Demographic Transition in Bangladesh: What Happened in the Twentieth Century and What Will Happen Next?

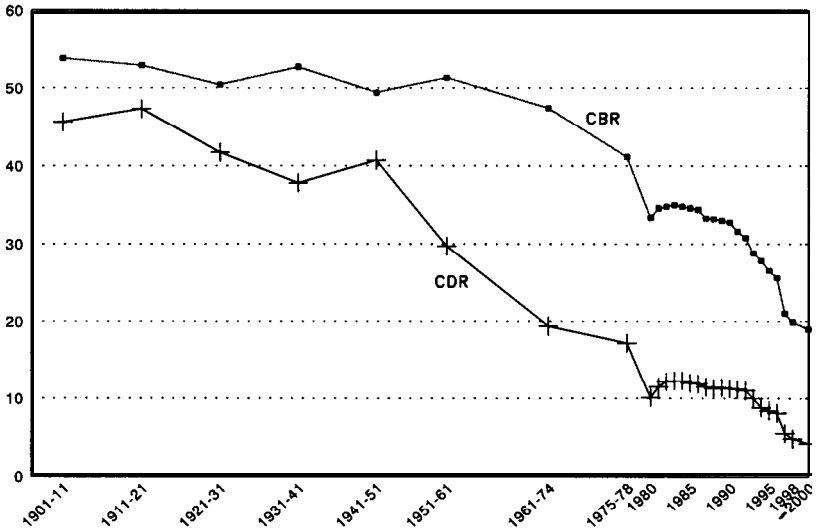
Policy makers need to pay attention to effecting a change in the current desired family size and the practice of son preference

Radheshyam Bairagi and Ashish Kumar Datta*

At the beginning of the twentieth century, the total population of Bangladesh was less than 30 million. The annual growth rate of the population was less than 1 per cent until 1951, when the population reached about 44 million (Bangladesh Bureau of Statistics, 1998). From the early

* Radheshyam Bairagi, Senior Scientist, and Ashish Kumar Datta, Research Officer, International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B): Centre for Health and Population Research, GPO Box 128, Dhaka 1000, Bangladesh. Fax: 880-2-8826050; E-mail: bairagi@icddrb.org

Figure 1. Crude birth rate (CBR) and crude death rate (CDR) in Bangladesh, 1901-2000



Source: Bangladesh Bureau of Statistics.

1950s, mortality started to decline while fertility remained high until the 1970s. Owing to the changes in fertility and mortality rates, from the 1950s the population started to grow at an unprecedented rate, reaching an all-time high (about 2.5 per cent per year) in the 1960s and 1970s. The growth rate then started to decline in the 1980s and is currently about 1.5 per cent per year (figure 1). At the close of the twentieth century, the population of Bangladesh stood at about 130 million.

The main force behind the decline in the population growth rate of Bangladesh in the 1980s and 1990s was a remarkable decrease in fertility during that period. In the early 1970s, the total fertility rate (TFR) was about 7 children per woman, and an estimated 3.4 children per woman in the first Demographic and Health Survey (DHS) in 1993-1994. TFR was so surprisingly low in the first DHS that many people questioned the quality of the DHS fertility data. However, Bairagi and others (1997) validated the DHS total

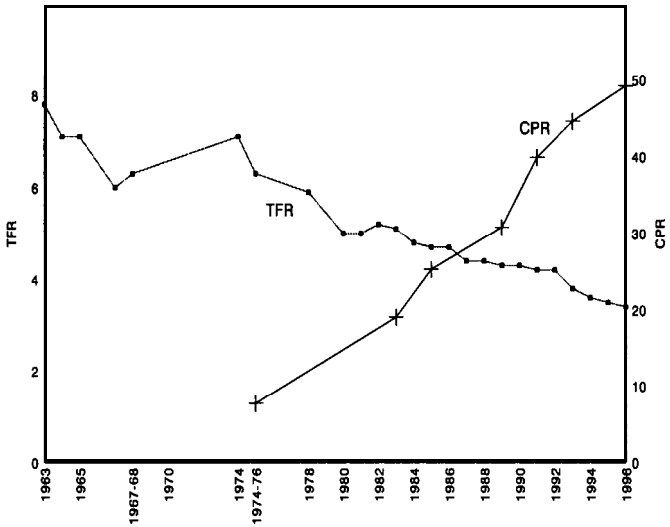
fertility rate from the Matlab demographic surveillance system (DSS). TFR remained almost unchanged at 3.3 children per woman in the next two DHSs conducted in 1996-1997 and 1999-2000 (Mitra and others, 1997; Demographic and Health Survey, 2000). That unexpected halt in TFR naturally raises questions about the factors of fertility dynamics and the future prospect of fertility decline in Bangladesh and has created concern among planners and policy makers. The stabilization of fertility, despite an increase in contraceptive use, was extensively discussed during a seminar organized by the United Nations Population Fund (UNFPA), held at Dhaka on 17 May 2001. Subsequently, a committee was established at the national level to find the reasons for, and a solution to, this problem.

