

**Population Stabilization in Bangladesh:
Problems, Prospects
And Policy Issues**

By

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Preface

This paper was originally prepared for and with support from Robert Gillespie, President, Population Communication Inc., California, USA, in January 2009. Subsequently, a revised and updated version of the paper was presented at a seminar on 27th March 2010 organized by Engender Health, Bangladesh. The paper has now been further updated incorporating more recent population and family planning data.

The title of the paper, and a clear focus on selective approaches in fertility regulation, was deliberately chosen. Even though the seriousness of population problems in Bangladesh presents an over riding consideration to focus on broader issues relevant to population stabilization, the authors carefully considered the needs of population policies within the broader principles of human needs and the ICPD commitments. With convincing evidences indicating that achievement of replacement level fertility, and eventual stabilization of population, is possible by meeting unmet needs and demands, the paper focuses on program efforts in fertility regulation sector. The authors however do not de-emphasize the policy needs on other issues in social, economic and legal sectors.

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Background scenario

a. Current situation in Bangladesh

With an estimated population of 150.5 million in 2011, Bangladesh is the seventh most populous country in the world (UN 2011).¹ A total land area of mere 147,500 sq. kms accommodating the above population size makes it by far the most densely populated among the populous countries. The per capita GNI PPP is around 1700 dollar which is still among the lowest in the world (2011 World Economic Outlook, IMF).² Even after a considerable rise in adult literacy in recent years reaching 56.9 percent of male and 51.4 percent of female population 7 years and above, a sizeable fraction of the population still cannot write for communication (BBS 2011). Majority of people are employed in agrarian occupation, facing an ever shrinking agricultural land, a quarter of population are in service sector and only about a tenth in industry. A large scale unplanned rural-to-urban migration, which is mainly driven by increasing landlessness and poor sustainability in agricultural occupation, has been a significant strain on urban infra-structure resulting in a constant unintended growth of slum population, road congestion, environmental degradation and air pollution. Even after a significant decline in fertility during the past decades, the already very high population density, together with the prospect of continued growth in size resulting from population momentum effect, population related problems poses serious concern. Rapid unplanned urban growth, wide-spread illiteracy and conservative socio-cultural environment, together with poor reproductive health status – characterised by as yet high maternal and infant mortality and morbidity, high incidence of communicable diseases, wide spread malnutrition and a very high teen-age fertility rate with limited access to services for adolescents – also compounds the problems. On a longer term perspective, another unwelcome, but inevitable, prospect of rising sea level caused by greenhouse gas effect of climate change, would lead to large scale displacement of population from low lying coastal areas. With very little absorption capacity in the rural areas of the already crowded country, a large proportion of the excess population would likely gravitate to urban centres resulting in further growth of slum population. The above situation depicts the challenging scenario for the policy makers.

b. Population Policies in the Past

Soon after liberation in 1971, development policies in Bangladesh took into cognizance the pressing need to reduce population growth rate in order to ease mounting pressure on its finite resources. The sense of urgency was amply expressed in the First 5-Year Plan statement “*No civilized measure would be too drastic to keep the population of Bangladesh on the smaller side of 15 crores for the sheer ecological viability of the nation*” (Planning Commission 1974). Though the enunciated policies encompassed a broad range of multi-sectoral activities, since mid-1970s, major efforts were devoted mainly to family planning services. Consequently, the family planning programs succeeded in vastly expanding access to a wide range of modern contraceptive methods. These measures greatly contributed to rise in contraceptive prevalence and decline of fertility. All subsequent governments maintained a strong emphasis on population programs, though commitment to and implementation of the service program began to slacken from around late-1980s. The current population policy, formulated in October 2004, laid down a target of reaching replacement-level fertility by 2010 and to stabilize the population at 210 million around the year 2060 (MOHFW 2004). Though in terms of expressed intent and broad objectives, the stated policies, as well as program approaches, were reasonably justifiable, it lacked in strategic details and also operationally viable issue-specific strategies were inadequate to achieve the stated

¹ 2011 Census preliminary report estimates population size at 142.3 million

² GNI PPP is gross national income in purchasing power parity

goals. More recent policy goals expressed in the Health, Population and Nutrition Sector Development Project (HPNSDP), 2011-16, proposes to achieve replacement level by 2016.

c. Population stabilization, replacement fertility, zero growth – conceptual issues

