religion									
Non-Muslim	0.681	209	15.4	0.773	75	8.2	0.705	284	12.5
Muslim	0.719	1151	84.6	0.773	845	91.8	0.742	1996	87.5
Media exposure									
No	0.686	525	38.6	0.756	161	17.5	0.703	686	30.1
Yes	0.729	835	61.4	0.777	759	82.5	0.752	1594	69.9

3.3 Determinants of Economic Decision Making: Application of Multiple Linear Regression

Table 3.3 provides some insights into major factors affecting empowerment in economic decision making in all areas. In order to refine our knowledge about the above relationships, multiple linear regression technique is applied to investigate which variables affect economic decision making as well as the significance of the effects produced in all areas. Multiple linear regression model is used for analyzing the cause and effect of several phenomena on the empowerment of

economic decision making for the women. Here, the dependent variable is the economic decision making index (EDMI) and the quantitative independent variables are current age (X_1), age at first marriage (X_2) and year of schooling of the respondents (X_3), husband's educational attainment (X_4), Children Ever Born (X_5) and the qualitative independent variables are religion (X_6) and media exposure (X_7). Another explanatory variable, respondent's work status has been excluded from regression analysis due to its constant value for all respondents.

From Table 3.3 it is observed that out of seven independent variables, three in total areas, four in rural areas and only one in urban Bangladesh are significant. Respondent's current age is only the factor which affects positively and significantly empowerment in economic decision making of women in all areas of Bangladesh. And the regression coefficients are 0.008 in total and rural areas and 0.007 in urban areas. That means if age of the respondents increases one unit, economic decision making power of women increases by 0.008 units in total and rural areas and by 0.007 units in urban areas. In total Bangladesh, religion and media exposure also provide significant effects. Table 3.3 indicates that Muslim women are more empowered regarding economic decision making than the non-Muslim counterparts. Also the women who have the access to the mass media have 0.062 units greater empowerment regarding economic decision making than the women who do not have access to the media exposure.

The multiple regression equation for total Bangladesh is

$$EDMI = 0.355 + 0.008X_1 + 0.004X_2 + 0.002X_3 - 0.001X_4 - 0.007X_5 + 0.060X_6 + 0.061X_7$$

In rural areas, almost similar significant results like total areas have been observed regarding religion and media exposure. So, it may be concluded that Muslim respondents and the women who have mass media access have greater

empowerment in economic decision making than their respective counterparts. But Table 3.3 also shows the negatively significant coefficient for CEB. So, the economic decision making empowerment decreases by 0.013 units with one unit increase in CEB in rural Bangladesh. For urban areas, economic decision making power increases by 0.007 units with one unit increase in respondent's current age.

The multiple regression equation for both the rural and urban areas are given respectively in the following:

$$EDMI = 0.378 + 0.008X_1 + 0.003X_2 + 0.002X_3 - 0.002X_4 - 0.013X_5 + 0.062X_6 + 0.054X_7 \text{ and}$$

$$EDMI = 0.383 + 0.007X_1 + 0.005X_2 + 0.002X_3 - 0.001X_4 + 0.008X_5 + 0.029X_6 + 0.041X_7$$

Table 3.3: *Multiple linear regression of economic decision making index (EDMI) by some selected variables*

Variables	Rural			Urban			Total		
	Coefficients	t values	Significance	Coefficients	t values	Significance	Coefficients	t values	Significance
(Constant)	0.378***	5.189	0.000	0.383***	4.850	0.000	0.355***	6.832	0.000
Respondent's current age	0.008***	5.595	0.000	0.007***	4.766	0.000	0.008***	7.710	0.000
Age at first marriage	0.003	0.785	0.433	0.005	1.405	0.160	0.004	1.443	0.149
Respondent's educational level	0.002	0.589	0.556	0.002	0.524	0.600	0.002	0.899	0.369
Husband's educational level	-0.002	-0.984	0.325	-0.001	-0.405	0.686	-0.001	-0.954	0.340
CEB	-0.013**	-2.349	0.019	0.008	1.178	0.239	-0.007	-1.558	0.119
Religion Non-Muslim® Muslim	0.062**	2.425	0.015	0.029	0.769	0.442	0.060***	2.849	0.004
Media Exposure No® Yes	0.054***	2.705	0.007	0.041	1.452	0.147	0.061***	3.835	0.000

Notes: ® = Reference group;
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

3.4 Empowerment in Household Decision Making

Empowerment of women regarding household decision-making refers to the extent of women's ability to participate in formulating and executing decisions on domestic, financial, child-welfare, own health and family planning in co-ordination with other male family members. The increased role in household decision making would enable women to improve their self-determination, control over resources, self-esteem, autonomy, and status & power relations within households. That means the increased role of women in household decision-making will lead to their well-being. All the indicators relevant to familial/interpersonal dimensions of Table 3.1 are not available in BDHS – 2004. Thus measurement of empowerment of women in household decision making is calculated using four indicators such as women's participation or control over decision on their own health care, child health care, food to be cooked each day and their participation in decision making on family planning. The detail estimation process of household decision making index has already been described in chapter two.

Table 3.4 presents the mean values of women's household decision making index (HDMI) for the same socio-economic and demographic variables used in Table 3.2. In other words, the level of women empowerment in household decision making is measured for the characteristics like respondent's age, husband's age, age difference between spouses, age at marriage, respondents' educational level, respondent's work status, husbands' educational level, religion, media exposure by place of residence.

From Table 3.4 it is observed for total Bangladesh about 60 percent household decision were made with the respondent's consent who are under 20 years of age whereas about 76 percent decision were made with the consent of 35 – 49 years aged respondents. So, it may be concluded that the respondent's household

decision making empowerment is higher for the higher age grouped women. The same scenario has been observed in rural and urban areas but the urban respondents are more empowered in household decision making than their rural counterparts which coincides with the findings of EDMI. It is also seen that household decision making empowerment is higher for those women whose husband's age group is the highest i.e. 35+ years. That means household decision making participation improves with the increase of husband's age in all areas except urban husband's age group 20 – 34 years.

Regarding age difference between spouses, it is observed that the same aged women have the highest empowerment level in household decision making in all areas remarkably the lowest empowerment for the women senior to their husbands in all areas. On average highest 88 percent household decision were made with urban respondent's consent whose husband are the same aged whereas for same case in rural areas three-forth household decision were made. It is already said that, this may be due to the fact that the same aged women feel free and friendly to opine in household matters with her husband but the women senior to their husband suffer from the inferiority. For other groups no such variation is found. The study also reveals that the urban women are more empowered regarding household decision making than their rural counterparts.

In total Bangladesh on average more than seven-tenth household decision were made with respondent's consent for every groups of age at first marriage and no much variation in household decision making for age at marriage of the respondent has been found in all areas. The result depicts that the average household decision making ability of urban women is slightly higher than their rural counterparts. For both the respondent's and their husband's educational level, the household decision making power is high for women who themselves have higher education and women whose husbands have higher education in total and

urban areas. But the inverse picture has been found for the rural areas i.e. the women who themselves are illiterate and have primary education and women whose husbands are illiterate and have primary education have higher household decision making power in rural areas. This may be due to the fact that there is lack of proper implementation of education or families with little education are mostly conservative. Table 3.4 also shows as usual findings that the urban women are more empowered with respect to respondent's education and husband's education than their rural counterparts.

With reference to respondent's work status it has been found that on average about 5 percent more household decisions were taken in respondent's consent who were currently working than those who were not working in all areas of Bangladesh. Also about 4 percent more household decisions were made by the urban women than their rural counterparts irrespective of respondent's work status.

The results in table 3.4 also represent no significant variation in average household decision making participation for different religion of women. The result focuses little more empowerment of media connected women than the women who do not have access to newspaper or radio or television in total and urban areas. The result also gives inverse picture for rural areas. The result also depicts that the average household decision making ability of urban women is slightly higher than their rural counterparts.

Table 3.4: *Mean values of household decision making index (HDMI) by some selected demographic and socio-economic variables*

Variables	Rural			Urban			Total		
	Mean	Frequency	Percentage	Mean	Frequency	Percentage	Mean	Frequency	Percentage
Respondent's age (years)									
<20	0.597	439	13.9	0.605	229	11.9	0.599	668	13.1
20-34	0.718	1925	60.9	0.758	1197	62.3	0.733	3122	61.4
35-49	0.735	796	25.2	0.805	429	25.8	0.762	1292	25.4
Husband's age (years)									
<20	0.554	14	0.4	0.750	12	0.6	0.644	26	0.5
20-34	0.651	1121	35.5	0.689	676	35.2	0.665	1797	35.4
35+	0.737	2024	64.1	0.786	1234	64.2	0.756	3258	64.1
Age difference between spouses (years)									
<0	0.583	6	0.2	0.688	8	0.4	0.643	14	0.3
0	0.750	9	0.3	0.875	10	0.5	0.816	19	0.4
1-5	0.701	614	19.5	0.761	416	21.7	0.725	1030	20.3
6-10	0.699	1434	45.4	0.742	862	44.9	0.715	2296	45.2
11-20	0.721	977	31.0	0.759	569	29.7	0.735	1546	30.5
21+	0.692	116	3.7	0.764	54	2.8	0.715	170	3.3
Age at first marriage (years)									
<15	0.706	1770	56.0	0.745	851	44.3	0.718	2621	51.6
15-16	0.711	819	25.9	0.756	447	23.3	0.727	1266	24.9
17-19	0.698	425	13.4	0.766	411	21.4	0.732	836	16.5
20+	0.697	146	4.6	0.743	213	11.1	0.724	359	7.1
Respondent's educational level									
Illiterate	0.710	1188	37.6	0.755	498	25.9	0.724	1686	33.2
Primary	0.717	999	31.6	0.740	502	26.1	0.725	1501	29.5
Secondary	0.687	854	27.0	0.749	633	32.9	0.713	1487	29.3
Higher	0.699	119	3.8	0.773	289	15.0	0.752	408	8.0
Respondent's work status									
No	0.695	2526	79.9	0.741	1494	77.7	0.712	4020	79.1
Yes	0.747	634	20.1	0.789	428	22.3	0.764	1062	20.9
Husband's educational level									
Illiterate	0.708	1201	38.0	0.756	457	23.8	0.721	1658	32.6
Primary	0.708	886	28.0	0.745	416	21.6	0.720	1302	25.6
Secondary	0.706	768	24.3	0.741	584	30.4	0.721	1352	26.6
Higher	0.689	304	9.6	0.767	465	24.2	0.736	769	15.1
Religion									
Non-Muslim	0.718	340	10.8	0.746	210	10.9	0.729	550	10.8
Muslim	0.704	2820	89.2	0.753	1712	89.1	0.722	4532	89.2
Media exposure									
No	0.709	1067	33.8	0.734	222	11.6	0.714	1289	25.4
Yes	0.704	2093	66.2	0.754	1700	88.4	0.726	3793	74.6

3.5 Determinants of Household Decision Making: Application of Multiple Linear Regression

Table 3.5 provides some insights into major factors affecting empowerment in household decision making in all areas. In order to refine our knowledge about the above relationships, multiple linear regression technique is applied to investigate which variables affect household decision making as well as the significance of the effects produced in all areas. Multiple linear regression model is used for

analyzing the cause and effect of several phenomena on the empowerment of household decision making for the women. Here, the dependent variable is the household decision making index (HDMI) and the quantitative independent variables are current age (X_1), age at first marriage (X_2) and year of schooling of the respondents (X_3), husband's educational attainment (X_5), Children Ever Born (X_6) and the qualitative independent variables are respondent's work status (X_4), religion (X_7) and media exposure (X_8).

Out of eight independent variables, five significant values are found for each total and urban areas and four significant values for rural areas. In all areas, respondent's current age, educational attainment, work status and CEB have been found as positively significant explanatory variables with corresponding regression coefficients 0.004, 0.006, 0.045 & 0.010 in total areas, 0.003, 0.004, 0.044 & 0.009 in rural and 0.004, 0.007, 0.041 & 0.018 in urban areas. These results can be explained in the same manner as Table 3.3. So, it may be concluded that if each of the respondent's age, educational attainment and CEB increases one unit then household decision making power of women increases by 0.004, 0.006 and 0.010 units respectively in total areas. Also for respondent's work status and media exposure, the results indicate that the women who are currently working and who have the access to mass media have more household decision making power than those who are not currently working and who do not have the access to any media like newspaper or radio or television. Other three independent variables i.e. age at first marriage, educational attainment of husband and religion produce insignificant effect in total Bangladesh.

The multiple regression equation for total Bangladesh is

$$HDMI = 0.559 + 0.004X_1 - 0.002X_2 + 0.006X_3 + 0.045X_4 - 0.001X_5 + 0.010X_6 - 0.004X_7 + 0.023X_8$$

Same directions like total areas for all independent variables are found in rural Bangladesh. But media exposure does not produce significant effect. In urban areas the significant variables are in same direction like total areas. For rural – urban differentials, all explanatory variables are in same direction except religion. Also media exposure produces positive significant effect on household decision making index only in urban areas.

The multiple regression equations for both the rural and urban areas are given respectively in the following:

$$HDMI = 0.600 + 0.003X_1 - 0.002X_2 + 0.004X_3 + 0.044X_4 - 0.001X_5 + 0.009X_6 - 0.013X_7 + 0.008X_8 \text{ and}$$

$$HDMI = 0.550 + 0.004X_1 - 0.002X_2 + 0.007X_3 + 0.041X_4 - 0.002X_5 + 0.018X_6 + 0.003X_7 + 0.034X_8$$

Table 3.5: *Multiple linear regression of household decision making index (HDMI) by some selected variables*

Variables	Rural			Urban			Total		
	Coefficients	t values	Significance	Coefficients	t values	Significance	Coefficients	t values	Significance
(Constant)	0.600***	15.603	0.000	0.550***	12.65	0.000	0.559***	19.962	0.000
Respondent's current age	0.003***	3.581	0.000	0.004***	4.020	0.000	0.004***	5.945	0.000
Age at first marriage	-0.002	-0.713	0.476	-0.002	-1.049	0.294	-0.002	-0.982	0.326
Respondent's educational level	0.004**	2.018	0.044	0.007***	3.569	0.000	0.006***	4.390	0.000
Respondent's work status No®									
Yes	0.044***	3.683	0.000	0.041***	2.900	0.004	0.045***	4.905	0.000
Husband's educational level	-0.001	-1.450	0.147	-0.002	-1.210	0.226	-0.001	-1.599	0.110
CEB	0.009**	2.374	0.018	0.018***	3.720	0.000	0.010***	3.589	0.000
Religion Non-Muslim®									
Muslim	-0.013	-0.838	0.402	0.003	0.172	0.863	-0.004	-0.305	0.760
Media Exposure No®									
Yes	0.008	0.795	0.427	0.034*	1.805	0.071	0.023***	2.577	0.010

Notes: ® = Reference group;
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

3.6 Empowerment in Physical Movement

Empowerment in physical movement refers to the freedom of women to move wherever they like without being escorted. Physical movement is another important factor in women's social, economic and political empowerment. Several studies have revealed that promotion of women's physical movement is necessary to make them capable of making their own choices, to change their attitudes, to improve their social networks and to reduce their level of poverty. A mobility map analysis conducted by Parveen and Leonhauser (2004) in Mymensingh, Bangladesh showed that rural wives generally visit their natal houses to meet their old or sick parents, to get financial or any other kind of support during crisis periods. They go to the town to buy clothes especially for their children in local town. They visit the health centre mainly for the treatment of their sick children or for their own reproductive health care. Only a very few women go to the crop fields, mainly for activities like weeding or collecting fodder and firewood. It is rare for a woman to cultivate crops in the field due to the restrictions imposed by cultural and religious norms. Thus, the lack of women's physical mobility deprives them of getting better livelihood opportunities. Indeed all the indicators of socio-cultural dimension of Table 3.1 are not available in BDHS – 2004 data. Thus women's physical movement empowerment has been estimated indexing the variables that are available such as whether the respondents can go shopping, outside the village/town/city or hospital alone and whether they can visit their relative's house alone. The detail estimation process of physical movement index has already been discussed in chapter two.

Table 3.6 presents the mean values of women's physical movement index (PMI) for the same socio-economic and demographic variables used in Table 3.2 and 3.4. In other words, the mean values of women's physical freedom of movement has been measured for respondent's age, husband's age, age difference between

spouses, age at marriage, respondents' educational level, respondent's work status, husbands' educational level, religion, media exposure by place of residence.