In 1978, the Government of Bangladesh declared population pressure as the leading problem of the country. Since then, the Government as well as non-governmental, private and international organizations have undertaken several programmes to solve the population problem. Some successes in different areas have been achieved. For example, female field workers, known as Family Welfare Assistants (FWAs), have established a well-designed network for providing door-to-door family planning services. As a result, a substantial increase in contraceptive use and a remarkable decline in fertility have been achieved in the past two decades (figure 2). The Bangladesh family planning programme is therefore now considered to be a model for less developed countries. However, despite these achievements, the present TFR is far above the replacement level and the population problem remains the leading problem in the country.

Many experts hold the strong view that the family planning programme played a major role in the rapid decline of fertility in the less developed countries, including Bangladesh, in the 1980s and 1990s. According to Lapham and Mauldin (1984), family planning programmes contributed to the change in fertility while, according to Robey, Rutstein and Morris (1993), family planning has had the most direct influence on fertility. Cleland and others (1994) concluded that the Bangladesh family planning programme was the main factor responsible for fertility decline in the country. They also noted that "if policies are implemented with sustained resolve, fertility decline is possible, even in the absence of rapid economic development and social change".

However, many other experts do not agree that a family planning programme can have a major effect on fertility. They consider that the major change in fertility has been brought about not by birth control methods but by other changes in the desire to have children. In their view, an improvement in birth control methods is mainly an induced response to other decreases in the desire for children rather than an important cause of the decreased demand

Figure 2. Contraceptive prevalence rate (CPR) and total fertility rate (TFR) in Bangladesh, 1963-1996



Source: Bangladesh Bureau of Statistics, *Statistical Pocket Book*, 1983-1996

(Becker, 1991). Caldwell and others (1999) expressed doubt that only the Bangladesh family planning programme could bring TFR down from the mid-1970s' level of more than 6 children per woman to nearly 3, without a change in society.

Pritchett (1994) argued that to reduce fertility in a population, desired fertility (which depends on development, culture and so forth) was important. He noted that a family planning programme and even contraceptive use itself had a very minor role to play in decreasing fertility in a population. Citing examples of different countries, he demonstrated that, in keeping the desired family size constant, contraceptives had no major role to play in bringing fertility down. The most notable example, he said, was in 1977 "when Haiti's desired fertility was 4.3, while the modern contraceptive prevalence rate (CPR) was only 4.7 per cent; whereas Zimbabwe's desired fertility was 4.3 (in 1989), the modern contraceptive prevalence rate was 36.2 per cent . . . fertility in Haiti was actually only 0.4 births higher than Zimbabwe's fertility (5.6 versus 5.2),

despite the large difference in modern contraceptive use". His argument is also supported by the recent relationship between TFR and CPR in Bangladesh, where CPR was 44.6 per cent in 1993/1994, 49.2 per cent in 1996/1997 and 53.8 per cent in 1999/2000. TFR in those three periods was 3.4, 3.3, and 3.3 respectively. It means that, although there has been an increase in CPR of about 9 percentage points since 1993/1994, there has been virtually no decrease in TPR during the same period.

However, none of these empirical examples provides any convincing justification or argument for clarifying why fertility remains the same in different populations with very different levels of contraceptive use but with the same level of desired family size. Where will the effect of contraceptive use, which is a proximate determinant of fertility, be felt? How is it possible? There is no information available in the literature on any investigation into the role of other proximate determinants of fertility that might have (a) compensated for the effects of contraceptive use on fertility and (b) led to the TFRs of the two populations, which differ significantly in contraceptive use, being very similar. In examining this issue, the results of the study carried out at Matlab in Bangladesh are instructive.