During the 1980s and early 1990s, when fertility levels showed a steady decline from a TFR of 6.3 in 1975 to 3.4 in 1993-94, the goal of reaching replacement fertility appeared well within reach and planners were looking at policy odds to attain population stabilization. However, attainment of “zero” growth rate remained elusive for several reasons. First, fertility decline process became stagnant during the 1990s making it uncertain when replacement level would be reached. Secondly, most important, even after replacement level is reached, population momentum effect, an inevitable consequence of high fertility in the past, would continue to add to population growth till the age structure stabilizes. Thirdly, on an immediate term, prospects of further mortality decline would partly offset the impact of fertility decline on population growth rate. Theoretically speaking, the future impact of population momentum can be minimized if fertility could be reduced more sharply to below replacement level, which should not be rejected as an unlikely prospect if recent trends in program performance can be further stimulated and effective policies on social and legal fronts are adopted, to increase age at marriage, delay child bearing within marriage and increase child spacing (birth interval) which should receive priority attention.

Fertility levels and trends in Bangladesh

In spite of a seemingly unfavourable socio-economic environment, as depicted above, family planning programs in Bangladesh achieved a remarkable success in promoting family planning practice and lowering fertility, with total fertility rate (TFR) declining from 6.3 in 1975 to 3.4 in 1993-94 and contraceptive prevalence rising from 7.7 percent to 44.6 percent during the same time (Table 1). However, during next ten years, contraceptive prevalence rose further from 44.6 percent to 58.1 percent though fertility decline was minimum or static. Subsequently, contraceptive prevalence also stagnated between 2004 and 2007. In the recent past, decline in fertility accelerated to reach 2.3 in 2011 with an increase in contraceptive prevalence to 61.2 percent.

| Data source | TFR | Any method | Modern method | Traditional method |
|----------------|-----|------------|---------------|--------------------|
| BFS 1975 | 6.3 | 7.7 | 5.0 | 2.7 |
| CPS 1983 | -- | 19.1 | 13.8 | 5.4 |
| CPS 1985 | -- | 25.3 | 18.4 | 6.9 |
| BFS 1989 | 5.1 | 30.8 | 23.2 | 7.6 |
| CPS 1991 | 4.3 | 39.9 | 31.2 | 8.7 |
| BDHS 1993-94 | 3.4 | 44.6 | 36.2 | 8.4 |
| BDHS 1996-97 | 3.3 | 49.2 | 41.6 | 7.7 |
| BDHS 1999-2000 | 3.3 | 53.8 | 43.4 | 10.3 |
| BDHS 2004 | 3.0 | 58.1 | 47.3 | 10.8 |
| BDHS 2007 | 2.7 | 55.8 | 47.5 | 8.3 |
| BDHS 2011 | 2.3 | 61.2 | 52.1 | 9.2 |

Source: NIPORT et al 2009 & NIPORT 2012

The initial fertility decline in Bangladesh was not preceded by any significant degree of socio-economic development which would have been expected by demographers and specialists. In fact, fertility decline came as a surprise to many demographers who never thought it possible under the existing social settings in 1970s. Wide spread acceptance of contraceptive practice resulting from a strong family planning program, even in the absence of any noteworthy socioeconomic change, was regarded as the major cause of the fertility decline (Cleland 1994).

The major success in family planning programs came from introduction of a broader range of modern and effective methods in the 1970s, which created an expanded access to contraceptive services. For example, soon after liberation, introduction of oral pill, high-quality lubricated condoms in place of old dry condoms, newer generation more effective and safer IUDs (such as Copper T IUD 380A), long acting injectable contraceptives, menstrual regulation and minilaparotomy procedure for female sterilization, performed on an outpatient basis without general anesthesia, all contributed to increased acceptability of contraceptive services. Mohammadpur Model Clinic, established in 1975, in addition to offering a broad range of modern methods, acted as a base for research on the newer methods which facilitated later introduction of newer, effective methods along with service strategies that would make them acceptable on wider scales. Many of the above methods, initially introduced under NGO efforts, were later replicated in the nation wide program in 1979-80. A policy of financial compensation to service providers, acceptors and referrer played an important role in promoting method acceptance. A technical supervision and monitoring system, instituted to oversee quality of care of permanent methods assisted in complication crisis management, scope of which was later extended to other clinical methods, helped building user confidence. These measures resulted in a significant rise in new acceptance of contraceptives, especially that of more effective methods (Annex Table 3).