In Bangladesh's patriarchal society women have low status, limiting their physical mobility and authority in decision-making, including on household expenditures (Balk, 1997). They are restricted in moving freely outside their village or neighborhood and have low access to education (despite recent progress on school enrollment of girls). They bear the brunt of poverty and suffer from inequalities in key areas, including intra-household food distribution, access to health care, employment and inheritance (Quisumbing and McClafferty, 2006). From Table 3.6, low mean values of PMI have been found for corresponding variables in comparison with the EDMI and HDMI. The results show that higher aged women have greater empowerment in physical movement in all areas. Comparatively urban women have greater empowerment than their rural counterparts. The results also indicate that mean values of PMI is higher for those women whose husband's age group is the highest i.e. 35+ years.

Amin, Selim and Kamal (2006) stated "Early marriage among females in Bangladesh typically results in large age differences between spouses because male age at marriage is considerably higher. In a setting such as Bangladesh, where age confers authority and status, it is reasonable to argue that large age differences contribute to women's subservient status in conjugal life". The study shows highest empowerment in physical movement for the urban women whose husbands are same aged. This may be due to the fact that the same aged women feel free and friendly with their husbands to visit their relatives or health center or in any physical movement. But inverse picture in comparison with the EDMI and HDMI has been found in total and rural Bangladesh such as the women who are older than their husband have the highest empowerment level in physical movement.

Regarding age at first marriage, the results show that the women whose age at first marriage is under 15 years have highest empowerment in physical movement. At the time of survey, the women who got married under 15 years may reach in the age group 35 to 49 years.

With regard to the respondent's and their husband's educational level, illiterate women and the women whose husbands are illiterate have highest mean values of PMI i.e. highest empowerment regarding physical movement. This suggests that education in our patriarchal society does not necessarily raise women's physical movement.

The study also shows highest empowerment in physical movement for the women who are currently working in all areas strikingly the highest mean values of PMI for urban women who are currently working. For working purpose, the respondents may have to go outside their household which can increase the values of PMI for working women.

Non-Muslim women have highest empowerment in physical movement than Muslim women in all areas except the urban areas of Bangladesh. This may due to the traditional norm which influences a Muslim woman's life i.e. the institution of purdah, a social custom that limits the visibility and mobility of a woman outside the home. The results also show that women who do not have access to mass media have less physical freedom of movement than the women who have media access in all areas of Bangladesh. Comparatively the usual scenario has been found i.e. the urban respondents have higher empowerment in physical movement than their rural counterparts.

Table 3.6: *Mean values of physical movement index (PMI) by some selected demographic and socio-economic variables*

Variables	Rural			Urban			Total		
	Mean	Frequency	Percentage	Mean	Frequency	Percentage	Mean	Frequency	Percentage
Respondent's age (years)									
<20	0.292	446	14.8	0.299	301	11.3	0.295	747	13.1
20-34	0.433	1616	53.6	0.475	1502	56.2	0.453	3118	54.8
35-49	0.550	955	31.7	0.592	868	32.5	0.570	1823	32.0
Husband's age (years)									
<20	0.273	22	0.8	0.313	12	0.5	0.287	34	0.7
20-34	0.332	986	36.0	0.384	803	33.3	0.355	1789	34.7
35+	0.479	1728	63.2	0.520	1600	66.3	0.499	3328	64.6
Age difference between spouses (years)									
<0	0.500	7	0.3	0.625	8	0.3	0.567	15	0.3
0	0.442	13	0.5	0.667	12	0.5	0.550	25	0.5
1-5	0.421	540	19.8	0.471	520	21.6	0.446	1060	20.6
6-10	0.415	1214	44.4	0.472	1062	44.0	0.442	2276	44.3
11-20	0.431	867	31.7	0.466	752	31.2	0.448	1619	31.5
21+	0.486	91	3.3	0.575	57	2.4	0.520	148	2.9
Age at first marriage (years)									
<15	0.470	1612	53.4	0.511	1183	44.3	0.488	2795	49.1
15-16	0.433	753	25.0	0.488	601	22.5	0.457	1354	23.8
17-19	0.406	463	15.3	0.455	568	21.3	0.433	1031	18.1
20+	0.438	189	6.3	0.503	319	11.9	0.478	508	8.9
Respondent's educational level									
Illiterate	0.520	1113	36.9	0.572	758	28.4	0.541	1871	32.9
Primary	0.445	842	27.9	0.488	617	23.1	0.463	1459	25.7
Secondary	0.368	881	29.2	0.427	891	33.4	0.398	1772	31.2
Higher	0.428	181	6.0	0.498	405	15.2	0.477	586	10.3
Respondent's work status									
No	0.401	2186	72.5	0.434	1916	71.8	0.417	4102	72.1
Yes	0.576	831	27.5	0.642	754	28.2	0.607	1585	27.9
Husband's educational level									
Illiterate	0.504	1107	36.7	0.563	654	24.5	0.526	1761	31.0
Primary	0.432	719	23.8	0.489	501	18.8	0.455	1220	21.5
Secondary	0.413	799	26.5	0.458	824	30.9	0.436	1623	28.5
Higher	0.399	392	13.0	0.472	689	25.8	0.446	1081	19.0
Religion									
Non-Muslim	0.502	375	12.4	0.471	264	9.9	0.489	639	11.2
Muslim	0.442	2642	87.6	0.495	2407	90.1	0.467	5049	88.8
Media exposure									
No	0.515	774	25.7	0.553	256	9.6	0.524	1030	18.1
Yes	0.427	2243	74.3	0.487	2415	90.4	0.458	4658	81.9

3.7 Determinants of Physical Movement: Application of Multiple Linear Regression

Table 3.7 provides some insights into major factors affecting empowerment in physical movement of women in all areas. In order to refine our knowledge about the above relationships, multiple linear regression technique is applied to investigate which variables affect physical movement of women as well as the significance of the effects produced in all areas. Multiple linear regression model

is used for analyzing the cause and effect of several phenomena on the empowerment of physical movement for the women. Here, the dependent variable is the physical movement index (PMI) and the quantitative independent variables are current age (X_1), age at first marriage (X_2) and year of schooling of the respondents (X_3), husband's educational attainment (X_5), Children Ever Born (X_6) and the qualitative independent variables are respondent's work status (X_4), religion (X_7) and media exposure (X_8).

For eight independent variables, four significant regression coefficients have been found in total areas, six in rural areas and five in urban areas. In all areas, respondent's current age and work status have positively significant coefficients. That means empowerment in physical movement increases with the increase of respondent's age. And working women have more empowerment in physical movement than non-working women. In all areas it has also been found that the empowerment of women in physical movement decrease with the increase of respondent's educational level and with the increase in number of CEB. In rural areas two extra variables namely age at first marriage and media exposure produce negatively significant coefficient. So, it may be concluded that in rural areas, physical movement empowerment decreases as age at marriage of the respondents increases. And the women who access to mass media have less physical movement empowerment than the women who do not have access to mass media. Husband's educational attainment has also been found as negatively significant variable only in urban areas. That means women empowerment in physical movement decreases with the increase in their husband's educational level in urban areas of Bangladesh.

The multiple regression equation for total Bangladesh is

$$PMI = 0.170 + 0.011X_1 - 0.002X_2 - 0.002X_3 + 0.156X_4 - 0.001X_5 - 0.016X_6 + 0.005X_7 - 0.002X_8$$

The multiple regression equations for both the rural and urban areas are also given respectively in the following:

$$PMI = 0.250 + 0.012X_1 - 0.005X_2 - 0.003X_3 + 0.133X_4 - 6.70E\text{-}005X_5 - 0.022X_6 - 0.022X_7 - 0.029X_8 \text{ and}$$

$$PMI = 0.126 + 0.010X_1 + 0.000X_2 - 0.001X_3 + 0.177X_4 - 0.002X_5 - 0.007X_6 + 0.030X_7 + 0.022X_8$$

Table 3.7: *Multiple linear regression of physical movement index (PMI) by some selected variables*

Variables	Rural			Urban			Total		
	Coefficients	t values	Significance	Coefficients	t values	Significance	Coefficients	t values	Significance
(Constant)	0.250***	6.021	0.000	0.126***	2.901	0.004	0.170***	5.807	0.000
Respondent's current age	0.012***	14.054	0.000	0.010***	11.992	0.000	0.011***	19.113	0.000
Age at first marriage	-0.005**	-2.161	0.031	0.000	0.074	0.941	-0.002	-1.213	0.225
Respondent's educational level	-0.003*	-1.717	0.086	-0.001	-0.791	0.429	-0.002*	-1.655	0.098
Respondent's work status									
No®									
Yes	0.133***	10.972	0.000	0.177***	13.659	000	0.156***	17.612	0.000
Husband's educational level	-6.70E-005	-0.072	0.943	-0.002*	-1.726	0.084	-0.001	-0.904	0.366
CEB	-0.022***	-5.936	0.000	-0.007*	-1.789	0.074	-0.016***	-5.895	0.000
Religion									
Non-Muslim®									
Muslim	-0.022	-1.374	0.169	0.030	1.566	0.117	0.005	0.426	0.670
Media Exposure									
No®									
Yes	-0.029**	-2.232	0.026	0.022	1.107	0.269	-0.002	-0.196	0.845

Notes: ® = Reference group;
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

3.8 Chapter Conclusion

Women play a great role in over all development and progress of the nation. But their participation in different fields either directly or indirectly is still behind in many aspects. In most cases, women are considered inferior to men, and their life is restricted within the four walls of the house. For taking any decision, less power is given to women, as they have the right to take decisions regarding various

items, as that of the men. In this chapter, comparatively low physical empowerment has been observed in comparison with economic decision making empowerment and household decision making empowerment. From percentage distribution, higher empowerment in all the three dimensions has been found for highest age grouped women, whose husband's age are 35+ years, who have same aged husbands, for currently working women. Women who are Muslim and get assess to mass media have more empowerment in economic decision making and household decision making but not in physical movement. Illiterate or primary educated women and whose husband's educational level are low have more empowerment in all three dimensions. From multivariate analysis, respondent's current age, education, CEB and media exposure have been identified as significant factors influencing aforementioned three different dimensions of women empowerment.

Chapter Four

Mathematical Modeling of Women Empowerment

4.1 Introduction

Bangladesh is the 7th most populous nation in the world with 159 million people and the population density is remarkable (UNESCAP, 2007). According to the land area, it is 94th ranked country of the world. In fact there is a remarkable disparity between population density and per capita land owned. Despite sustained domestic and international efforts to improve economic and demographic prospects, Bangladesh remains a developing nation, in part due to its large population (UNFPA, 2007). Its per capita annual income in 2006 is US$2300 (on purchasing power parity basis) which is much lower than the world average of $10,200 (CIAWF, 2007). Inspite of these diffuculties, the country has made significant progress in human development in the areas of literacy, gender parity in schooling, and reduction of population growth (WB, 2005).

Like many other developing countries it needs empowering women for the shake of poverty alleviation since the empowerment of women is an essential precondition for the elimination of world poverty and the upholding of human rights (DFID, 2000). Women empowerment is a matter of basic human rights.

Interest in women empowerment among demographers and population policy makers was heightened during the 1994 International Conference on Population and Development (ICPD) held in Cairo, at which the empowerment of women was legitimated as a social goal and enshrined as a necessary condition for population stabilization (Hodgson and Watkins, 1997). Since then, critiques of demographers' views of gender and women (Presser, 1997; Watkins, 1993) have grown apace with the wealth of empirical studies investigating women's empowerment and its demographic consequences (Amin *et al.,* 1994; Balk, 1994 and 1997; Chowdhury and Trovato, 1994; Dharmalingam and Morgan, 1996; Greenhalgh and Li, 1995; Jejeebhoy, 1995; Malhotra, Vanneman, and Kishor, 1995; Morgan and Niraula, 1995; Schuler and Hashemi, 1994). Age is a factor of life cycle throughout which every one can get life experience. And also the empowering is a process which is closely connected with time i.e. age. Thus, age could be taken as a great matter of concern for women empowerment as well as county's development. In pervious chapter, demographic variable, age, has been found as significant factor affecting all the three dimensions of women empowerment. Therefore, the strong role of age on women empowerment in Bangladesh with its rural – urban differentials needs to be investigated using advance mathematical models. In this chapter efforts have been made to measure the women empowerment index (WEI) score by age groups for Bangladeshi women and to find out which types of mathematical models are more applicable to WEI score in all areas with their validity using validation technique such as cross validity prediction power (CVPP).

4.2 Model Fitting

We plotted the women empowerment index value by the respondent's current age in Figure 4.1 which depicts that the empowerment of women increases as age of women increases. But to fit a specific mathematical model to WEI score, we plotted the mean score of WEI by age groups which showed that mean score of

WEI can be distributed by polynomial model for different ages. Therefore, a polynomial is briefly discussed as an expression of the form:

$$y = f(x) = a_0 + a_1x + a_2x^2 + \ldots\ldots\ldots\ldots + a_nx^n ; (a_n \neq 0)$$

(Waerden, 1948), where, x is age group; y is mean score of WEI; a_0 is the constant; a_i is the coefficient of x^i (i =1, 2, 3,....., n). If n = 0 then it becomes constant function. If n = 1 then it is polynomial of degree 1 i.e. simple linear function. If n = 2 then it is polynomial of degree 2 i.e. quadratic polynomial, etc. (Spiegel, 1992; Gupta and Kapoor, 1997).

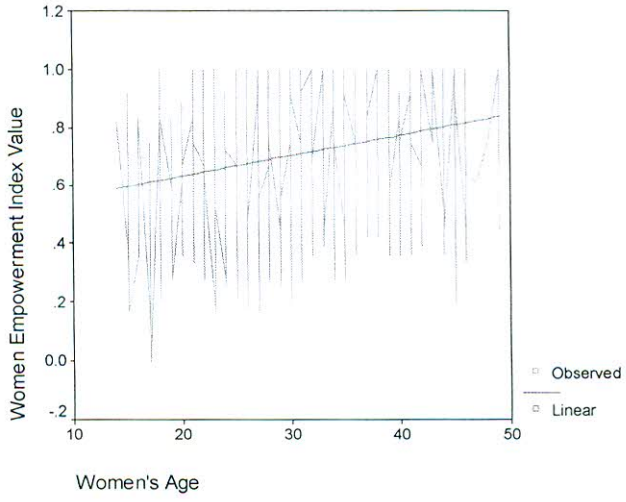


Figure 4.1: *Graphical representation of WEI value by age*

4.3 Model Validation Technique

To test the stability of the model, the cross validity prediction power (CVPP), ρ^2_{cv}, is applied here. The method for CVPP is given by

$$\rho^2_{cv} = 1 - \frac{(n-1)(n-2)(n+1)}{n(n-k-1)(n-k-2)}(1-R^2);$$

Where, n is the number of cases, k is the number of predictors in the model and the cross-validated R is the correlation between observed and predicted values of the dependent variable. The shrinkage of the model is the absolute value of the difference between ρ^2_{cv} and R^2. Moreover, the stability of R^2 of the model is equal to (1- shrinkage) (Stevens, 1996).

4.4 Modeling of Women Empowerment Index: Results and Discussion

Though BDHS- 2004 collected data from 11440 ever-married women of age 10 to 49, we get only one woman's relevant data for constructing WEI in age group 10 to 14. This is why mean scores of WEI, excluding the score of age group 10 to 14, are presented in Table 4.1.

Here from Table 4.1 it is observed that there is an upward trend in the mean score of WEI from age 15 to 44 years. On average, the women who are under 20 years of age are much lower empowered than the women who are in 40 to 44 years age group. It is also observed that on average the women in age group 45 to 49 years are almost same empowered like the women of age group 25 to 29 years.

Table 4.1: *Mean score of WEI by age groups for total Bangladesh*

Age Groups	Mean Score of WEI
15 - 19	0.514
20 - 24	0.662
25 - 29	0.679
30 - 34	0.750
35 - 39	0.760
40 - 44	0.785
45 - 49	0.680

Now for fitting more appropriate model to the WEI score, we utilize usual models such as linear, polynomial, Makehams, Logistic, Gompertz, log-linear and semi-log linear. Among them, polynomial model of order two best fits according to its shrinkages. So, only the outputs of the polynomial model are exhibited in Table 4.2 and Figure 4.2.

The polynomial model for WEI in total Bangladesh is

$y = -0.115 + 0.048x - 0.64e\text{-}3x^2$ .....(A)

which is the polynomial of degree two i. e. quadratic polynomial.