Data and methods

The ICDDR,B: Centre for Health and Population Research maintains a DSS in Matlab, a typical rural area of Bangladesh, with an economy dominated by subsistence farming and fishing. Since 1966, under DSS, Community Health Workers (CHWs) have been collecting data on deaths, marriages (since 1974), and migrations, births and other pregnancy outcomes, including abortions (since 1978). DSS covers a population of about 200,000. CHWs collect the data through home visits at two-week (monthly since 1997) intervals. Their work is supervised and checked at different levels. Thus, a well-defined system of management and supervision for producing quality data exists in Matlab.

The ICDDR,B started a maternal and child health-family planning (MCH-FP) project in October 1977 in half of the DSS area, known as the MCH-FP area, to test the hypothesis that demographic change can be induced through an intensive MCH-FP project without any intervention in the socio-economic status of a poor society. The other half of the area, known as the comparison area, remained under the usual government programme. An ideal design for studying the impact of an MCH-FP programme would be to find a control area in which no family planning and health services are offered. Such areas are not available in Matlab or any other part of rural Bangladesh, because basic MCH-FP services are provided in all areas by the Government's rural healthcare system. However, the Matlab research design enables a comparison

of the effects of services at different levels of intensity, including the density of workers, supervision and coverage.

There is one CHW for about every 2,500 persons in the MCH-FP area, whereas there is one worker for about every 6,000 persons in the comparison area. Injectable contraceptives are delivered to the doorstep in the MCH-FP area, whereas in the comparison area users of injectable contraceptives are required to visit a Family Welfare Centre. Regular supplies of different types of contraceptives are ensured in the MCH-FP area, but that cannot be done in the comparison area. The MCH-FP project has a record-keeping system for routinely recording and monitoring maternal, child health and family planning services, but the comparison area has no such system. In addition, the management of contraceptive-related side-effects is much better and supervision is much stronger in the MCH-FP area. As a result, CPR between the two areas became very different within a year of launching the MCH-FP project. In 1996, CPR was about 20 percentage points higher in the MCH-FP area than in the comparison area (48 versus 68 per cent) (Razzaque and others, 1998).

Before the implementation of the MCH-FP project in 1977, both areas were demographically and socio-economically the same (LeGrand and Phillips, 1996; Razzaque and others, 1998). After the implementation of the MCH-FP programme, the decline in both fertility and mortality was much faster in the MCH-FP area than in the comparison area. TFR remained one child less, while the under-5 mortality rate was lower by about 20 per cent in the MCH-FP area for the most part during the past 20 years.

Abortion is a sensitive issue in Bangladesh and many women who have had an abortion do not disclose this fact to others, particularly to outsiders. This makes it extremely difficult to get a clear picture of abortion from survey data in this country. The situation is quite different in the Matlab DSS area, where the CHWs have been visiting each household regularly for the past 30 years to collect vital data. If the pregnancy of a woman is observed or reported during the routine visit of a CHW to either area, it is recorded. A CHW and her supervisor jointly complete a pre-designed pregnancy outcome form. They know the correct definition of each of the possible outcomes of a pregnancy, including spontaneous and induced abortions.

A CHW is considered a member of the family in her area. Yet, some induced abortions are reported as spontaneous abortions in the DSS (Bhuiya, Aziz, and Chowdhury, 1999), and the number of abortions in each area is underestimated (Johnston, 1999). This misclassification and underestimation is thought to be consistent over time and between areas, because the same procedures have been followed. Thus, the trend of abortion over time and a

Table 1. Desired family size in Matlab by area and time

Year	MCH-FP area	Comparison area
1975	4.2	4.3
1984	3.4	3.5
1999	2.5	2.6

comparison of abortions between areas are not expected to be affected by misclassification or underreporting. In this study, an abortion means an induced abortion, including menstrual regulation (MR). The MCH-FP project discontinued giving MR services from 1984. If a woman in the MCH-FP area needs MR, she is advised to go to a government Family Welfare Centre (FWC). Both the MCH-FP and comparison areas have FWCs.

In addition to longitudinal DSS and record-keeping system data, this study used the data from three socio-economic surveys conducted in 1974, 1982 and 1996, and three knowledge, attitude and practice (KAP) surveys conducted in 1975, 1984 and 1999 in the DSS area.