The rate of decline in fertility created optimism in late 1980s with replacement fertility appearing within easy reach. The observed parallel relationship between contraceptive prevalence and fertility was used as a basis to project that replacement fertility would be attained by raising the contraceptive prevalence to around 70 percent. This success, unfortunately, developed a sense of complacency, resulting in declining performance from late 1980s, with slip of grip on the program as noted below.

a. Mid-transition fertility stagnation in 1990s

Disappointingly, as noted earlier, the process of fertility decline came to a stall in early 1990s with TFR remaining at around 3.3 in two subsequent inter-survey periods between 1993 and 2000. During this period, contraceptive prevalence rose for the first few years, though with a shift in method mix, later stagnated at around 58 percent in 2004.

A demographic study documenting this process in 2002 concluded:

“The actual level of fertility in Bangladesh in 1999-2000, after adjusting for tempo effect, would be close to 4, more precisely 3.9, as compared to that of 3.8 in 1996-97. In other words, there is a slight increase in the level of fertility during the recent past. The conventional TFR appears to be lower due to an upward shifting in the parity specific birth intervals. An increase in the parity specific birth intervals causes a decline in the level of conventional TFR” (Islam 2002).

Concern raised from this trend led to a renewed emphasis on program implementation. Fertility decline process gradually picked up, with TFR decreasing to 3.0 (BDHS 2004) and to 2.7 (BDHS 2007), though overall contraceptive prevalence showed a small decline to 55.8 in 2007, with use of modern methods remaining static. More recently, as shown from 2011 BDHS data, there was a greater decline in fertility from 2.7 in 2007 to 2.3 in 2011 and a rise in overall contraceptive

prevalence to 61.2 percent. Notably, use of modern methods which previously remained stagnant for several years rose significantly to 52.1 percent.

b. Fertility stagnation: dynamics and implications

Even though fertility decline process has again accelerated, the mid-transition fertility stagnation during 1990s noted above delayed the timeframe for achieving demographic goals including population stabilization. It therefore seems sensible to review the dynamics involved and future implications. As noted by Bongaarts, such phenomenon of stall or near-stall in mid-transition was also observed in several other countries mainly in sub-Saharan Africa, where two factors played major roles. First, socio-economic variables, including “poorly performing economy and rising mortality” were among plausible causes in many sub-Saharan Africa. Secondly, “lower priority assigned to family planning programs in recent years” was cited as relevant in sub-Saharan areas (Bongaarts 2008), appears distinctly relevant to and consistent with concomitant program performance in Bangladesh. Several program trends in Bangladesh which provide consistent clues to the above hypothesis were: (i) a shift in contraceptive method mix toward less effective method, (ii) a significant decline in new acceptance of effective methods, (iii) shrinking role of public sector in contraceptive service delivery, (iv) a simultaneous increase in unmet needs during the period of fertility stagnation, and (v) de-emphasis of outreach services in the program.

Contraceptive method mix and its implication on fertility: Contraceptive method mix, its pattern from mid-1970s to 2011 is reviewed (Annex Table 1). Since mid-1970s, there was a distinct proportionate rise in the use of permanent methods, with female sterilization becoming the most widely used method. Regrettably, however, during the decade of 1990s and thereafter, contraceptive practice trends took a turn towards use of less effective methods. For example, use of sterilization was 9.7 percent in 1989 represented 41 percent of all modern methods, which declined to 6.2 percent in 2011 representing only 11.9 percent of all modern methods.

This decline in the sterilization use at a time when there was an increase in the proportion of women who would like to permanently limit their child bearing but were not using any contraception, clearly implied insufficient access to these methods. Since sterilization is mainly offered in public sector, these changes reflect on diminishing role of public sector in family planning service provision. Contraceptive method mix pattern in selected countries in the region (Annex Table 2) shows that use of long term and permanent methods (LAPM) in Bangladesh was lower as compared to China, India, Iran, Nepal, Sri Lanka and Thailand. Even Pakistan with a very low overall contraceptive prevalence had a higher use of sterilization.

Because of early marriage and early childbearing in Bangladesh, women on average have to spend a longer span of life time requiring protection from unwanted pregnancy. As per 2007 Survey, median age at first birth was around 18 years and by around 25 years, women have 2 children, when they still have about 25 years of reproductive life span remaining to be protected. Obviously, in this situation, methods with higher failure rates would disproportionately increase unwanted births. A comparative review of failure rates should make the contention clearer. For example, in theoretical term with perfect use, oral pill would be a most effective method with a failure rate of only 0.3 percent (Table 2), however, in typical use, taking into account, forgetfulness, incorrect and inconsistent use, failure rate of pill would reach as high as 8.0 percent (Hatcher et al 2007)³.