From Table 4.2, it is shown that two parameters of the fitted model are statistically significant with 93% of variance explained and the model's shrinkage is 0.344. This model will be stable more than 58%. Table 4.1 and Figure 4.2 show that not all women in Bangladesh are equally empowered i.e. young aged women are less empowered than their older counterparts. This may be the fact that older women have more independence and empowerment than younger women because they have more experience with life, a better understanding of how to get what they want or need, a closer relationship with the husband, or because they have fulfilled certain social obligations to the husband and his family (for example, bearing children or sons) and thus are more trusted than are young wives, over whom tighter controls are maintained (Tareque et al., 2007).

Table 4.2: *Information of model fitting for total Bangladesh*

Model	n	k	R^2	ρ^2_{cv}	Shrinkage	Parameters	Significant Probability (p)
(A)	7	3	0.927	0.583	0.344	a_0	0.429
						a_1	0.005
						a_2	0.008

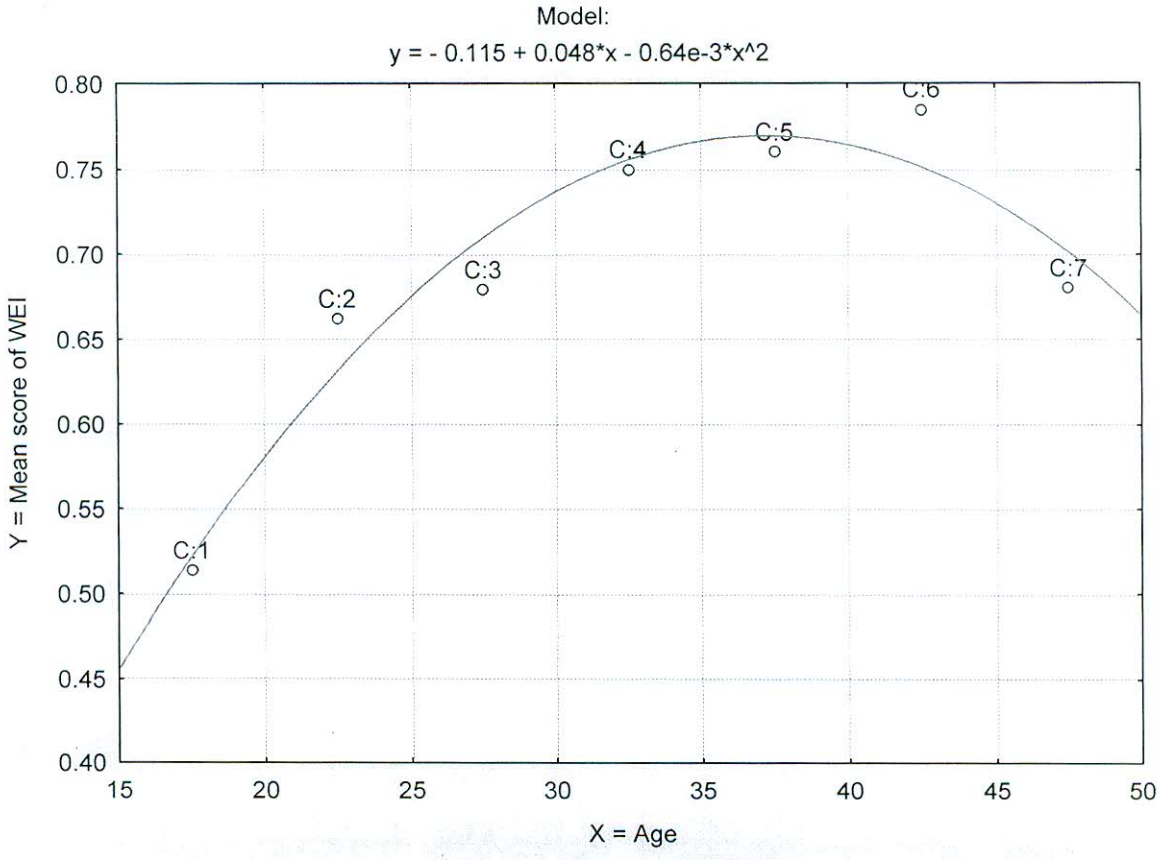


Figure 4.2: *Graphical representation of observed and fitted mean score of WEI for total Bangladesh*

Note: C presents observed values

To observe the rural – urban differentials in the women empowerment modeling, same techniques have been applied separately for rural and urban mean scores of WEI. From Table 4.3 it is observed that the mean score of WEI in rural areas are much lower than that of urban areas for every age group except age 15 to 19 years. The same trend like the total Bangladesh i.e. upward trend in mean score of WEI has been observed for both the rural and urban areas from age 15 to 44 years. But for age group 45 to 49 years, the trend in mean score of WEI is downward.

Table 4.3: *Mean score of WEI by age groups and place of residence*

Age Groups	Mean Score of WEI	
	Rural	Urban
15 - 19	0.516	0.511
20 - 24	0.624	0.694
25 - 29	0.660	0.701
30 - 34	0.719	0.783
35 - 39	0.730	0.787
40 - 44	0.758	0.808
45 - 49	0.642	0.713

Previously applied usual models have been fitted for rural urban areas. But polynomial model of order two best fits according to its shrinkages. So, only the outputs of the polynomial model are exhibited in Table 4.4 and Figure 4.3 & 4.4.

The polynomial model for WEI in rural areas is

$y = -0.074 + 0.044x - 0.60e\text{-}3x^2$ .....(B)

which is the polynomial of degree two i. e. quadratic polynomial.

The polynomial model for WEI in urban areas is

$y = -0.172 + 0.052x - 0.70e\text{-}3x^2$ .....(C)

which is the polynomial of degree two i. e. quadratic polynomial.

From Table 4.4, it is seen that two parameters of the fitted model are statistically significant with 92% and 93% of variance explained and the model's shrinkage are 0.368 and 0.354 for rural and urban areas respectively. And the models will be stable more than 55% and 57% for rural and urban areas respectively. Also Figure 4.3 and 4.4 indicate that all women are not equally empowered in both the areas.

Table 4.4: *Information of model fitting by place of residence*

Areas	Model	n	k	R^2	ρ^2_{cv}	Shrinkage	Parameters	Significant Probability (p)
Rural	(B)	7	3	0.922	0.554	0.368	a_0	0.577
							a_1	0.005
							a_2	0.008
Urban	(C)	7	3	0.925	0.571	0.354	a_0	0.308
							a_1	0.006
							a_2	0.009

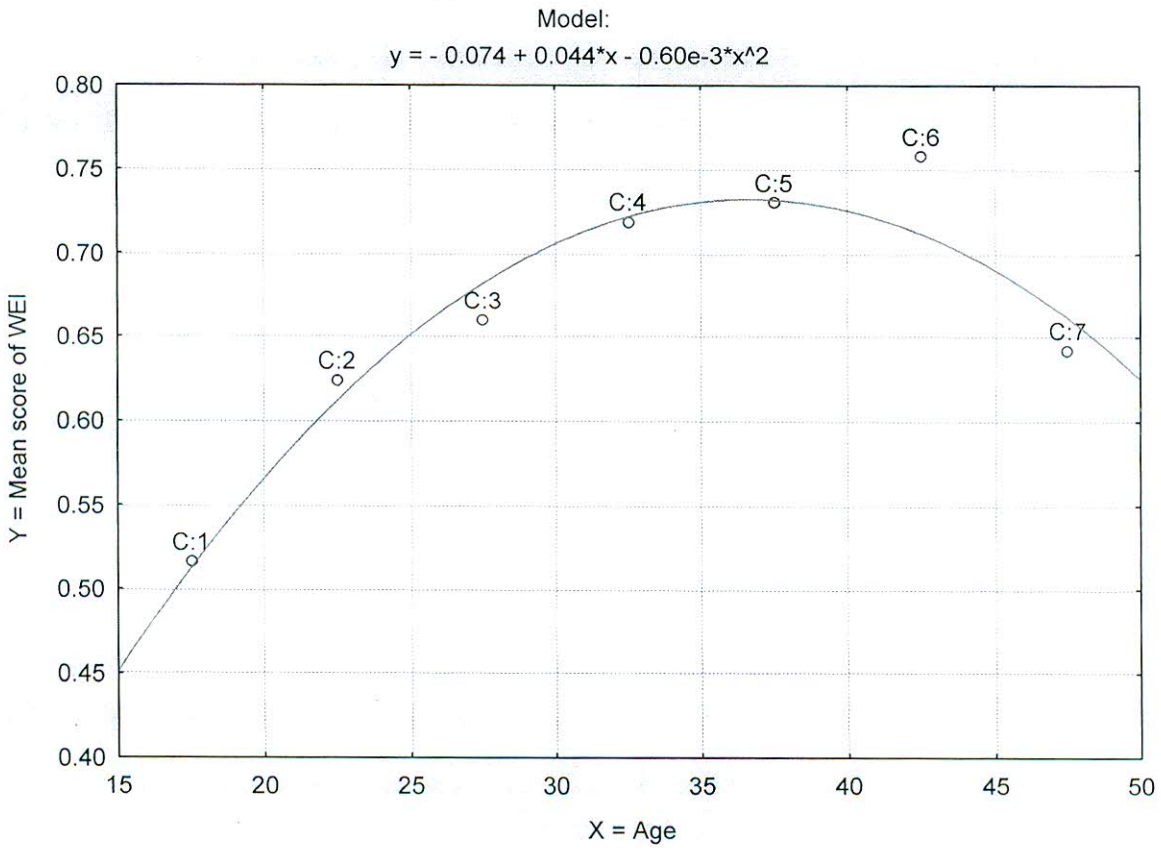


Figure 4.3: *Graphical representation of observed and fitted mean score of WEI for rural Bangladesh*

Note: C presents observed values

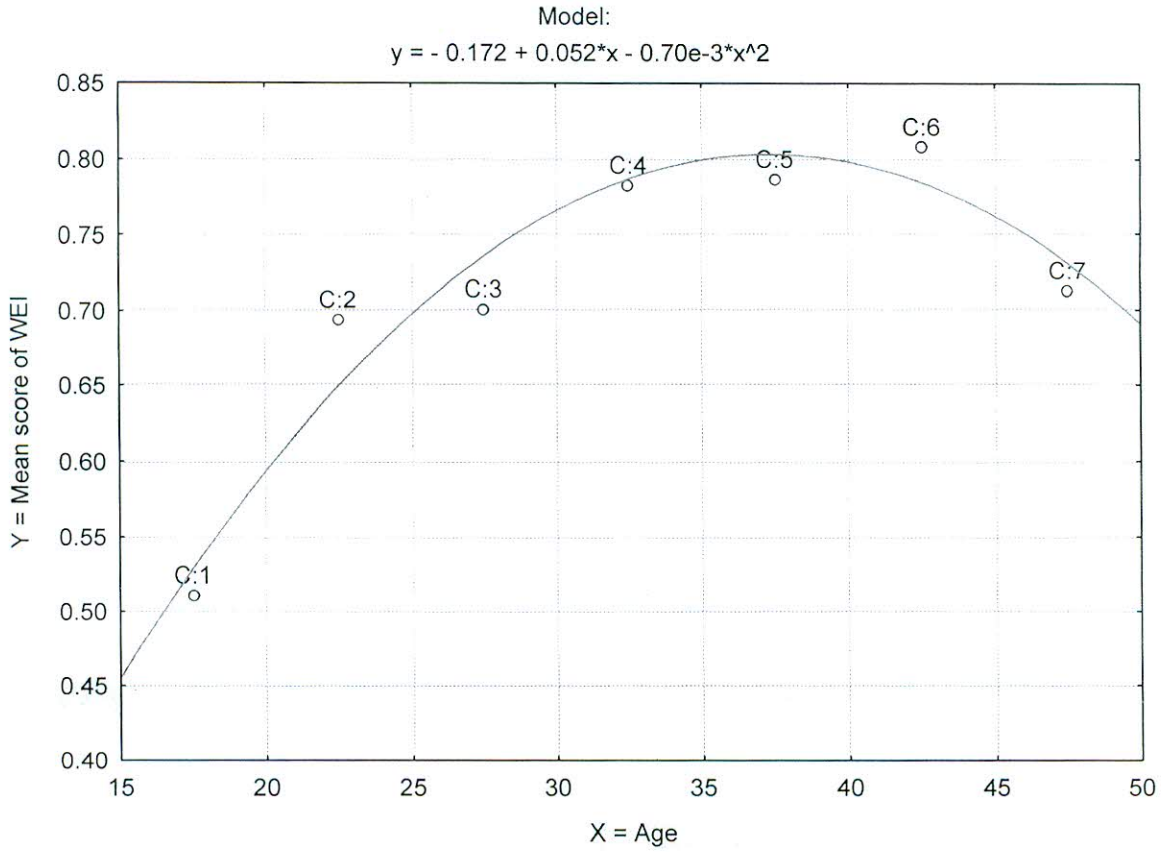


Figure 4.4: *Graphical representation of observed and fitted mean score of WEI for urban Bangladesh*

Note: C presents observed values

4.5 Chapter Conclusion

Though the study reveals the women of 40 to 44 years of age are highest empowered in all areas, the level of women empowerment in Bangladesh is not satisfactory for any of the age group. The study also shows that not all women are equally empowered i.e. young aged women are less empowered than their older counterparts. Now some questions will be arisen – why it is happened and what the consequences are.

On average, girls who marry as adolescents attain lower schooling levels, which cause lower self confidence, bargaining power, freedom of choices etc. as a result

they have less reproductive control and suffer higher rates of maternal mortality and domestic violence and thereafter less empowerment. We guess some other causes may lie behind low empowerment of women. Thus, further research is needed to find out the rationale behind the above questions.

Chapter Five

Women Empowerment and Contraceptive Behaviour

5.1 Introduction

Empowerment literally means 'to invest with power'. When used in context of women's lives, it often refers to women's increased control over decision-making, economic self-reliance, and legal rights to equal treatment, inheritance and protection against all forms of discrimination (Germain and Kyte, 1995; WPDESIPA, 1996). In the context of family planning, the concept of women empowerment is generally associated with a variety of elements that range from delayed marriage, smaller families, access to accurate information, the ability of married females to discuss freely about their family planning needs with spouses and other members of the household and the community, and being able to make independent decisions on fertility regulation including going out of living boundaries to seek contraceptive supplies. Women empowerment and contraception use are found directly or indirectly linked as a measure of fertility regulation. Data from the early 1990's suggested that in rural Bangladesh empowered women were more likely than others to use contraception (Schuler, Hashemi and Riley, 1997). Now contraceptive use is the norm — over half of all married, reproductive age women currently use it and more than three quarters have used it at one time or another. The past decade has witnessed an increasing

attention of looking at fertility related attitudes and family planning behaviours in the context of a "gender- based power dynamics within the sexual relationships of men and women" (Blanc, 2001). Several studies indicated that the empowerment of women within the marital union has a positive impact on the adoption of contraception. Gender equality and women empowerment frequently play important role in contraceptive uptake and fertility decline (Ezeh, 1993; Dodoo and Seal, 1994; Bankole, 1995; Lasee and Becker, 1997; Bankole and Singh, 1998; Wolff, Blanc and Ssekamatte-Ssebuliba, 2000; Bawah, 2002).

Bangladesh is the best example of a country with a strong family planning program effort which has brought about a significant fertility decline, even when social and economic development is at a low level and not improving much. Bangladesh ranks low on almost every social and economic development indicator. Nevertheless, an intensive family planning program has been followed by a substantial increase in the use of contraception and the consequent fertility decline. The speed with which reproductive behaviour changed in Bangladesh, especially in the absence of much parallel change in social and economic development in the country, strengthens the argument that the family planning program has had a considerable influence on fertility decline (Freedman, 1995). The Bangladesh case has, no doubt, strengthened the argument that a strong family planning program can make a positive contribution to the process of demographic transition. Already, there is evidence of the impact of family planning programs on contraceptive use dynamics (Phillips, Hossain and Koblinsky, 1989; Phillips et al., 1993; Hossain, Phillips and Haaga, 1994). A more pronounced effect is observed when standard quality of care is ensured (Hossain, Khuda and Phillips, 1995). The successive governments in Bangladesh have attached top priority to reduce the rate of population growth and have strengthened and intensified family planning programme efforts (Khuda, 1984; Khuda, Stoeckel and Piet-Pelon, 1997; Khuda, Roy and Rahman, 2000). Those efforts have resulted in almost universal

awareness of at least one family planning method as well as increasingly positive attitudes towards contraception. Jejeebhoy (1995) stated that contraceptive use depends to a large extent, on a woman's age, fertility, and duration of marriage. Also she concluded that the education - contraception relationship should ideally be viewed with these factors controlled.