Results

Data on the desired family size for both the areas in Matlab were available for three time points from three KAP sample surveys conducted in 1975, 1984 and 1999. It was shown elsewhere that subsequent fertility depended significantly on the desire for children (Razzaque, 1999). The results concerning the desired/ideal family size are shown in table 1. The desired family size in both areas has been decreasing, but the difference between the two areas has been negligible at any given time. It means that the Matlab MCH-FP project has not been able to bring about any change in the desired family size in the area. It supports the view of Freedman (1997) that a family planning programme, as such, does not usually have any effect on fertility preferences.

Since the 1970s, there have been many changes in the lifestyle of the people of Bangladesh, as well as in the agricultural system and cultivation procedures (Caldwell and others, 1999). Socio-economic surveys were conducted in the Matlab DSS area in 1975, 1982 and 1996 (Razzaque and others, 1998). The use of some durable goods, which were common in each of the surveys, is shown in table 2. It is evident from the table that the standard of living, measured by the possession of durable goods in both the areas, has improved substantially over the years. There has also been a remarkable

Table 2. Percentage of households possessing selected consumer durable goods in Matlab by area and time

Possession	1974		1982		1996	
	MCH-FP	Comparison	MCH-FP	Comparison	MCH-FP	Comparison
Blanket	36.7	31.0	43.6	35.1	63.3	56.6
Lantern	59.2	56.0	70.8	68.4	86.7	89.3
Watch	13.0	11.7	14.7	15.4	55.5	51.5
Radio	11.6	10.7	16.8	16.2	45.8	40.1

improvement in women's education in the area (table 3). About 75 per cent of women reported having had no schooling in 1974. That figure declined to about 70 per cent in 1982 and about 45 per cent in 1996. Only about 5 per cent of women had schooling higher than primary level in 1974, but that figure increased to more than 7 per cent in 1982 and 25 per cent in 1996.

Surveys on the desire for more children among all married women of reproductive age in the MCH-FP area (about 15,000) have been conducted since 1990 at intervals of 18 months. An analysis of those data (results not shown) found that, controlling for demographic variables such as age, parity and sex composition of children, socio-economic status, such as education and empowerment of women, had a negative effect on the desire for more children. In the national data, both the desire for more children and ideal family size were found to be associated negatively with the education of women (Mitra and others, 1997).

The results presented in tables 1, 2 and 3, as well as those of other studies, suggest that an improvement in socio-economic status, particularly women's education, or in lifestyle helps, to some extent, to reduce the desired family size in the area. A part of the decline may also be the result of information, education and communication (IEC) services provided by the Government to bring down fertility preference (Freedman, 1997).

Figures 3a and 3b show CPR, abortions per 100 live births, desired family size (interpolated for 1979 and 1997), and TFR in the Matlab MCH-FP area and the comparison area from 1978 to 1998. A big change in contraceptive use and fertility rate took place in the MCH-FP area immediately after the implementation of the MCH-FP services. At the beginning of the project, CPR was 10 per cent, but it rose to 25 per cent within one year, and finally to 69 per cent in 1998. The increase has continued, although growth has recently slowed to 1 per cent annually.

Table 3. Distribution of females (aged 14-49) by years of schooling according to area and year

(Percentage)

Years of schooling	1974		1982		1996	
	MCH-FP (N=15,657)	Comparison (N=16,265)	MCH-FP (N=22,463)	Comparison (N=21,916)	MCH-FP (N=27,272)	Comparison (N=24,872)
No education = 0	74	71	67	71	44	45
Primary = 1-5	20	18	24	22	28	30
Secondary = 6-10	5	4	8	6	24	22
SSC[a] + = 10+	1	1	1	1	4	3
Total	100	100	100	100	100	100

[a] Secondary School Certificate.

It was possible to calculate CPR for the MCH-FP area for each month using the record-keeping system (RKS) data. But for the comparison area, data were only available from four sample surveys carried out in 1984, 1991, 1994 and 1996. In the comparison area, CPR also increased to about 47 per cent in 1996, which was 20 percentage points lower than that in the MCH-FP area.