³ These data were based on large studies conducted in USA under National Surveys of Family Growth (NSFG) in 1995.

| Method | Typical use | Perfect use | Continuation at one year |
|----------------------|-------------|-------------|--------------------------|
| Oral pills | 8.0 | 0.3 | 68 |
| Condoms | 15 | 2 | 53 |
| IUD (Copper T) | 0.8 | 0.6 | 78 |
| Injectable | 3 | 0.3 | 56 |
| Implanon | 0.05 | 0.05 | 64 |
| Male sterilization | 0.15 | 0.10 | 100 |
| Female sterilization | 0.5 | 0.5 | 100 |

Source: Hatcher et al 2007

Thus if a woman plans contraceptive protection with oral pill from age 25 years when she already has had two children, at above failure rate, she would end up with two additional unwanted pregnancies.

Decline in new acceptance of contraceptives: Overall contraceptive acceptance rates also explain for the fertility patterns as well as for change in method mix. As shown in Table 3 (data for longer period is shown in Annex Table 3), new acceptance of effective methods rose steadily from 1973 until mid-1980s, number of sterilization rising from only 1,462 in 1973-74 to 552,424 in 1983-84 and thereafter dropping to only 30,397 in 2000-2001.

| Year | Voluntary sterilization | | | IUD | Implant |
|-----------|-------------------------|---------|----------|---------|---------|
| | Female VS | Male VS | Total VS | | |
| 1973-1974 | 1,016 | 446 | 1,462 | 27,590 | -- |
| 1978-1979 | 81,719 | 24,705 | 106,424 | 22,631 | -- |
| 1983-1984 | 336,502 | 215,665 | 552,162 | 303,338 | -- |
| 1988-1989 | 130,946 | 13,027 | 143,973 | 361,698 | -- |
| 1993-1994 | 71,225 | 49,134 | 120,359 | 335,840 | 40,359 |
| 1998-1999 | 45,220 | 16,500 | 61,720 | 176,514 | 50,183 |
| 2000-2001 | 19,205 | 11,192 | 30,397 | 101,160 | 34,127 |

Note: Years represent from July to June; source: Program statistics compiled by Engender Health, Bangladesh

Similarly, new acceptors of IUDs rose from 27,590 in 1973-1974 to 303,338 in 1993-1994 and, thereafter, numbers steadily declined to 101,160 in 2000-01. These declining trends are reflected in reduced use rates of these methods as per subsequent survey findings as (Annex table 1).

Shrinking role of public sector in service provision: A significant decline in public sector role as sources for contraceptive services, concurrently with a growing number of users obtaining services from private sector outlets, also explained for the change in method mix. Official policy shift from outreach domiciliary services to clinic based services also accounts for a decline in the number of field workers' home visit. For example, percent of users who obtained pills from GOB sources dropped from 61.4 in 1996-97 to only 29.6 in 2007 (Al-Sabir 2008). An aid memoire jointly prepared by the World Bank and its development partners remarked "*Between 1997 and 2004, the share of public sources in contraceptive provision declined from 74 percent to 57 percent largely due to the diminishing role of the government's outreach programme*" (Haq 2005). As the BDHS 2004 Reported "*One of the major controversial aspects of HPSP was the proposed transition from outreach or domiciliary family planning services to static community clinics*

(CCs). In the confusion surrounding this issue, the public sector lost a substantial share of family planning service provision, very little of which was picked up by the CCs. Household visits for family planning by GOB fieldworkers have fallen dramatically since the mid-1990s” (NIPORT et al 2004). Regarding the community clinics, the above World Bank aid memoire noted “the intention to increase the delivery of services through the CCs failed” (Haq 2005). The World Bank Country Director Christine Wallich, in a letter to Health Secretary also noted “We are concerned at the decline in share of the public health services delivery and insufficient level of transfers of public health subsidies to the poor.”

Since public sector is the major source for longer term and permanent methods, shift in source of services appears consistent with decreased use of effective methods. As noted above, the community clinics, proposed as alternative to outreach services, did not actively replace the vacuum created by stopping of the outreach system. Possible reasons for failure of the community clinic strategy were lack of accountability in the administrative system, with no viable mechanism to oversee its implementation and to ensure physical presence of clinical staff. In retrospect, it now appears that outreach services were discontinued prematurely without gaining sufficient prior experience in community clinical system. The above factors explain, at least partly, for low program effectiveness during 1990s and early 2000s.