The evidence indicates that improvement in women's status is a critical determinant of fertility decline in Bangladesh. Most Bangladeshis and foreign observers agree that during the past two decades women's status in terms of education, employment, mobility, and decision-making power has undergone major changes. Also, there is evidence that such changes have contributed to increased contraceptive use and consequent fertility decline (Khuda et al., 1990; Khuda and Barkat, 1992). The level of contraceptive use in most developing countries is higher among women in their thirties and, typically, lowest among teenage women and women in their forties (UNCSW, 1987). Bangladesh has come a long way in achieving a contraceptive prevalence rate (CPR) of almost 56 percent (all methods) and 48 percent (modern methods) in 2008 (World Population Data Sheet, 2008), from a mere 8 (all methods) percent in 1975. A Matlab study findings indicated that "contraception discontinuation was 73 percent higher among parents with no surviving sons and 72 percent higher among parents with no surviving daughters, compared to parents who have children of both sex (Rahman et al., 1992).

Moreover, women empowerment process has proved to be a central factor in the achievement of many demographic and social desirable goals, such as enhancement of women's control of their own lives, improved women's and child health and fertility reduction in numerous countries (Riley, 1997; Jejeebhoy, 1995; Caldwell and Paldwell, 1993; Mason, 1993; Das Gupta, 1990). Therefore it is an urgent need to know, whether women empowerment is currently playing any role

on their contraceptive behaviour or not. Keeping these in mind, an attempt has made to present the picture of ever use of contraception and currently used contraception; and the trends in using contraceptive methods of both ever-married and currently married women. Further attempt has also made to investigate the aggregate effect of a set of proxies on the participation of contraceptive method. In other words, an attempt has been made to analyze the effect of some selected socio-economic and demographic variables such as respondent's age, age at marriage, educational level, respondent's work status, husband's educational attainment, religion, children ever born, participation on family planning decision, and media exposure on contraceptive use. For this purpose bivariate analysis as well as multinomial logistic regression analysis has been conducted.

5.2 Male – Female Differentials in Contraceptive Use

Reduce Total Fertility Rate (TFR) and increase the use of family planning methods among eligible couples through raising awareness of family planning is the first and foremost objective of Bangladesh Population Policy (MoHFW, 2004). And information on contraceptive use reflects the success of programs in promoting use of family planning methods among eligible couples in Bangladesh. Contraception use is two faced: one is ever use and another is current use. Analysis of ever use data has special significance for family planning programmes as the information indicate the proportion of the population who were exposed to contraceptive use at least once. On the other hand in BDHS surveys, current use of contraception is defined as the proportion of currently married women who are currently using a family planning method and thus current use information on contraception bears significance for family planning programmes. So, information on ever use – together with information on current use – are valuable for studying couples who discontinue use. Use of contraception has been viewed as one of the indicators of women empowerment. Worldwide many studies have documented a positive relationship between women empowerment and use of contraception

(Kishor, 1995; Kritz, Makinwa-Adebusoye and Gurak, 1997; Mason and Smith, 1999; Alsaawi and Adamchak, 2000).

5.2.1 Ever Use of Contraception

The age specific percentage distributions of women who have ever used any contraceptive method by method types for Bangladesh in 2004 are represented in Table 5.1. The number of total ever married women is 11440 out of which 10582 are currently married.

From Table 5.1 it has been found that among ever married women four-fifths have used any contraceptive method at some time, three-fourths have used a modern method and about one-fourth have used a traditional method. More than six out of ten ever married women have used pill and it is established as the most commonly used contraceptive method in Bangladesh. Injectables is the immediately next most commonly used contraceptive method and 26 percent women have used this method. 5.6 percent women used IUD, 5.2 percent female sterilization, 1.3 percent Norplant. On the other hand 20.5 percent husbands used condom and 0.7 percent husbands used male sterilization as male use method. Among the traditional method users 19.3 percent have used periodic abstinence, 14 percent have used withdrawal and 2.6 percent ever-married women have used other methods. It is observed that for almost all methods except sterilization the women of age 20-39 years use more contraceptive than other age grouped women and sterilization increases after certain age i.e. 29 years of age. It may be due to the fact that in Bangladesh before age 30, almost all children have been produced.

But in comparison to ever married women, the currently married women are somewhat more likely to ever use of a family planning method. Table 5.1 shows that more than four-fifths of currently married women have ever used any contraceptive method. It is also observed that 77.4 percent have ever used a

modern method and 30.2 percent have used a traditional method. Here pill also comes to the top used percentage (65.1) as like as ever married women. The second most commonly used method is injectables and 27.4 percent of currently married women have used this method. Percentages of currently married women are 5.8, 5.2 and 1.4 for IUD, female sterilization and Norplant respectively. 21.5 husbands of the currently married women have used condom and only 0.7 husbands have used male sterilization. In case of traditional method the percentages of currently married women are 19.7 and 14.6 for periodic abstinence and withdrawal respectively. And also 2.8 percent currently women have used other contraceptive methods. The same scenario like the ever married women, the currently married women aged 20-44 use more contraception than other age grouped women for almost all methods except sterilization. So, it could be noted that the currently married women are somewhat more likely to use a contraceptive method at some time than the ever married women.

Table 5.1: *Percentage distribution of ever-married and currently-married women who have ever used any contraceptive method, by specific method and age*

Age	Any method	Modern Method								Traditional Method				Number of women
		Any modern method	Pill	IUD	Injectables	Norplant	Condom	Female sterilization	Male sterilization	Any traditional method	Periodic abstinence	Withdrawal	Other	
Ever-Married Women														
10-14	54.0	48.1	42.7	0.0	0.4	0.0	14.3	0.0	0.0	10.2	5.2	5.0	0.0	150
15-19	67.0	60.3	49.9	0.5	10.4	0.3	21.9	0.0	0.0	18.8	7.5	13.1	0.4	1598
20-24	81.1	76.0	67.4	1.6	22.1	1.5	26.9	0.3	0.1	25.3	14.0	14.6	1.1	2202
25-29	87.1	83.8	73.8	4.3	33.8	2.3	23.4	2.1	0.4	29.0	17.6	15.5	3.0	2013
30-34	86.8	82.0	70.7	8.2	39.2	1.3	20.5	5.2	0.4	33.4	23.4	14.0	3.9	1793
35-39	84.7	80.4	65.7	11.4	32.3	1.6	18.8	9.3	1.8	34.9	25.8	14.5	3.5	1457
40-44	80.5	73.1	56.1	10.7	26.0	1.0	14.9	13.2	1.9	37.8	30.3	15.0	4.2	1160
45-49	70.9	59.9	40.0	6.7	15.7	0.2	8.8	15.9	1.4	32.8	25.3	10.6	3.7	1066
Total	80.2	74.5	62.4	5.6	26.0	1.3	20.5	5.2	0.7	29.3	19.3	14.0	2.6	11440
Currently Married Women														
10-14	54.6	48.6	43.0	0.0	0.4	0.0	14.7	0.0	0.0	10.5	5.4	5.1	0.0	145
15-19	68.5	61.8	51.2	0.5	10.8	0.3	22.5	0.0	0.0	19.1	7.6	13.3	0.4	1536
20-24	82.0	77.1	68.4	1.7	22.5	1.5	27.5	0.3	0.1	25.8	14.3	14.8	1.1	2122
25-29	88.9	85.6	75.5	4.4	34.5	2.4	23.8	2.2	0.4	29.4	17.6	16.0	3.1	1935
30-34	88.8	84.5	73.1	8.6	40.8	1.4	21.4	5.4	0.5	34.4	24.0	14.5	4.2	1683
35-39	89.2	84.7	69.9	12.0	34.7	1.8	19.8	9.6	1.8	37.1	27.4	15.6	3.8	1309
40-44	86.1	79.4	61.3	12.0	29.5	1.2	16.4	14.1	1.9	40.7	32.7	16.2	4.8	982
45-49	75.5	65.4	44.3	7.9	18.1	0.2	10.2	16.7	1.5	35.2	27.1	11.3	4.1	870
Total	82.8	77.4	65.1	5.8	27.4	1.4	21.5	5.2	0.7	30.2	19.7	14.6	2.8	10582

Source: NIPORT, 2005: 64

5.2.2 Current Use of Contraception

The age specific percentage distribution of currently married women by contraceptive method currently used and place of residence in Bangladesh in 2004 are presented in Table 5.2. It has been found from Table 5.1 that 10582 is currently married women out of total study respondents. But when BDHS – 2004 data has been analyzed, 10553 women has been found as total currently married women out of which 6975 women from rural areas and 3578 women from urban areas.

Table 5.2 shows that the contraceptive prevalence rate among the currently married women is 57.9 percent in total Bangladesh; 54.8 percent in rural and 63.9 percent in urban areas. In total areas 46.9 percent of currently married women use modern methods whereas 10.4 percent use traditional methods. Most of the currently married women users i.e. 25.4 percent use pill immediately followed by injectables 9.7 percent. Percentages of currently married women are 5.0, 0.7, and 0.6 for female sterilization, Norplant and IUD respectively. In case of male used methods, 4.8 and 0.6 percentages husbands of currently married women have used condom and male sterilization respectively. Among the traditional methods, percentages of currently married women are 6.7 and 3.7 percent for periodic abstinence and withdrawal respectively. Only 0.6 percent respondents currently use other than above mentioned methods. The result shows that the use of contraceptive methods increases gradually with the increase of age up to 39 years and after that it decreases moderately for the upper age groups. It may also be noted that in Bangladesh mostly women are the user of contraceptive methods. In case of temporary and permanent methods male use is much lower than female use e.g. female sterilization is almost nine times higher than male sterilization.

But in comparison to the rural women, urban women are somewhat more likely to use of a family planning method except IUD. Like overall Bangladesh, pill is the

most commonly used contraceptive method immediately followed by injectables in both the rural and urban areas. Table 5.2 also reveals that though male used method is the least, condom is used more in urban areas than in rural areas. That means the urban males are more liberal to their wives regarding family planning i.e. in urban areas women are more empowered concerning contraceptive practice. The result also shows that the use of female contraceptive methods increases gradually with the increase of age up to 39 years and after that it decreases moderately for the upper age groups. On the other hand, regarding male used method, condom use decreases as the age of women increases in both the areas. From Table 5.2 it may also be concluded that the female use is much higher in case of both temporary and permanent contraceptive methods.

Table 5.2: *Percentage distribution of currently married women by contraceptive method currently used and place of residence, according to age*

Age	Any method	Modern Method								Traditional Method				Not currently using	Total	Number of women
		Any modern method	Pill	IUD	Injectables	Norplant	Condom	Female sterilization	Male sterilization	Any traditional method	Periodic abstinence	Withdrawal	Other			
								Total								
10-14	30.1	23.5	16.9	0.0	0.7	0.0	5.9	0.0	0.0	6.6	3.7	2.9	0.0	69.9	100.0	136
15-19	42.5	34.3	22.6	0.3	6.3	0.3	4.7	0.0	0.0	8.1	3.6	4.5	0.1	57.5	100.0	1498
20-24	52.7	46.8	29.8	0.3	9.8	1.0	5.4	0.3	0.1	5.6	3.0	2.6	0.4	47.3	100.0	2112
25-29	61.2	54.0	32.1	0.7	12.4	1.5	5.0	2.1	0.3	6.8	4.1	2.7	0.4	38.8	100.0	1929
30-34	68.5	55.6	30.5	0.7	13.3	0.8	5.2	4.7	0.5	11.9	8.3	3.6	1.0	31.5	100.0	1673
35-39	70.8	55.3	25.3	1.2	12.3	0.5	5.3	9.0	1.6	14.7	10.5	4.1	0.9	29.2	100.0	1330
40-44	64.7	43.1	16.4	0.9	6.3	0.4	3.6	14.1	1.4	20.3	14.5	5.8	1.3	35.3	100.0	1005
45-49	45.6	31.0	7.2	0.1	3.9	0.0	2.0	16.0	1.8	13.7	9.0	4.7	0.9	54.4	100.0	870
Total	57.9	46.9	25.4	0.6	9.7	0.7	4.8	5.0	0.6	10.4	6.7	3.7	0.6	42.1	100.0	10553
								Rural								
10-14	27.2	19.6	13.0	0.0	0.0	0.0	6.5	0.0	0.0	7.6	4.3	3.3	0.0	72.8	100.0	92
15-19	39.3	31.2	22.0	0.3	5.3	0.0	3.6	0.0	0.0	8.1	3.9	4.1	0.1	60.7	100.0	1068
20-24	49.1	42.9	29.2	0.4	8.5	1.0	3.5	0.3	0.1	5.8	3.1	2.6	0.4	50.9	100.0	1406
25-29	58.9	51.5	31.5	0.7	12.5	1.2	3.0	2.2	0.4	6.9	4.1	2.8	0.4	41.1	100.0	1238
30-34	66.8	54.9	30.0	0.8	13.8	1.1	3.3	5.5	0.5	10.7	8.0	2.8	1.1	33.2	100.0	1081
35-39	68.2	52.9	23.6	1.4	14.1	0.5	2.4	8.9	2.0	14.2	10.3	3.9	1.1	31.8	100.0	851
40-44	61.1	40.1	16.2	0.8	7.1	0.5	2.0	12.3	1.2	19.8	14.2	5.6	1.2	38.9	100.0	648
45-49	44.0	29.4	7.6	0.2	4.4	0.0	1.0	14.6	1.7	13.5	9.6	3.9	1.0	56.0	100.0	591
Total	54.8	44.0	24.7	0.6	9.6	0.7	2.9	4.8	0.7	10.1	6.7	3.5	0.7	45.2	100.0	6975
								Urban								
10-14	36.4	31.8	25.0	0.0	2.3	0.0	4.5	0.0	0.0	4.5	2.3	2.3	0.0	63.6	100.0	44
15-19	50.5	42.1	24.2	0.5	8.6	1.2	7.7	0.0	0.0	8.4	2.8	5.6	0.0	49.5	100.0	430
20-24	60.1	54.5	31.0	0.1	12.5	1.0	9.3	0.4	0.1	5.2	2.7	2.5	0.3	39.9	100.0	706
25-29	65.4	58.5	33.1	0.6	12.2	1.9	8.7	1.9	0.1	6.5	4.1	2.5	0.4	34.6	100.0	691
30-34	71.6	56.9	31.4	0.3	12.5	0.3	8.6	3.2	0.5	14.0	9.0	5.1	0.7	28.4	100.0	592
35-39	75.6	59.5	28.4	0.8	9.2	0.4	10.6	9.2	0.8	15.4	10.9	4.6	0.6	24.4	100.0	479
40-44	71.1	48.5	16.8	1.1	4.8	0.3	6.4	17.4	1.7	21.3	15.1	6.2	1.4	28.9	100.0	357
45-49	49.1	34.4	6.5	0.0	2.9	0.0	3.9	19.0	2.2	14.0	7.5	6.5	0.7	50.9	100.0	279
Total	63.9	52.4	26.9	0.5	9.9	0.8	8.3	5.4	0.6	11.0	6.7	4.2	0.5	36.1	100.0	3578

5.3 Current Contraception Practice According to Some Selected Socio-Demographic Variables

Table 5.3 represents the percentage distribution of current contraception practice by some selected socio-demographic variables and women empowerment with rural – urban differentials.

The proportion of current contraception practice are 39.8, 57.4 and 54.4 in Bangladesh for the women of age <20, 20-34 and 35+ years respectively. In rural areas these percentages are somewhat lower than in urban areas. It is also found that the teen age women have least tendency to use any contraception than that of their older counterparts in both the rural and urban areas. Further it is seen that the 20-34 years aged women currently use contraception more than the other age groups of women in all areas. Considering rural – urban differentials of aforementioned cases, the contraceptive practice in rural areas is somewhat lower than that of in urban areas.

With reference to husband's age, it has been found that highest percent women currently use contraceptive whose husband's age is 35+ years. The urban women use more contraceptive than their rural counterparts and contraceptive use increases as husband's age increase. It has also been found that very little percent rural women (27.5) currently use contraception whose husband's age is under 20 years than those women whose husband's age is 35+ years.