The effect of the increased CPR on fertility in the MCH-FP area was enormous. Before the implementation of the MCH-FP project, fertility in both areas was almost the same (figure 1 in LeGrand and Phillips, 1996). However, TFR declined by more than 1 child per woman in the MCH-FP area within the first two years of the project. This decline in TFR continued in the MCH-FP area until 1991, when it was about 3 per woman. Since then, up until 1998, TFR in the MCH-FP area remained more or less stable, although CPR increased by about 8 percentage points during that period. The 8 percentage point increase should have brought down TFR by about 0.5 children[1] per woman, but the effect of the increased CPR is still not visible.

In the comparison area in 1991, CPR was about 26 per cent and the TFR was 4.3 children per woman. CPR and TFR were 48 per cent (projected) and 3.5 children respectively in 1998. The increase in CPR and the decrease in TFR in the comparison area appear to be consistent. But virtually no effect from the increased CPR on TFR was seen in the MCH-FP area during that period. The question, therefore, remains: how was it possible? The effect of contraceptive use must have been compensated for by one or more of the other direct determinants of fertility, the important ones of which are: abortion, post-partum infecundability and age at marriage (or the proportion of women of reproductive age in sexual union) (Bongaarts, 1978). Marriage has been almost universal in Matlab and age at marriage has been increasing, although it is comparable between the areas at any given time. Post-partum amenorrhoea is

Figure 3a. Contraceptive prevalence rate (CPR), abortion ratio (AR) per 100 live births, desired fertility (DF) and total fertility rate (TFR) in MCH-FP area, 1978-1998

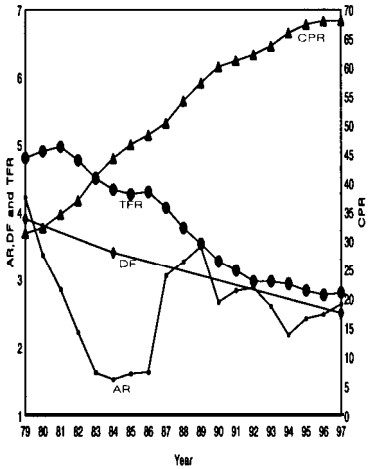
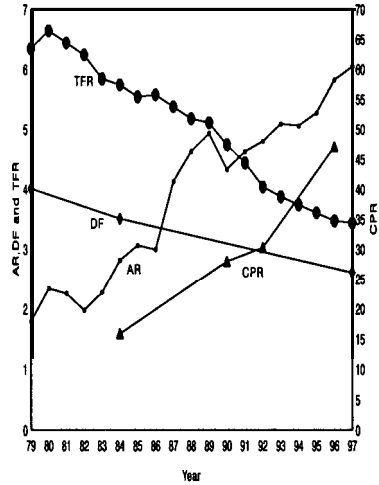


Figure 3b. Contraceptive prevalence rate (CPR), abortion ratio (AR) per 100 live births, desired fertility (DF) and total fertility rate (TFR) in comparison area, 1978-1998



not expected to be very different between MCH-FP and the comparison areas because the duration and patterns of breastfeeding are not likely to differ much between the areas. Moreover, the effects of post-partum amenorrhoea alone could not keep TFR stable in the MCH-FP area throughout the period 1991-1998.

Figure 3a shows that the abortion ratio was very high in the MCH-FP area immediately after the launching of the MCH-FP project in 1977, due mainly to the MR facility of the project. The MR facility was withdrawn from the project in 1984, and the status of abortion facilities including MR have remained the same in the two areas since then. The abortion ratio increased slightly in the 1980s, perhaps as a result of a growing need to control family size in the country (Cleland and others, 1994; Bongaarts and Westoff, 2000), and then started to decline again. On the other hand, the abortion ratio increased linearly in the comparison area throughout the project period. Except for the first few years of the MCH-FP project, the ratio was always much higher in the comparison area. It is evident from figures 3a and 3b that the MCH-FP project was not only successful in bringing fertility down, but it was also successful in reducing abortions in the area.

These figures also indicate that (a) the women in both areas were using contraceptives as well as abortion as means of controlling fertility, and (b) the effect of increased contraceptive use on fertility was counterbalanced by a decreased abortion ratio in the MCH-FP area, particularly in recent years.