Highest percent contraception has been used by the respondents whose age at first marriage is under 15 years in rural and total Bangladesh. But in urban areas women whose first marriage happened between 17 to 19 years are the highest user of contraception than others groups. It may be the cause that rural women are getting married at earlier ages and are motivated to use contraception than urban counterparts.

Age difference between spouses may play a great role on contraceptive behaviour. It is found from Table 5.3 that highest user belong to second group in total and urban areas, strikingly about 92 percent current user in urban areas. But in rural areas highest percent user has been found in fourth group i.e. whose age difference is between 6 to 10 years. So, it may be concluded that in urban areas the same aged husband and wife feel free and friendly to opine household matters especially contraceptive use.

Obviously education has been playing great role on the use of contraception. Table 5.3 shows the expected results that the proportion of current contraception practice is the highest among those who are in higher educational attainment level for both respondents and their husbands in all areas of Bangladesh. In comparison with rural women, the use of contraception is more frequent by the respective educated urban respondents and their husbands.

Regarding respondent's work status, it is found that working women use more contraception than their non-working counterparts in rural and total areas. But opposite picture has been found in urban areas.

Contraceptive prevalence is much higher among non-Muslim than Muslim women. These differences are more in rural areas than that of urban areas of Bangladesh. It may be due to the fact that the cultural belief is more sensitive in rural areas regarding contraceptive use.

Number of children ever born (CEB) has an important role on contraceptive practice as the contraceptive use proportion is lower among women who have less number of CEB. The expected result has been found from Table 5.3 that the women, who have less than 3 CEB, use less contraception than their counterparts in all areas of Bangladesh. The highest percentages have been observed for women who have exactly three CEB in all areas. It may be the cause that the women with exact three CEB do not want any more CEB.

Number of children dead can also play an important role on contraceptive use as the proportion of contraceptive use is lower among women who have lost more than one child. They may be feared that if they limit their family size, they will be childless in future. Table 5.3 shows the expected pattern that the women who lost more than one child, use less contraception in all areas of Bangladesh.

One important aspect of women empowerment is the women's ability to discuss family planning and negotiate about contraceptive use with their husbands. It is observed that the proportions of contraceptive use in rural and urban areas are higher among women who discuss frequently family planning matter with their husbands than the respondents of other group. The important scenario has been observed that the urban couples currently use more contraception in comparison to the rural counterparts.

Media exposure is essential to increase people's knowledge and awareness to uplift their perceptions and behavior concerning contraception. Result shows that 56.3 percent women use any contraception who have had media access while 47.9 percent use contraception who do not have had any media access in overall Bangladesh. Further, it is observed that the women, who have access to mass media, use contraception more than those women who do not have assess to mass media in both the rural and urban areas. Here it is also observed that the difference of contraceptive prevalence between the media exposure and non exposure women is higher among the urban women than that of their rural counterparts.

The expectation is that women who are more empowered are more equally likely to use contraceptive method than their partner and to be doing so for longer periods with fewer interruptions. But regarding Women Empowerment Index (WEI), it has been found that all the respondents whose responses are counted in constructing WEI, use contraception in all areas of Bangladesh.

Table 5.3: *Percentage distribution of current contraception practice by some selected variables and place of residence*

Variables	Rural			Urban			Total		
	No	Yes	N	No	Yes	N	No	Yes	N
Respondent's Age									
<20	63.1	36.9	1205	53.2	46.8	498	60.2	39.8	1703
20-34	45.0	55.0	3895	38.1	61.9	2102	42.6	57.4	5997
35 – 49	48.2	51.8	2436	40.8	59.2	1304	45.6	54.4	3740
Husband's age									
<20	72.5	27.5	51	46.2	53.8	26	63.6	36.4	77
20-34	53.6	46.4	2487	42.1	57.9	1191	49.9	50.1	3678
35+	40.2	59.8	4437	33.0	67.0	2361	37.7	62.3	6798
Age at first marriage									
<15	47.1	52.9	4255	42.0	58.0	1880	45.5	54.5	6135
15-16	49.6	50.4	1901	40.2	59.8	881	46.6	53.4	2782
17-19	52.4	47.6	1009	39.7	60.3	751	47.0	53.0	1760
20+	56.6	43.4	371	40.1	59.9	392	48.1	51.9	763
Age difference between spouses									
1= <0	50.0	50.0	18	28.6	71.4	14	40.6	59.4	32
2= 0	56.5	43.5	23	7.7	92.3	13	38.9	61.1	36
3= 1-5	44.9	55.1	1350	36.0	64.0	734	41.7	58.3	2084
4= 6-10	42.8	57.2	3018	35.9	64.1	1589	40.4	59.6	4607
5= 11-20	47.8	52.2	2275	36.9	63.1	1107	44.2	55.8	3382
6= 21+	49.3	50.7	280	36.5	63.5	115	45.6	54.4	395
Respondent's educational level									
Illiterate	50.1	49.9	3193	44.9	55.1	1226	48.6	51.4	4419
Primary	48.1	51.9	2327	42.6	57.4	1054	46.4	53.6	3381
Secondary	48.0	52.0	1769	39.5	60.5	1180	44.6	55.4	2949
Higher	47.4	52.6	247	30.0	70.0	444	36.2	63.8	691
Respondent's work status									
No	49.6	50.4	5994	40.2	59.8	2930	46.5	53.5	8924
Yes	46.3	53.7	1542	43.2	56.8	973	45.1	54.9	2515
Husband's educational level									
Illiterate	49.9	50.1	3046	45.1	54.9	1078	48.6	51.4	4124
Primary	48.9	51.1	2047	41.5	58.5	856	46.7	53.3	2903
Secondary	48.3	51.7	1785	40.9	59.1	1162	45.4	54.6	2947
Higher	45.7	54.3	652	34.6	65.4	804	39.6	60.4	1456
Religion									
Non-Muslim	41.8	58.2	835	35.2	64.8	423	39.6	60.4	1258
Muslim	49.8	50.2	6701	41.6	58.2	3481	47.0	53.0	10182
Children ever born (CEB)									
CEB <3	55.5	44.5	3582	45.9	54.1	2106	51.9	48.1	5688
CEB= 3	38.7	61.3	1208	31.8	68.2	699	36.1	63.9	1907
CEB >3	44.8	55.2	2746	37.3	62.7	1099	42.7	57.3	3845
Number of children dead									
None	48.3	51.7	5357	39.5	60.5	3002	45.1	54.9	8359
One	45.7	54.3	1432	43.6	56.4	636	45.0	55.0	2068
More than one	59.3	40.7	747	51.1	48.9	266	57.2	42.8	1013
Discuss FP with husband									
Never	57.5	42.5	4200	48.5	51.5	1946	54.6	45.4	6146
Once or Twice	27.0	73.0	2343	22.3	77.7	1339	25.3	74.7	3682
Frequently	22.7	77.3	418	16.7	83.3	288	20.3	79.7	706
Media exposure									
No	52.7	47.3	2820	49.0	51.0	580	52.1	47.9	3400
Yes	46.6	53.4	4716	39.5	60.5	3324	43.7	56.3	8040
Women Empowerment Index									
1= Low	-	100	71	-	100	52	-	100	123
2= Medium	-	100	130	-	100	119	-	100	249
3= High	-	100	116	-	100	148	-	100	264

Notes: FP indicates family planning

5.4 Trends in Contraceptive Use

5.4.1 Trends in Ever Use of Contraceptive Methods

Bangladesh has achieved a good level of success in family planning programme. The percentage distribution of the women aged 10-49 who have ever used specific contraceptive method in Bangladesh during 1975 to 2004 has been shown in Table 5.4.

From Table 5.4 it is observed that the level of ever use of family planning method has been increased steadily in Bangladesh. In 2004, 80 percent ever married women of reproductive age have used a family planning method at some time which was only about 14 percent in 1975. That means the ever use of any method has increase more than fivefold over the past three decades. Although the ever use of any contraceptive method increased dramatically during the late 70's to early 80's, there were a slight decrease during the period 1983 to 1985 and then start to increase again moderately from 1985 to 1989. There were a sharp increase in ever use of any contraceptive method during 1989 to 1991 which has been gradually increased to 80.2 in 2004. It is also found that pill, injcetables and condom were the most commonly used methods within modern methods and periodic abstinence was familiar within traditional methods.

Table 5.4: *Percentage of ever-married women of age 10-49 who have ever used specific family planning methods, Bangladesh 1975-2004*

Method	1975	1983	1985	1989	1989	1991	1993-1994	1996-1997	1999-2000	2004
Any Method	13.6	33.4	32.5	44.2	45.0	59.0	63.1	69.2	74.6	80.2
Any modern method	u	23.8	25.9	37.5	u	49.2	56.4	63.0	67.9	74.5
Pill	5.0	14.1	14.3	23.3	22.0	34.1	42.0	48.9	55.4	62.4
IUD	0.9	2.2	2.7	4.6	4.0	6.2	7.3	6.9	6.9	5.6
Injectables	u	1.2	1.3	2.8	2.0	6.6	11.0	15.7	20.1	26.0
Vaginal methods	0.5	2.2	1.6	2.4	1.0	2.9	u	u	u	u
Condom	4.8	7.1	5.7	9.3	6.0	13.4	13.9	15.0	18.6	20.5
Female sterilization	0.3	5.8	7.4	8.7	9.0	8.0	7.9	7.6	6.6	5.2
Male sterilization	0.4	1.4	1.6	1.6	1.0	1.4	1.4	1.2	0.6	0.7
Any traditional method	u	17.3	11.9	15.3	u	29.6	24.0	23.0	28.8	29.3
Periodic abstinence	4.5	11.0	7.8	9.7	13.0	21.5	16.5	16.7	18.9	19.3
Withdrawal	2.6	5.3	2.9	3.6	7.0	11.1	10.1	9.5	14.0	14.0
Number of women	6515	8523	8541	10293	11907	10573	9640	9127	10544	11440

Notes: u = Unknown (no information)
Source: NIPORT, 2005: 65

5.4.2 Trends in Current Use of Contraceptive Methods

Table 5.5 represents the trends in current use of contraceptive methods by currently married women of age 10-49 years in Bangladesh during 1975 to 2004.

From Table 5.5 it is observed that contraceptive prevalence rate in Bangladesh has increased from 8 percent in 1975 to 58 percent in 2004. That means the current use of contraception has increased more than a sevenfold over the past three decades. From Table 5.5 it is also observed that contraceptive prevalence rate increased sharply during 1975 to 1983 but after that period, current use of contraceptive method increased moderately during 1983 to 1989. The pace of contraceptive use geared up during 1989 to 1996/1997 from 30.8 percent to 49.2 percent. It has been seen that the contraception prevalence rate during 1996 to 1997 was just below the 50 percent and it has improved to 58.1 percent in 2004. It is also observed that the increase of modern methods users is even more dramatic – a more than nine fold

increase i.e. from 5 to 47 percent during 1975 to 2004. Although Bangladesh has a great success in family planning programme however, it still has a long way to go to achieve the replacement level of fertility. The CPR would have to rise to over 70 percent for this target to be reached (Khuda, Stoeckel and piet-Pelon, 1997; Khuda, 1998).

Table 5.5: *Percentage of currently married women of age 10-49 who are currently using specific family planning methods, Bangladesh 1975-2004*

Method	1975	1983	1985	1989	1991	1993-1994	1996-1997	1999-2000	2004
Any Method	7.7	19.1	25.3	30.8	39.9	44.6	49.2	53.8	58.1
Any modern method	5.0	13.8	18.4	23.2	31.2	36.2	41.5	43.4	47.3
Pill	2.7	3.3	5.1	9.6	13.9	17.4	20.8	23.0	26.2
IUD	0.5	1.0	1.4	1.4	1.8	2.2	1.8	1.2	0.6
Injectables	u	0.2	0.5	0.6	2.6	4.5	6.2	7.2	9.7
Norplant	u	u	u	u	u	u	0.1	0.5	0.8
Vaginal methods	0.0	0.3	0.2	0.1	u	u	u	u	u
Condom	0.7	1.5	1.8	1.8	2.5	3.0	3.9	4.3	4.2
Female sterilization	0.6	6.2	7.9	8.5	9.1	8.1	7.6	6.7	5.2
Male sterilization	0.5	1.2	1.5	1.2	1.2	1.1	1.1	0.5	0.6
Any traditional method	2.7	5.4	6.9	7.6	8.7	8.4	7.7	10.3	10.8
Periodic abstinence	0.9	2.4	3.8	4.0	4.7	4.8	5.0	5.4	6.5
Withdrawal	0.5	1.3	0.9	1.8	2.0	2.5	1.9	4.0	3.6
Other traditional methods	1.3	1.8	2.2	1.8	2.0	1.1	0.8	0.9	0.6
Number of women	u	7662	7822	10907	9745	8980	8450	9720	10582

Notes: u = Unknown (not available)
Source: NIPORT, 2005: 67

5.5 Factors Affecting Contraceptive Behaviour: Application of Multinomial Logistic Regression

Though the contraceptive methods currently practiced have a little bit side effects but mostly women are motivated to use contraceptive methods and suffer from those side effects. To identify the factors affecting contraceptive use, the multinomial logistic regression technique has been used with the use of contraception as the dependent variable by assigning value 1 if both of husband and wife do not currently use contraception, 2 if wife use contraception, and 3 if husband use contraception. The factors affecting contraceptive use in total, rural and urban areas of Bangladesh in 2004 are presented in Table 5.6, 5.7 and 5.8 respectively. For the above mentioned three tables the quantitative independent

variables used are respondent's age, age at first marriage, respondent's educational level, husband's educational level and children ever born and the qualitative independent variables are respondent's work status, religion, discussion on family planning with husband and media exposure.

Considering not using contraception as a base line category in overall Bangladesh, eight out of nine independent variables have been found as significant for both the female use and male use model. Only educational attainment of the respondents produces insignificant effect for female use model whereas religion has insignificant effect for male use model. Respondent's current age has significant positive effect on both the female and male contraceptive use and it gives the odds ratio 1.029 and 1.052 for female use and male use respectively. That means respondents want 1.029 times more likely to use contraception whereas respondent's husbands want 1.052 times more likely to use contraception with one unit increase of respondent's age.

Age at first marriage has negative significant effect on both the female use and male use with odds ratio 0.947 and 0.971 respectively. So, if the age at marriage increases by one unit, female wants 0.053 times less likely to use contraception whereas male wants 0.029 times less likely to use contraception.

Education is often argued to increase women's empowerment by increasing their self-confidence and understanding of how to operate in the world (Cochrane, 1979). In addition, one of the most important products of education, literacy, is said to increase women's independence from other family members by giving them the means to learn about the outside world on their own (Jejeebhoy, 1995). Respondent's educational level produce positive regression coefficient for both the models but only significant value for male use model. So, if respondent's

educational level increases by one unit, male want 1.120 times more likely to use contraception.

Respondent's work status has negative significant effect on contraceptive use for both the models. The results show that the respondents, who are currently non-working, want 0.319 times less likely to use contraception than the reference category i.e. than the working women. Also it has been found that the male whose wives are non-working, wants 0.228 times less likely to use contraception than the reference category.

Husband's educational level has negative significant coefficient for female use model but positive significant coefficient for male use model. So, it may be concluded that respondents' husbands want more likely to use contraception than the wives as husbands' educational level increase.

Regarding religion, it may be concluded that non-Muslim female wants 1.539 times more likely to use contraception than Muslim counterparts.

For discussion family planning with husbands, interesting and usual findings have been come out from this study. Comparatively, women, who discuss family planning more times with their husband, want more likely to practice contraception. It has also positive impact on male contraception use. This motivational measure could be undertaken greatly to reduce growth rate as well as to stable population of Bangladesh.

Media exposure has produced the expected out come for both the models. The results show that the respondents, who do not have the access to mass media, want less likely to use contraception than those who have media exposure.

Table 5.6: *Multinomial logistic regression of some selected variables on contraception use (comparison group: non-user) for total areas of Bangladesh*

Variables	'Female Use' Model			'Male Use' Model		
	B	Sig.	Exp(B)	B	Sig.	Exp(B)
Intercept	1.379***	0.000	-	-1.349***	0.000	-
Respondent's age	0.029***	0.000	1.029	0.050***	0.000	1.052
Age at first marriage	-0.055***	0.000	0.947	-0.29**	0.041	0.971
Respondent's educational level	0.004	0.638	1.004	0.113***	0.000	1.120
Respondent's work status						
No	-0.384***	0.000	0.681	-0.258***	0.007	0.772
Yes®	0	-	-	0	-	-
Husband's educational level	-0.010**	0.049	0.990	0.018***	0.001	1.019
Children ever born (CEB)	0.050***	0.001	1.051	0.044*	0.095	1.045
Religion						
Non-Muslim	0.431***	0.000	1.539	-0.016	0.896	0.984
Muslim®	0	-	-	0	-	-
Discuss family planning with husband						
Never	-1.559***	0.000	0.210	-2.382***	0.000	0.092
Once or twice	-0.196*	0.066	0.822	-0.761***	0.000	0.467
Very often®	0	-	-	0	-	-
Media exposure						
No	-0.260***	0.000	0.771	-0.318***	0.001	0.727
Yes®	0	-	-	0	-	-

Notes: ® = Reference group;
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

To observe the rural – urban differentials in multinomial logistic regression, we represent the results in Table 5.7 for rural areas and in Table 5.8 for urban areas of Bangladesh.

Almost similar scenario like overall Bangladesh has been found in rural areas of Bangladesh. Only two exceptions have been found for each of female use and male use model. For female use model the exceptions are respondent's educational level and CEB but for male use model, exceptions are the CEB and religion. Thus, the results of Table 5.7 could be explained in the same manner like Table 5.6.

Table 5.7: *Multinomial logistic regression of some selected variables on contraception use (comparison group: non-user) for rural areas of Bangladesh*

Variables	'Female Use' Model			'Male Use' Model		
	B	Sig.	Exp(B)	B	Sig.	Exp(B)
Intercept	1.324***	0.000	-	-0.923***	0.014	-
Respondent's age	0.036***	0.000	1.037	0.047***	0.000	1.048
Age at first marriage	-0.065***	0.000	0.937	-0.042**	0.044	0.959
Respondent's educational level	-0.004	0.673	0.996	0.081***	0.000	1.084
Respondent's work status						
No	-0.331***	0.000	0.718	-0.413***	0.001	0.662
Yes®	0	-	-	0	-	-
Husband's educational level	-0.010*	0.089	0.990	0.016***	0.013	1.017
Children ever born (CEB)	0.012	0.489	1.012	0.030	0.352	1.031
Religion						
Non-Muslim	0.438***	0.000	1.550	0.057	0.727	1.058
Muslim®	0	-	-	0	-	-
Discuss family planning with husband						
Never	-1.625***	0.000	0.197	-2.288***	0.000	0.101
Once or twice	-0.160	0.227	0.852	-0.825***	0.000	0.438
Very often®	0	-	-	0	-	-
Media exposure						
No	-0.166***	0.005	0.847	-0.254**	0.027	0.776
Yes®	0	-	-	0	-	-

Notes: ® = Reference group;
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

For urban areas, three exceptions for each of the female use and male use model have been found in comparison to overall Bangladesh. For female use model, respondent's age, husband's educational level and discussion FP with husband provide different results whereas for male use model the exceptions are age at first marriage, respondent's work status and media exposure. The results of Table 5.8 can also be explained similarly as Table 5.6.

Table 5.8: *Multinomial logistic regression of some selected variables on contraception use (comparison group: non-user) for urban areas of Bangladesh*

Variables	'Female Use' Model			'Male Use' Model		
	B	Sig.	Exp(B)	B	Sig.	Exp(B)
Intercept	1.614***	0.000	-	-1.335***	0.001	-
Respondent's age	0.008	0.209	1.008	0.038***	0.000	1.038
Age at first marriage	-0.039***	0.011	0.962	-0.023	0.257	0.977
Respondent's educational level	0.015	0.276	1.015	0.134***	0.000	1.144
Respondent's work status						
No	-0.449***	0.000	0.638	-0.023	0.880	0.977
Yes®	0	-	-	0	-	-
Husband's educational level	-0.013	0.149	0.987	0.016*	0.095	1.016
Children ever born (CEB)	0.160***	0.000	1.173	0.123***	0.010	1.131
Religion						
Non-Muslim	0.460***	0.000	1.583	-0.055	0.781	0.947
Muslim®	0	-	-	0	-	-
Discuss family planning with husband						
Never	-1.439***	0.000	0.237	-2.489***	0.000	0.083
Once or twice	-0.276	0.127	0.759	-0.702***	0.001	0.496
Very often®	0	-	-	0	-	-
Media exposure						
No	-0.364***	0.001	0.695	-0.295	0.155	0.745
Yes®	0	-	-	0	-	-

Notes: ® = Reference group;
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

5.6 Chapter Conclusion

From the above discussion of this chapter it is obvious that both ever-married women and currently married women have had a good sign concerning contraceptive practice. The contraceptive prevalence rate in Bangladesh has increased sharply during 1975 to 2004 from 7.7 percent to 58.1 percent. Pill has been found as the most commonly used contraceptive method in Bangladesh. From percentage distribution, more use of contraceptive methods has been observed for higher aged and higher educated women as well. Also the respondents who, have media access and discussed family planning more frequently with their husbands, use more contraception. Lower contraception uses have been observed for the respondents who have less than three CEB and more than one child dead. The study also reveals that all the respondents whose responses are counted in constructing WEI, use contraception in all areas of Bangladesh. Also, the study presents that urban women use more contraception in comparison to rural counterparts. From multinomial logistic regression, respondent's age, age at marriage, work status, CEB, spousal discussion on family planning have been found as significant factors affecting contraceptive behaviour of the ever married women of Bangladesh.

Chapter Six

Women Empowerment and Fertility

6.1 Introduction

Reproduction is a key factor in women's lives, and fertility is inextricably linked to women's roles in the family and society. Given the centrality of childbearing in most societies, women's status is often tied to the number of children that women bear (and, in some settings, the sex of the children). At the same time, increases in women's education and labor force participation can enhance women's status vis-à-vis men, by offering women opportunities to control their own resources as well as their power to make decisions about demographic outcomes such as fertility (Riley, 1997). In addition, acceleration in contraceptive prevalence and fertility decline require major efforts directed at improving women's status (Khuda, Roy and Rahman, 2000). It is evident that female empowerment is associated with fertility outcomes and contraceptive use (Govindasamy and Malhotra, 1996), desired fertility (Abadian, 1996) and number of children ever born (Balk, 1994). Women empowerment is an important determinant of fertility (Balk, 1994) and all of its dimensions can play a crucial role in influencing their fertility (Audinarayana, 1997). The United Nations International Conference on Population and Development (ICPD) in Cairo, 1994, and the Fourth World Conference on

Women in Beijing, 1995, outlined factors considered critical to "the empowerment of women" (Linkages, 1994; United Nations, 1995). At these meetings, 179 countries agreed on a 20 year plan to stabilize the world's population, premised on the notions that population, development and the environment are integrally linked, and that the empowerment of women is required to make this vision a reality (Presser and Sen, 2000). It was further re-emphasized at this conference that "advancing gender equality and the empowerment of women and the elimination of all kinds of violence against women and ensuring women's ability to control their own fertility, are corner-stone of population and development related programmes". It was believed that when women have more autonomy, maternal and child health will improve, fertility and child or infant mortality will decline and population growth rate will reduce. Empowerment of women was defined to include providing women with access to employment, education, and reproductive health care, free from discrimination, coercion and violence. These same factors are also linked with fertility decline, a global phenomenon that causes growing concern for governments planning for future workforce and social security needs (Davis, Bernstam and Ricardo-Campbell, 1986; Garcia, 2000).

In addition, different dimensions of women empowerment can affect fertility outcomes differently, in terms of the direction, extent, and statistical significance (Balk, 1994). Due to a lack of adequate measures of women empowerment, most early studies examine the relationship between women empowerment and fertility outcomes using education and employment as proxies for female empowerment. Many recent studies also use these measures as proxies for women empowerment despite their being problematic (Abadian, 1996; Hogan, Berhanu and Hailemariam, 1999; Jejeebhoy, 1991). Again according to Mason (1986 and 1987), women's education and employment are not appropriate measures of women empowerment when examining its relationship to fertility outcomes. Thus, it is complicating the use of education as a proxy for women empowerment.

Despite efforts to examine the relationship between women empowerment and fertility outcomes, it is still unclear which aspects of women empowerment affect number of children ever born and to what degree. By further examining the effects of different dimensions of women empowerment on fertility, this chapter tries contributing to the understanding of this complex relationship. This study also shows the trend and pattern of children ever born and seeks to examine the effect of some selected socio-demographic variables on fertility.

6.2 Children Ever Born and Surviving Children by Ever Married Women

The number of "children ever born" at various ages of the mother provides one measure of a population's fertility. To observe the present fertility situation in Bangladesh, the number of children ever born for ever-married women according to five years age group by place of residence has been presented in Table 6.1. Table 6.1 shows the percentage distribution of ever-married women of age 10-49 years by the number of children ever born according to five year age group. It also presents the mean number of children ever born and mean number of living children in last two columns and the mean age of these women at first birth in the last row for each area i.e. for total, rural and urban Bangladesh in 2004.

It is observed that the mean number of CEB is 2.94 in total areas, which means, on average, Bangladeshi women aged 10-49 years have had 2.94 births. The rural women have 3.07 births on average and the urban women have had fewer than three births. The results show that the mean number of living children is 2.53, 2.63 and 2.34 in total, rural and urban areas respectively. That means, allowing mortality of children, the women have, on average, 2.53 living children in overall Bangladesh, 2.63 living children in rural areas and only 2.34 living children in urban areas. So, one may conclude that the average number of children who have died per woman are 0.41, 0.44 and 0.34 for total, rural and urban areas respectively. That means 41 percent of children born in total, 44 percent in rural

and 34 percent in urban areas had died. The proportion of CEB, who died, increases with women's age in all areas of Bangladesh but at a faster rate in rural areas than in urban areas. It may be due to the fact that health facilities are more available in urban areas than the rural areas. It is obvious that mean CEB increases as age of the mother increases and it will be more constant at certain level of age group. But in this study, mean CEB did not stay constant in any age group and gradually increases up to their reproductive age. Therefore, it may be concluded that family planning as well as fertility are not yet under control in Bangladesh.

Theoretically it is known that the child bearing age of women is from 15 to 49, which is important to have knowledge about fertility. However, in this study the age group 10 to 14 has been considered and found that a small part of that grouped women participate in reproduction. The result shows that 5.7 percent of the 10 – 14 aged group ever-married women give birth before reaching the child bearing age in total Bangladesh; in rural areas it is 4.2 percent and in urban areas it is 8.9 percent. The result also represents that the childbearing for Bangladeshi ever-married women is almost universal and only 1.7 percent ever-married women remain childless at the end of their reproductive age (45 – 49 years) at the same time 7.7 percent women have extensively high rate of children ever born (7 or more children) in overall Bangladesh. 9.0 percent rural women have extensively high rate of CEB whereas it is only 5.3 for urban areas. Relatively few rural women remain childless at the end of their reproductive span i.e. 45 – 49 years of age than that of their urban counterparts. Mean age at first birth is an important factor for fertility outcome. If a woman's age at first birth is low, she must get long childbearing span which in turn increase fertility. It is also observed that mean age at first birth is lower in rural areas than in urban areas and it is 17.40 years in total Bangladesh.

Table 6.1: *Percentage distribution of ever-married women aged 10-49 years by number of children ever born, mean number of children ever born, mean number of living children and place of residence according to age group*

Age	Number of children ever born								Total	Number of women	Mean number of children ever born	Mean number of living children
	0	1	2	3	4	5	6	7+				
Total												
10-14	94.3	5.7	0.0	0.0	0.0	0.0	0.0	0.0	100.0	140	0.06	0.06
15-19	42.9	45.0	11.3	0.9	0.0	0.0	0.0	0.0	100.0	1563	0.70	0.65
20-24	11.5	36.2	33.2	14.8	3.8	0.5	0.0	0.0	100.0	2202	1.65	1.51
25-29	4.6	13.5	32.1	26.3	14.9	5.8	1.8	0.9	100.0	2012	2.63	2.36
30-34	3.3	7.2	22.0	23.9	19.3	12.3	6.6	5.3	100.0	1783	3.42	3.03
35-39	2.6	4.7	15.2	19.3	20.5	14.7	11.2	12.0	100.0	1480	4.09	3.48
40-44	2.6	3.9	9.3	17.7	19.6	15.6	11.2	20.1	100.0	1185	4.61	3.82
45-49	1.7	2.0	6.4	10.8	15.6	15.3	15.0	33.3	100.0	1075	5.55	4.42
Total	11.3	17.9	20.5	16.7	12.5	8.0	5.4	7.7	100.0	11440	2.94	2.53
Mean age of ever-married women at first birth											17.40 years	
Rural												
10-14	95.8	4.2	0.0	0.0	0.0	0.0	0.0	0.0	100.0	95	0.04	0.04
15-19	42.3	45.3	11.6	0.7	0.0	0.0	0.0	0.0	100.0	1110	0.71	0.65
20-24	9.8	33.7	35.2	16.3	4.3	0.7	0.0	0.0	100.0	1456	1.74	1.60
25-29	3.7	10.9	29.8	27.6	18.1	6.5	2.1	1.2	100.0	1284	2.80	2.49
30-34	2.7	6.4	20.3	21.9	20.3	13.9	8.1	6.5	100.0	1155	3.61	3.17
35-39	2.4	4.7	11.7	17.7	20.3	14.9	13.4	14.8	100.0	950	4.34	3.63
40-44	2.8	2.0	7.4	15.8	21.6	14.6	12.1	23.7	100.0	759	4.90	4.06
45-49	1.2	1.4	5.4	9.2	13.6	16.4	16.0	36.9	100.0	727	5.83	4.62
Total	11.1	17.0	19.4	16.0	13.1	8.3	6.0	9.0	100.0	7536	3.07	2.63
Mean age of ever-married women at first birth											17.20 years	
Urban												
10-14	91.1	8.9	0.0	0.0	0.0	0.0	0.0	0.0	100.0	45	0.09	0.09
15-19	44.2	44.2	10.4	1.3	0.0	0.0	0.0	0.0	100.0	453	0.69	0.64
20-24	14.7	41.2	29.2	11.8	2.8	0.3	0.0	0.0	100.0	746	1.48	1.34
25-29	6.2	18.1	36.1	24.0	9.2	4.7	1.4	0.3	100.0	728	2.33	2.12
30-34	4.5	8.6	25.3	27.7	17.4	9.4	4.0	3.2	100.0	628	3.07	2.78
35-39	2.8	4.5	21.5	22.1	20.8	14.2	7.4	6.8	100.0	530	3.64	3.21
40-44	2.3	7.3	12.7	21.1	16.0	17.4	9.6	13.6	100.0	426	4.11	3.41
45-49	2.6	3.2	8.6	14.1	19.8	12.9	12.9	25.9	100.0	348	4.97	4.00
Total	11.7	19.5	22.7	17.9	11.4	7.4	4.1	5.3	100.0	3904	2.68	2.34
Mean age of ever-married women at first birth											17.78 years	

6.3 Children Ever Born and Surviving Children by Currently Married Women

Table 6.2 represents the percentage distribution of currently married women of age 10 to 49 by number of living children, mean number of children ever born and mean number of living children according to five year age group. The mean number of children ever born for currently married women of age 10-49 years is 2.94, 3.07 and 2.68 for total, rural and urban areas respectively. These averages are same as the average number of CEB for ever married women (see Table 6.1 and 6.2). But the mean number of CEB by five year age group for currently married women are not similar as the average number of CEB for ever-married women in all areas of Bangladesh.

The result also shows that the mean number of living children for currently married women is somewhat higher than that of ever married women. From Table 6.2 one may conclude that allowing mortality of children the currently married women have, on average, 2.55, 2.64 and 2.34 living children in total, rural and urban areas respectively. So, the average numbers of children who have died per currently married women are 0.39, 0.43 and 0.32 for total, rural and urban areas respectively. These numbers are somewhat lower than the respective numbers of ever married women. Here in comparison to the urban areas, the average number of children death per women is 0.11 more in rural areas, which means that 11 percent of children born had died more in rural areas. It is also observed that the proportion of CEB who died increases with women's age in all areas of Bangladesh but at a slower rate in urban areas than in rural areas.