Fertility in both areas was converging to the same level. The difference in TFR in the two areas was more than 1 child in 1990. However, it declined to 0.5 in 1997, although there was a vast difference between the areas in terms of both CPR and abortion ratio. This raises the question of why fertility was converging to the same level in the two areas. Did "desired fertility", considered by Pritchett (1994) to be the major important factor for determining fertility, have anything to do with it? Figures 3a and 3b show fertility in the two areas converging towards the desired family size, which is currently about 2.5 children in both areas. TFR has remained stable, at 3, since 1991, and is only 0.5 children higher than the desired family size in the MCH-FP area. On the other hand, fertility continues to decline in the comparison area, and the couples there have been using both contraceptives and abortion to keep family size at the desired level.

Discussion and conclusions

It appears from this study that fertility in Matlab has converged to the desired rate. The Matlab couples used different proximate determinants of fertility, including contraception and abortion, in the converging process. The study neither supports the hypothesis that an MCH-FP project alone can bring fertility down to any particular level, nor the view that the Government of Bangladesh will be able to bring population growth down by 25 per cent by increasing only CPR from its present 51 per cent to 71 per cent, as was previously thought (POPLINE, 2000). If that goal can be achieved, why did fertility not decline after 1991 in the Matlab MCH-FP area for the ensuing seven years, when CPR increased by 8 percentage points? This study suggests that the level of development, which includes socio-economic status, education, modernization and so forth, determines the desired level of fertility, and that an MCH-FP project helps to bring about a desired level of fertility more rapidly.

Although currently desired fertility in Matlab is about 2.5 children per woman, the expected desired fertility is unlikely to be less than 3, owing to the practice of sex preference for children in the region, even under a perfect fertility control situation. Matlab is a son-preferring area (Bairagi, 2001), where the desired number of sons was recently found to be 35 per cent higher than the desired number of daughters. Sheps (1963) demonstrated that expected fertility would be higher than desired fertility in the presence of sex preference for

children. For example, if desired fertility is 2, the expected fertility with an intention to have one son and one daughter is 3 while with the intention to have 2 sons is 3.88, and so on. Thus, it may be perceived that fertility in the Matlab MCH-FP area has already declined to the current desired level. A further decline may require a decrease in desired fertility or gender preference, or both. This study also suggests that without effecting any change in these phenomena, further emphasis on the family planning programme may increase CPR. However, its impact on fertility is likely to be counterbalanced by a decline in the impact of any other direct determinants of fertility, such as abortion and the inefficient use of contraceptives (failure). Contraceptive failure in the Matlab MCH-FP area is already very high, but it has been showing a declining trend (Bairagi and others, 2000).

As previously mentioned, DHS data show that the recent impact on fertility of the Bangladesh national MCH-FP programme is negligible. Although CPR increased by about 9 percentage points from 1993/1994 to 1999/2000, there was virtually no decrease in TFR during that period. The effect of the increased CPR was counterbalanced mostly by the decreased abortion ratio in the Matlab MCH-FP. It is important to examine the factors responsible for nullifying the effect of the increased use of each type of contraception, including modern methods, on TFR at the national level.

Abortion data at the national level are not reliable. However, from the Matlab results we can assume that a decline in the abortion ratio or rate might be partly responsible for the stable situation of TFR in spite of the 9 percentage point increase in CPR during the six or seven years after 1993/1994. It is important to note that the impact of the MCH-FP project in reducing the number of abortions in the Matlab area was remarkable. The abortion ratio was less than 50 per cent (the abortion rate will be lower than this because of lower fertility in the MCH-FP area). Nor can an increase in contraceptive failure in the country during the period under review be ruled out.

Based on the results of this study, we can conclude that a change in the desired family size and gender preference, together with family planning and reproductive health services, is apparently essential to bringing about a further decline in fertility or to completing the demographic transition in Bangladesh. However, the mechanism of achieving a lower fertility preference (a lower ideal family size) needs to be explored.

A change in socio-economic status, particularly in women's education, is likely to bring about a change in the desired family size. IEC services may indeed play a major role in both motivating people to have a small family and ending son preference (Freedman, 1997). Policy makers need to pay attention

to bringing about a change in the current desired family size and the practice of son preference, both among males and females, in addition to placing emphasis on the importance of family planning to bring down TPR further in Bangladesh. It should be noted that any decision by a woman in Bangladesh regarding fertility will be heavily influenced by her husband.

Acknowledgements

This research was supported by the World Health Organization, the Commission of European Communities and the ICDDR,B: Centre for Health and Population Research. The Centre is supported by several countries, donor agencies and others which share its concern for the health and population problems of developing countries. Initial editing by Mr M. I. Khan was much appreciated.