Here the age group 10 – 14 years is also considered to check whether they participate in reproduction or not. Like the ever married women, we get 5.9, 4.3 and 9.1 percent currently married women in total, rural and urban areas respectively give birth before reaching the childbearing age and these are slightly higher as compared to the ever married women. Table 6.2 also shows that the childbearing for Bangladeshi currently married women is universal and only less than 2.0 percent currently married women remain childless at the end of their

reproductive span. It is also observed that mean age at first birth for currently married women is higher in urban areas than in rural Bangladesh.

Table 6.2: *Percentage distribution of currently married women aged 10-49 years by number of living children, mean number of children ever born, mean number of living children, and place of residence, according to age group*

Age	Number of living children								Total	Number of women	Mean number of children ever born	Mean number of living children
	0	1	2	3	4	5	6	7+				
							Total					
10-14	94.1	5.9	0.0	0.0	0.0	0.0	0.0	0.0	100.0	136	0.06	0.06
15-19	44.3	45.5	9.9	0.3	0.0	0.0	0.0	0.0	100.0	1498	0.72	0.66
20-24	11.9	39.0	35.3	11.5	2.2	0.0	0.0	0.0	100.0	2122	1.67	1.53
25-29	4.5	15.5	37.2	27.3	11.1	3.6	0.6	0.3	100.0	1929	2.67	2.40
30-34	3.5	6.9	25.9	28.6	18.8	9.6	3.9	2.6	100.0	1673	3.50	3.11
35-39	2.3	5.0	19.2	23.9	22.5	15.0	8.0	4.2	100.0	1330	4.19	3.59
40-44	1.9	5.0	12.7	22.4	23.5	15.6	8.6	10.3	100.0	1005	4.78	4.00
45-49	1.5	2.6	10.1	16.6	19.9	19.1	12.0	18.3	100.0	870	5.75	4.62
Total	11.9	19.6	23.8	18.4	12.2	7.1	3.5	3.5	100.0	10553	2.94	2.55
Mean age of currently married women at first birth											17.40 years	
							Rural					
10-14	95.7	4.3	0.0	0.0	0.0	0.0	0.0	0.0	100.0	92	0.04	0.04
15-19	44.1	45.5	10.2	0.2	0.0	0.0	0.0	0.0	100.0	1068	0.72	0.66
20-24	10.2	36.6	37.8	12.4	2.9	0.1	0.0	0.0	100.0	1406	1.75	1.61
25-29	3.7	12.7	35.9	29.7	12.9	4.0	0.7	0.3	100.0	1238	2.83	2.52
30-34	3.0	5.6	23.9	28.1	20.0	11.5	5.0	3.0	100.0	1081	3.71	3.27
35-39	2.4	5.2	16.1	22.2	22.7	17.0	9.2	5.3	100.0	851	4.46	3.74
40-44	1.7	3.1	11.0	21.1	24.5	15.4	10.3	12.8	100.0	648	5.10	4.25
45-49	1.4	2.0	8.8	14.6	18.8	21.7	12.5	20.3	100.0	591	6.04	4.82
Total	11.8	18.6	23.0	18.1	12.6	7.9	4.0	4.1	100.0	6975	3.07	2.64
Mean age of currently married women at first birth											17.18 years	
							Urban					
10-14	90.9	9.1	0.0	0.0	0.0	0.0	0.0	0.0	100.0	44	0.09	0.09
15-19	44.9	45.6	9.1	0.5	0.0	0.0	0.0	0.0	100.0	430	0.70	0.65
20-24	15.3	43.9	30.3	9.6	0.8	0.0	0.0	0.0	100.0	706	1.50	1.37
25-29	5.8	20.5	39.5	22.9	8.0	2.7	0.4	0.1	100.0	691	2.38	2.17
30-34	4.6	9.3	29.7	29.4	16.7	6.3	2.0	2.0	100.0	592	3.11	2.82
35-39	2.1	4.6	24.8	26.9	22.1	11.3	5.8	2.3	100.0	479	3.72	3.31
40-44	2.2	8.4	16.0	24.6	21.6	16.0	5.3	5.9	100.0	357	4.20	3.55
45-49	1.8	3.9	12.9	20.8	22.2	13.6	10.8	14.0	100.0	279	5.15	4.19
Total	12.0	21.5	25.5	18.9	11.3	5.7	2.6	2.3	100.0	3578	2.68	2.36
Mean age of currently married women at first birth											17.82 years	

6.4 Socio-Demographic Variables and Fertility

Table 6.3 presents the mean number of children ever born for some selected socio-economic and demographic settings of women by place of residence. It represents how the mean number of CEB fluctuates for the characteristics such as respondent's age, age at first marriage, respondent's educational qualification, respondent's work status, husband's age, husband's educational qualification, religion, number of dead children, participation on family planning decision, media exposure and women empowerment index with rural – urban differentials.

It is obvious that the mean number of CEB will be more in higher age group of both the respondents and their husbands. From Table 6.3, the similar pattern i.e. the highest mean number of CEB has been observed for both the 35-49 years aged women and 35+ years aged husbands in all areas. Comparatively, rural respondents have more mean number of CEB than their urban counterparts in each category of respondent's age and husband's age.

The age at first marriage in societies like Bangladesh is a good indicator of the time when women first enter into sexual unions, because of the rareness of sex and childbearing outside marriage. The lower mean number of children ever born has been found for the higher age at marriage of women in all areas. It is seen that the mean number of children ever born of women who marry before 15 years of age is more than double as compared to women who marry after 20 years of age in total and urban areas. These results supports Singh and Samara's (1996) argument that marriages at later ages allow women to prolong their education and delay first births, such women tend to have fewer children. It is also observed that the urban women have less mean number of CEB than their respective rural counterparts.

It is already said that same aged women fell free and friendly to opine in all spheres of life with her husband. Consequently, they use more contraception

which might reduce the fertility of Bangladesh. But here 1 to 5 years age difference is found as better age difference because it has the lowest mean number of CEB in all areas of Bangladesh especially the lowest mean number of CEB (2.38) in urban areas.

The education exercises an inhibiting influence on fertility and hence reduces population growth are substantiated by many empirical data (Hermalin and Mason, 1980). The result focuses the strong association of both respondent and husband's education with mean number of children ever born. It shows that the women who are illiterate have almost 3 times more children ever born than women who have higher education in all areas except urban Bangladesh. And urban women with secondary and higher education have more mean number of CEB than the rural counterparts. The main finding is that rural respondents who have higher educational qualification have the lower mean number of CEB (1.21) in all over Bangladesh. So, to reduce fertility of Bangladesh, the great step could be taken by the government such as educating all women properly especially rural women. Also the same result is seen in case of husband's educational level and as the level of husband's education increases the mean number of children ever born decreases. It is also observed that urban women have lower number of CEB for all categories of husband's educational level than the rural women.

The relationship between women's employment and fertility is even less clear. Women's employment may have a direct effect on lowering fertility, or may reflect increased education levels. Women's education is thought to increase women's employment opportunities and their ability to make decisions in the household which, in turn, may also lower fertility (Jejeebhoy, 1995). But in our study, the inverse picture has been observed i.e. the working women have the highest mean number of CEB in all areas of Bangladesh. This may be due to the fact that the respondents who, are currently working, may not be higher educated.

Muslim women have the slightly higher mean number of children ever born than the non-Muslim in all areas of Bangladesh. The result also shows that urban women have lower mean number of CEB than rural women for every religious group but exceptionally urban Muslim women have less mean number of CEB than the rural non-Muslim women (2.70 and 2.78).

Media exposure could play a great role in reducing fertility. The result reveals that the women who do not have access to the media exposure have sharply higher mean number of children ever born than the women who have access to media exposure in all areas. Number of dead children has strong impact on the number of children ever born. Table 6.3 shows the expected results that the women who lose more than one child have almost 3 times higher mean number of children ever born than the women who do not lose any in all areas. Also the women who lose one child have almost double number of children ever born than women who do not lose any. Here the more pronounced findings have also been seen i.e. the urban women have lower mean number of CEB than their rural counterparts.

Discussion on family planning has also important impact on the number of children ever born. Gage (1995), in her analysis of Togolese women, found that control over the decision of whom to marry was related to higher spousal communication about family planning and ever use of a modern contraceptive method. In addition, she found an important role for women's economic power in fertility behavior. Our study shows that the women who discuss family planning with their husband frequently have the fewer mean numbers of children ever born than other women in all areas especially 2.02 CEB for urban women.

It is observed that the mean number of children ever born increases with the increasing value of women empowerment index in all areas of Bangladesh. It may be because the empowerment of women as we saw in Table 3.2, 3.4 and 3.6

increases with the increase of age and at the same time the number of children ever born also increases with the increase of age. As a result women, who are more empowered, have higher mean children ever born.

Table 6.3: *Mean number of children ever born (CEB) by some selected socio-demographic variables and place of residence*

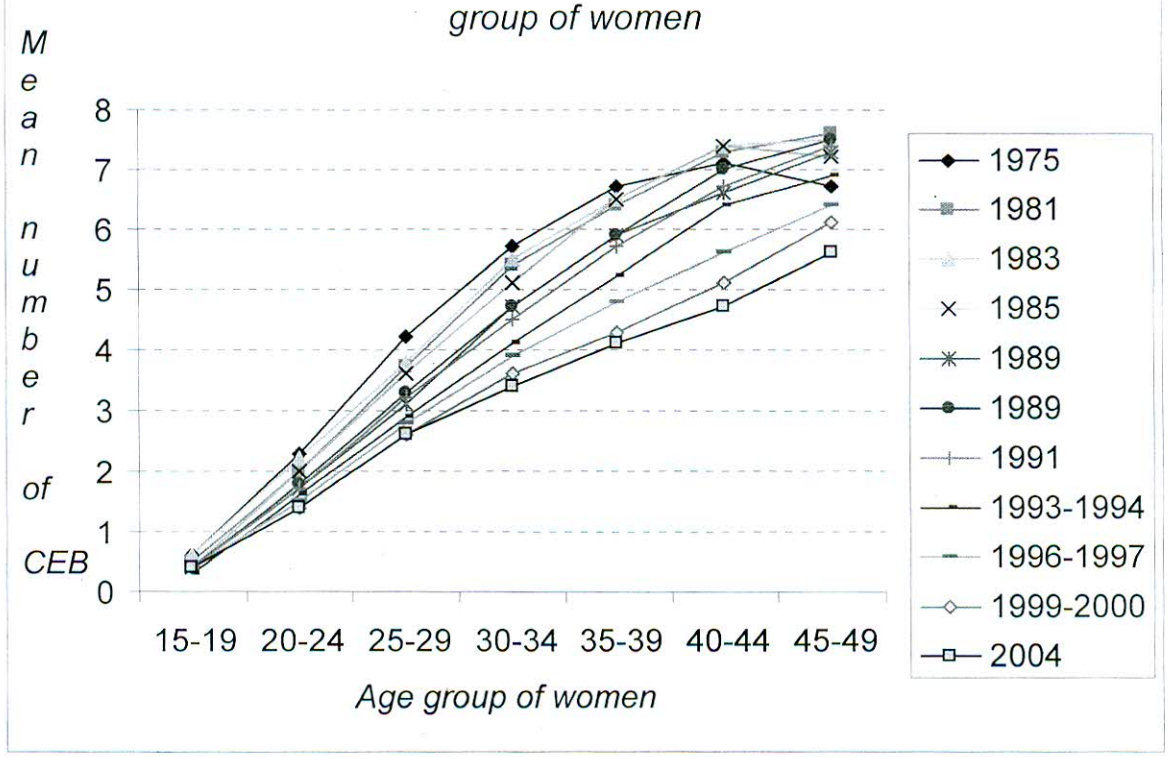
Variables	Rural			Urban			Total		
	Mean	Frequency	Percentage	Mean	Frequency	Percentage	Mean	Frequency	Percentage
Respondent's Age									
<20	0.65	1205	16.0	0.63	498	12.8	0.65	1703	14.9
20-34	2.64	3895	51.7	2.25	2102	53.8	2.50	5997	52.4
35 – 49	4.96	2436	32.3	4.15	1304	33.4	4.68	3740	32.7
Husband's age									
<20	0.22	51	0.7	0.15	26	0.7	0.19	77	0.7
20-34	1.39	2487	35.7	1.29	1191	33.3	1.36	3678	34.9
35+	4.04	4437	63.6	3.40	2361	66.0	3.82	6798	64.4
Age at first marriage									
<15	3.52	4255	56.5	3.20	1880	48.2	3.42	6135	53.6
15-16	2.76	1901	25.2	2.59	881	22.6	2.71	2782	24.3
17-19	2.25	1009	13.4	2.10	751	19.2	2.19	1760	15.4
20+	1.82	371	4.9	1.45	392	10.0	1.63	763	6.7
Age difference between spouses									
1= <0	3.00	18	0.3	2.64	14	0.4	2.84	32	0.3
2= 0	3.26	23	0.3	2.92	13	0.4	3.14	36	0.3
3= 1-5	2.81	1350	19.4	2.38	734	20.5	2.66	2084	19.8
4= 6-10	2.98	3018	43.3	2.64	1589	44.5	2.86	4607	43.7
5= 11-20	3.29	2275	32.7	2.86	1107	31.0	3.15	3382	32.1
6= 21+	3.61	280	4.0	3.19	115	3.2	3.49	395	3.7
Respondent's educational level									
Illiterate	3.93	3193	42.4	3.60	1226	31.4	3.84	4419	38.6
Primary	3.08	2327	30.9	2.80	1054	27.0	2.99	3381	29.6
Secondary	1.77	1769	23.5	2.06	1180	30.2	1.88	2949	25.8
Higher	1.21	247	3.3	1.49	444	11.4	1.39	691	6.0
Respondent's work status									
No	3.02	5994	79.5	2.64	2930	75.1	2.90	8924	78.0
Yes	3.27	1542	20.5	2.77	973	24.9	3.08	2515	22.0
Husband's educational level									
Illiterate	3.49	3046	40.5	3.27	1078	27.6	3.43	4124	36.1
Primary	3.09	2047	27.2	2.84	856	21.9	3.02	2903	25.4
Secondary	2.65	1785	23.7	2.49	1162	29.8	2.58	2947	25.8
Higher	2.25	652	8.7	1.98	804	20.6	2.10	1456	12.7
Religion									
Non-Muslim	2.78	835	11.1	2.49	423	10.8	2.69	1258	11.0
Muslim	3.11	6701	88.9	2.70	3481	89.2	2.97	10182	89.0
Number of children dead									
None	2.23	5357	71.1	2.09	3002	76.9	2.18	8359	73.1
One	4.39	1432	19.0	4.00	636	16.3	4.27	2068	18.1
More than one	6.58	747	9.9	6.08	266	6.8	6.45	1013	8.9
Discuss FP with husband									
Never	3.25	4200	60.3	2.90	1946	54.5	3.14	6146	58.3
Once or Twice	2.86	2343	33.7	2.49	1339	37.5	2.72	3682	35.0
Frequently	2.46	418	6.0	2.02	288	8.1	2.28	706	6.7
Media exposure									
No	3.81	2820	37.4	3.78	580	14.9	3.80	3400	29.7
Yes	2.63	4716	62.6	2.48	3324	85.1	2.57	8040	70.3
Women Empowerment Index									
1= Low	2.77	71	22.4	2.54	52	16.3	2.67	123	19.3
2= Medium	2.93	130	41.0	2.76	119	37.3	2.85	249	39.2
3= High	3.34	116	36.6	2.84	148	46.4	3.06	264	41.5

Notes: FP indicates family planning

6.5 Trends in Children Ever Born

To improve our understanding about fertility level in different times, the trends in age specific mean children ever born in Bangladesh during 1975 to 2004 has been presented in figure 6.1. Figure 6.1 represents the comparison among the mean number of children ever born by age group of women over the last 30 years. It is observed that there is a consistent decline in the mean number of children ever born from 1991 to 2004 for almost all age groups. But the declining pace was very slow during the late 1970s to the early 1980s then started declining moderately during 1981 to 1991 for all ages except the youngest age group. The mean number of children ever born declined at a bit higher pace during 1991 to mid 1990s and since then it has remained almost steady.

Figure 6.1: *Trends in CEB from 1975 to 2004 by age group of women*



Notes: Data used from Table 4.7 of BDHS 2004 (NIPORT, 2005:57)

6.6 Factors Affecting Fertility: Application of Multiple Linear Regression

From the previous section it has been observed that fertility in Bangladesh is declining consistently. Now a multivariate linear regression analysis is conducted to identify the influencing factors on fertility for BDHS 2004 data, and the results are shown by place of residence in Table 6.4. Here, the effect of some selected variables on children ever born considering number of CEB (Y) as dependent variable and respondent's age (X_1), age at first marriage (X_2), respondent's educational attainment (X_3), husband's educational attainment (X_4), number of children dead (X_5), religion (X_6), media exposure (X_7), discussion about family planning with husband (X_8), economic decision making index (X_9), household decision making index (X_{10}) and physical movement index (X_{11}) as independent variables. Another explanatory variable, respondent's work status has been excluded from regression analysis due to its constant value for all respondents.

From Table 6.4 it is observed that out of eleven independent variables, nine in total areas, eight in rural areas and only six in urban Bangladesh are significant. The results depict that respondent's current age, number of children dead and household decision making index have positive significant impact on the number of children ever born with almost same coefficient in all areas of Bangladesh. That mean if respondent's age increase in one unit, the number of CEB increases by 0.120, 0.127 and 0.114 units in total, rural and urban areas respectively. It can also be concluded that the CEB increases with increase in number of children dead and also with the increase in household decision making index (HDMI) in all areas. Though in Bangladesh, most of household decisions are made jointly, women's inability to express their opinion and influence on family decision process may be the cause behind the increasing CEB. Sathar, Callum and Jejeebhoy (2001) stated that South Asia is generally characterized by the subordinate role of its women and their limited ability to invest in their children's futures and make independent decision about childbearing. Also the proportion of women in need of

contraception but not using any contraceptive methods, related to husband's will against fertility control and women's lack of knowledge regarding contraceptive methods, show a significantly reduced prevalence among empowered women (Casique, 2001).

Early marriage usually leads to early motherhood, more CEB and young women are often threatened to death due to pregnancy-related causes. Age at marriage has significant negative effect on the number of children ever born i.e. higher age at marriage is characterized by fewer children ever born in all areas. This may be the consequences of early marriage which infringes the women's sexual and reproductive rights and may lead them in a higher number of CEB.

Schultz (1993) found that the higher the level of female education, the lower is the desired family size and the greater the success of achieving it. Our study shows the same findings that both respondent and husband's year of schooling have significant negative impact on children ever born for women in both total and urban areas, but not in rural areas. So, it may be concluded that if the educational level of the respondent's and their husbands increase in one unit, the number of children ever born decreases by 0.028 and 0.035 units in total areas and 0.039 and 0.046 units in urban Bangladesh respectively.

Religion has been found as positive significant variable for total and rural areas but not for urban areas. So, it may be concluded that the Muslim women have significantly 0.341 and 0.373 units higher CEB than the non-Muslim counterparts in total and rural Bangladesh respectively.

Media exposure has significant but negative effect on the number of CEB in only total and rural Bangladesh. That means the women who have media access i.e.

access to any media namely, television, radio or newspaper have 0.257 and 0.458 units fewer CEB than their counterparts in total and rural areas respectively.

Also discussion on family planning with husband has significant positive impact on the number of CEB in rural and total Bangladesh. But in urban areas it shows insignificant result. This may be due to the fact that the women who discuss with their husbands about family planning have more CEB. This may be the cause that the women might discuss family planning with their husbands after getting more children.

The multiple regression equation for total Bangladesh is

$$Y = 0.227 + 0.120X_1 - 0.105X_2 - 0.028X_3 - 0.035X_4 + 0.880X_5 + 0.341X_6 - 0.257X_7 + 0.161X_8 - 0.221X_9 + 0.897X_{10} - 0.204X_{11}$$

The multiple regression equation for both the rural and urban areas are given respectively in the following:

$$Y = 0.264 + 0.127X_1 - 0.123X_2 - 0.007X_3 - 0.025X_4 + 0.873X_5 + 0.373X_6 - 0.458X_7 + 0.258X_8 - 0.046X_9 + 0.896X_{10} - 0.520X_{11}$$

$$Y = 0.198 + 0.114X_1 - 0.088X_2 - 0.039X_3 - 0.046X_4 + 0.894X_5 + 0.226X_6 - 0.032X_7 + 0.071X_8 - 0.409X_9 + 0.878X_{10} - 0.039X_{11}$$

Table 6.4: *Multiple linear regression of children ever born with some selected variables by place of residence*

Variables	Rural			Urban			Total		
	Coefficients	t values	Significance	Coefficients	t values	Significance	Coefficients	t values	Significance
(Constant)	0.264	0.499	0.618	0.198	0.381	0.703	0.227	0.643	0.520
Respondent's current age	0.127***	12.762	0.000	0.114***	12.558	0.000	0.120***	17.955	0.000
Age at first marriage	-0.123***	-4.932	0.000	-0.088***	-4.245	0.000	-0.105***	-6.628	0.000
Respondent's educational level	-0.007	-0.305	0.760	-0.039*	-1.654	0.099	-0.028*	-1.694	0.091
Husband's educational level	-0.025	-1.255	0.210	-0.046**	-2.264	0.024	-0.035***	-2.483	0.013
Number of children dead	0.873***	9.867	0.000	0.894***	8.985	0.000	0.880***	13.421	0.000
Religion Non-Muslim®									
Muslim	0.373**	1.969	0.050	0.226	0.906	0.366	0.341**	2.289	0.022
Media Exposure No®									
Yes	-0.458***	-3.069	0.002	0.032	0.150	0.880	-0.257**	-2.178	0.030
Discuss FP with husband No®									
Yes	0.258**	2.012	0.045	0.071	0.558	0.577	0.161*	1.797	0.073
Economic decision making index	-0.046	-0.202	0.840	-0.409	-1.512	0.131	-0.221	-1.290	0.197
Household decision making index	0.896***	3.031	0.003	0.878***	2.611	0.009	0.897***	4.084	0.000
Physical movement index	-0.520**	-2.190	0.029	0.039	0.176	0.860	-0.204	-1.265	0.206

Notes: ® = Reference group;
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$

6.7 Chapter Conclusion

From the above discussion, it is observed 5.7 percent ever married women and 5.9 percent currently married women produce child before reaching the child bearing age i.e. 15 years. In turn 21.1 percent ever married women have extensive high CEB (5+ CEB) which is a dangerous sign of population growth and may be harmful message for family planning programs. This study also reveals that CEB increases with the increase in respondent's current age, number of children dead

and household decision making index. And the CEB decreases with the increase of age at marriage, women's educational attainment, and husband's educational attainment. Comparatively fewer CEB have been found for the respondent who are non-Muslim and who have access to mass media. So, respondent's current age, age at marriage, educational qualification, husband's educational attainment, number of children dead, religion, media exposure, and discussion on family planning and household decision making participation could be taken into consideration as determinants of fertility.

Chapter Seven

Conclusion and Recommendations

7.1 Introduction

In this study, to observe the empowerment level of Bangladeshi women, women empowerment index has been constructed. Available eleven indicators has been used from BDHS – 2004 and these indicators have been allocated in three dimensions namely, economic decision making, household decision making and physical movement for computing women empowerment index. Hence, we observe the present situation of women according some selected socio-demographic variables and aforementioned three dimensions. We also tried to find out more influencing factors in each dimensions. Then more appropriate mathematical model i.e. polynomial model has been fitted to WEI scores. We also observe the ever and current use of contraception by age group. The trends in contraceptive use have also been observed. Also more significant variables on contraceptive behaviour have been identified for both the female and male population separately. Finally mean number of CEB for ever-married and currently married women have been observed. The mean number of CEB of women for some selected socio-economic and demographic variables has also been observed. Moreover, we examine the impact of different dimensions of

women empowerment and some selected variables on fertility. It should be noted that all results have been calculated and explained for overall Bangladesh with its rural – urban differentials. The following sections provide a brief summary discussion followed by some important recommendations.

7.2 Summary Discussions

Due to data limitation, important constraints to measure women empowerment, in this study, women empowerment index has been calculated averaging three dimensions index namely, economic decision making index, household decision making index and physical movement index. From the constructed WEI, it has been found that about 42 percent women have high empowerment in overall Bangladesh and comparatively urban women are more empowered than their rural counterparts.

On the basis of mean values of EDMI, it is observed that women empowerment regarding economic decision making increases as age of the women increase in all areas of Bangladesh and women aged 20 – 49 years are more empowered in urban areas than in rural areas. Though very few study respondents have the same aged husbands, highest empowerment in economic decision making has been found for those few women interestingly full empowerment for rural women. More participation in economic decision making has been observed for women whose age at marriage is higher i.e. 20+ years. It is also observed that empowerment in economic decision making increases with higher educational credentials for both the husband and wife. The study also shows that women, who have the access to mass media, are more empowered than the women who do not have the access to media such as newspaper or radio or television in overall Bangladesh. Comparatively, urban women are more economically empowered than their rural counterparts regarding medial exposure. Multiple regression analysis also shows that older, Muslim woman and the woman who has media access is more

empowered regarding economic decision making in rural and overall Bangladesh. The study also confirms that the rural women with lesser CEB are more empowered in economic decision making.

In case of household decision making, we observe more empowerment for older women in all areas of Bangladesh and likewise EDMI, urban women are more empowered than their rural counterparts. Regarding age difference between spouses, same aged women are found as highest empowered and the women senior to their husbands are lowest empowered in all areas. Though negative picture for rural areas regarding respondent's and their husband's educational level has been found, the household decision making power has been observed as higher for woman who herself has higher education and women whose husbands have higher educational qualification in overall and urban areas. On average about 5 percent more participation in household decision making has been found for currently working women in all areas, especially for urban working women. The study also indicates higher household decision making ability for urban women who have media access. Using multiple regression analysis, the significant factors have been identified where CEB produces positive significant values for all areas. It does not confronts with the findings of EDMI i.e. the women with lesser CEB are more empowered.

With regard to the physical freedom of movement index, though low mean values of PMI have been found for all selected variables in comparison to the EDMI and HDMI, almost similar picture i.e. higher aged women as well as urban women have greater physical freedom of movement. Here women senior to their husbands and the women whose age at marriage is under 15 years have highest empowerment in physical movement in total and rural Bangladesh. The study also supports that education does not necessarily raise women's physical freedom of movement in Bangladeshi society. Currently working urban women have been

found as highest empowered in physical movement. Also the urban respondents, who are media connected, are more empowered in physical freedom of movement.

When more appropriate mathematical models to WEI scores have been fitted, polynomial models of order two best fits according to their shrinkages in all areas of Bangladesh. The study also reveals that younger women are less empowered than their older counterparts in overall Bangladesh as well as in rural and urban areas.

By including both the ever use and current use of contraception in our study, it has been found that CPR has been increased from 8 percent in 1975 to 58 percent in 2004 and level of ever use of family planning method has been increased steadily from 14 percent in 1975 to 80 percent in 2004. CPR among currently married women is 57.9 percent in overall Bangladesh; 54.8 percent in rural and 63.9 percent in urban areas. Among ever married women fourth-fifths have used any contraceptive method at sometime; three-fourths have used a modern method and about one-fourth have used a traditional method. Pill has been found as most commonly used contraceptive method in Bangladesh. The study also shows that currently married women are somewhat more likely to ever use of family planning methods than ever married women and urban women are more users of family planning methods than their rural counterparts. From percentage distribution of current contraceptive practice, somewhat lower contraceptive use has been observed in rural areas than in urban areas. Teen age women have least tendency to use any contraception in all areas. The study shows that in urban areas the same aged husband and wife use more contraception. In addition, higher educated women and their husbands use more contraception in all areas. Working women use more contraception than the non-working women in total and rural areas. The highest percentage contraceptive users' women are those who have exactly three CEB in all areas. The women, who have already lost more than one child, have the

least tendency to practice contraception. In both the rural and urban areas the women, who discuss frequently family planning with their husbands, use more contraception than the respondents of other group. Also in both the areas, the women, who have access to mass media, are the more users of contraception. By using multinomial logistic regression technique respondent's current age, age at marriage, work status, CEB and discussion on FP have been identified as significant factors affecting contraceptive behaviour of the study population.

To understand the complex relationship between women empowerment and fertility, the number of CEB for ever-married women according to five years age group has been calculated. Mean number of CEB for total Bangladesh has been found as 2.94 while the women have on average 2.53 living children. In this study a small part of respondents, whose age is 10 to 14 years, has been found giving birth. Mean age at first birth is 17.40 years in overall Bangladesh and it is comparatively lower in rural areas than urban areas. For currently married women, mean number of living children is 2.55 in overall Bangladesh; 2.64 in rural and 2.34 in urban areas. Likewise ever married women, currently married women of age 10 – 14 years also participate in reproduction. From trends of CEB, consistent decline in mean number of CEB from 1991 to 2004 for almost all age groups has also been observed.

In case of mean number of CEB by some selected variables, the highest mean number of CEB has been found for both the respondents and their husbands who are 35+ years aged in all areas. Rural women have more mean number of CEB than their urban counterparts. The women, who are married off before 15 years of age, have more than double mean number of CEB than the women who are married off after age 20 years. Lowest mean number of CEB (2.38) is found for urban women whose spousal age difference is 1 to 5 years. Rural respondents who have higher educational qualification have the lowest mean number of CEB (1.21).

Though the effects of women's employment has been considered negative on fertility, this study reveals the working women have the highest mean number of CEB in all areas. The study also shows that the women, who do not have mass media access, have higher mean number of CEB than the non-media connected women. Also the women who lose more than one child have almost 3 times higher mean number of CEB than the women who do not lose any in all areas. The study also confirms that the more empowered women have higher mean number of CEB in all areas of Bangladesh. Using multiple linear regression technique, respondent's age, age at fist marriage, level of education, husband's educational attainment, number of children dead, religion, media exposure, discussion on FP and HDMI have been identified as determinants of fertility.

7.3 Policy Recommendations

The findings of this study have a great importance to promote women empowerment in Bangladesh. In order to achieve the objectives and goals of comprehensive integration of women in development process, there is an urgent need to fight against gender discrimination which could be done with the help of the government, civil society and international community. Thus to face the challenges, this study suggests the following policy recommendations which can be proved valuable to the policy makers, planners of Bangladesh as well as for any developing country:

- formulate all programs, both Government and Non-Government conforming to gender sensitivity;
- older women should be inspired to share their experience with the younger to make them conscious about their rights;
- legal minimal age at marriage should be enforced especially for women by reviewing, modifying and implementing laws;
- female education should be strengthen in overall Bangladesh as mother are the pathfinders of future generation, more specifically in rural areas;

equal access to education for women and girls will be ensured. Special measures will be taken to eliminate discrimination, universalize education, eradicate illiteracy, create a gender-sensitive educational system, increase enrolment and retention rates of girls and improve the quality of education to facilitate life-long learning as well as development of occupation/vocation/technical skills by women. Reducing the gender gap in secondary and higher education would be a focus area; education policy should be designed so as to expand the economic opportunities for women in Bangladesh;

- improve participation of women in decision-making roles at national and local levels as well as in income generating activities, including use of micro-credit, and vocational education to enable them to move beyond traditional roles and occupations;
- enhancing women participation in the economic development through increasing participation in labour force along with statistics about violence in work place clearly documented with proper punishments;
- provide child care support systems, including creches at work places in both the rural and urban areas;
- create equal opportunity for both boys and girls in education, nutrition and health services.
- mass media should have to be available in both the rural and urban areas and media should publish gender and fertility related features; also human rights as well as women's rights should be published and showed on media to make women aware and notified;
- contraception practice should be popularized equally for both the male and female;
- promote male participation in household responsibilities and make them more responsive to family planning and reproductive health care needs and essentialities of women;

- societies and communities should uphold the women participation in physical movement regarding which social values should be treated more women focused; and
- finally, more research on this emerging issue should be done under careful and close monitoring. And the empirical findings and recommendations should get due attention not only in book and journals but also in implementation level.

Globalization has presented new challenges for the realization of the goal of women's equality, the gender impact of which has not been systematically evaluated fully. The main goal should be the equal access to women to health care, quality education at all levels, career and vocational guidance, employment, equal remuneration, occupational health and safety, social security and public office etc. Therefore, in recognition of the diversity of women's situations and in acknowledgement of the needs of specially disadvantaged groups, measures and programmes will be undertaken to provide them with special assistance. These groups include women in extreme poverty, destitute women, women in conflict situations, women affected by natural calamities, women in less developed regions, the disabled widows, elderly women, single women in difficult circumstances, women heading households, those displaced from employment, migrants, women who are victims of marital violence, deserted women and prostitutes etc.

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