Endnote

1 According to Bongaarts and Poter (1983), TFR = 7.3 - 0.063 x CPR (where TFR is the total fertility rate and CPR is the contraceptive prevalence rate. If CPR is 60 per cent, for example, TFR = 7.3 - 0.063 x 60 = 3.52. With an increase of 8 percentage points, TFR = 7.3 - 0.063 x 68 = 3.02. The difference is 3.52 - 3.02 = 0.50 child.

References

Bairagi, R. (2001). "Effects of sex preference on contraceptive use, abortion and fertility in Matlab, Bangladesh", *International Family Planning Perspectives* 27(3):137-143.

Bairagi, R., S. Becker, A. Kantner, K. B. Allen, A. K. Datta, and K. Purvis (1997). "An evaluation of the 1993-94 Bangladesh Demographic and Health Survey within Mat area", *Asia-Pacific Population Research Report*, No. 11, Spring 1997, Programme on Population, East-West Center.

Bairagi, R., M. M. Islam and M. Barua (2000). "Contraceptive failure: levels, trends and determinants in Matlab, Bangladesh", *Journal of Biosocial Science* 32:107-123.

Bangladesh Bureau of Statistics (1998). *Statistical Pocketbooks, 1983-1998* (Dhaka, Bangladesh Secretariat).

Becker, G. S. (1991). *A Treatise on the Family*, Enlarged Edition (Cambridge, Harvard University Press).

Bhuiya, A., A. Aziz and M. Chowdhury (1999). "Induced abortion in rural Bangladesh", *Scientific Report* No. 86 (Dhaka, ICDDR,B: Centre for Health and Population Research).

Bongaarts, J. (1978). "A framework for analyzing the proximate determinants of fertility", *Population and Development Review* 4(1):105-132.

Bongaarts, J. and C. F. Westoff (2000). "The potential role of contraception in reducing abortion", *Studies in Family Planning* 31(3):193-202.

Caldwell, J. C., Barkat-e-Khuda, B. Caldwell, I. Pieris and P. Caldwell (1999). "The Bangladesh fertility decline: an interpretation", *Population and Development Review* 25(1):67-84.

Cleland, J., J. F. Phillips, S. Amin and G. M. Kamal (1994). *The Determinants of Reproductive Change in Bangladesh: Success in a Challenging Environment*, (Washington DC, World Bank).

Demographic and Health Survey (2000). "Bangladesh demographic and health survey 1999-2000, preliminary report" (Dhaka, National Institute of Population Research and Training).

Freedman, R. (1997). "Do family planning programs affect fertility preferences? A literature review", *Studies in Family Planning* 28(1):1-13.

Johnston, H. (1999). "Measuring induced abortion: integrating qualitative with quantitative research techniques", Ph.D. thesis, The Johns Hopkins University.

Lapham, R. J. and W. P. Mauldin (1984). "Family planning effort and birthrate decline in developing countries", *International Family Planning Perspectives* 10(4):109-l18.

LeGrand, T. K. and J. F. Phillips (1996). "The effects of fertility reductions on infant and child mortality: evidence from Matlab in rural Bangladesh", *Population Studies* 50:51-68.

Mitra, S. N., A. Al-Sabir, A. R. Cross and K. Jamil (1997). "Bangladesh Demographic and Health Survey" (Dhaka, National Institute of Population Research and Training), pp. 87-98.

POPLINE (2000). "Bangladesh establishes new goals" POPLINE 22, January-February, p. 3.

Pritchett, L. H. (1994). "Desired fertility and the impact of population policies", *Population and Development Review* 20(l): 1-54.

Razzaque, A. (1999). "Preference for children and subsequent fertility in Matlab: does wife-husband agreement matter?", *Journal of Biosocial Science* 31: 17-28.

_____, L. Nahar, A. M. Sarder, J. K. van Ginneken and M. A. K. Shaikh (1998). "Demographic surveillance system – Matlab, Vol. XXIII, 1996: socio-economic census", Scientific Report No. 83, (Dhaka, ICDDR,B: Centre for Health and Population Research).

Robey, B., S. O. Rutstein and L. Morris (1993). "The fertility decline in developing countries", *Scientific American* 269:60-67.

Sheps, M. C. (1963). "Effects on family size and sex ratio of preferences regarding the sex of children", *Population Studies*, 17:66-72.