c. Demand factors, unmet needs

Unmet needs for fertility regulation is defined as “fecund women who are currently married and say that they either do not want any more children or that they want to wait two or more years before having another child, but are not using contraception”. As Table 4 shows, unmet needs fell steadily from 18.2 percent in 1993-94 to 11.3 in 2004 implying that unmet needs were partially met by services offered by the program. Subsequently however, as found in BDHS 2007, unmet needs increased considerably from 11.3 percent in 2004 to 17.5 percent in 2007 before declining again to 11.7 percent.

| | BDHS 1993-94 | BDHS 1996-97 | BDHS 1999-00 | BDHS 2004 | BDHS 2007 | BDHS 2011 |
|--|-----------------|-----------------|-----------------|--------------|--------------|--------------|
| Unmet needs, non-users (A) | 18.2 | 15.7 | 15.3 | 11.3 | 17.5 | 11.7 |
| Expressed limiters | 9.0 | 7.9 | 7.3 | 6.2 | 10.8 | 7.3 |
| Expressed spacers | 9.2 | 7.8 | 8.0 | 5.1 | 6.7 | 4.4 |
| Met needs, users of modern methods (B) | 36.2 | 41.5 | 43.4 | 47.3 | 47.5 | 52.1 |
| Total needs, users + non-users (A+B) | 54.4 | 57.2 | 58.7 | 58.6 | 65.0 | 63.8 |

Source: NIPORT et al 2009 reporting various surveys and NIPORT et al 2012

Most interestingly, the proportion of “expressed limiters” who wanted to terminate childbearing altogether, which earlier declined from 9.0 percent in 1993-94 to 6.2 percent in 2004, thereafter rose to 10.8 percent in 2007 before declining again to 7.3 percent. Trends in unmet needs are important indicators of program’s access to contraceptive services and, on the other hand, of scopes and opportunities that exist for future policy options. The above trends appear to show a mid-term shrink in access to contraceptive services, especially for permanent methods, as indicated by a greater proportionate increase in the expressed ‘limiters’ as compared to ‘spacers’, 74 percent as compared to 54 percent in 2007. Based on a finding of BDHS 1996-97 that “about one third of births in the three years prior to the survey were reported to be unplanned, including 20 percent mistimed and 11 percent unwanted”, it was concluded: “If unwanted births could be eliminated altogether, the total fertility rate in Bangladesh would reach replacement level of 2.1 births per woman instead of actual level of 3.3” (Mitra et al 1997).

Regarding intended future use, 70 percent of non-users expressed intention to use contraception in future which also reflects on the extent of unmet needs (BDHS 2007). Conventional measures

of unmet needs often does not take into account use of inappropriate and less effective methods or cases of pregnancies arising from method failure, which further emphasizes the use of long acting and permanent methods. As past experience suggest demand for fertility regulation is likely to grow with improved access to services.

Wanted fertility measure, based on questions if births during the preceding 5 years were planned (wanted then), mistimed (wanted, but at a later time) or unwanted (wanted no more children), shows that total wanted fertility rate (TWFR) was 2.0 in 2004 and 1.9 in 2007 as compared to conventional total fertility rates (TFR) of 3.0 and 2.7 respectively (Table 5).

| | BDHS 2004 | | BDHS 2007 | |
|------------|-----------|-----|-----------|-----|
| | TWFR | TFR | TWFR | TFR |
| Khulna | 1.9 | 2.8 | 1.5 | 2.0 |
| Rajshahi | 1.7 | 2.6 | 1.7 | 2.4 |
| Barisal | 1.7 | 2.9 | 1.8 | 2.8 |
| Dhaka | 1.9 | 2.9 | 1.9 | 2.8 |
| Chittagong | 2.3 | 3.7 | 2.1 | 3.2 |
| Sylhet | 2.9 | 4.2 | 2.4 | 3.7 |
| Total | 2.0 | 3.0 | 1.9 | 2.7 |

Source: BDHS 2004 and BDHS 2007

Based on these findings, it has been concluded in the BDHS 2007 Report “*This means that if all unwanted births could be eliminated, the TFR would drop below replacement level of fertility (2.1 children per woman)*”.

d. Early child bearing, teen-age fertility

A major constraint in fertility control effort in Bangladesh is early child bearing practices, which showed only small change during the past decades. To compare with other countries, For example, number of births per 1,000 women aged 15-19 years is 72 in Bangladesh, which compares to only 13 in Malaysia, 18 in Iran, 30 in Sri Lanka, 40 in Indonesia, 46 in Pakistan and 68 in India (UNFPA 2009). The high teen-age fertility partly arises from early and universal marriage practiced in Bangladesh. Age at marriage in Bangladesh is lowest in the region, with around half the women 15-19 years of age ever married, compared to only 6.9 percent in Sri Lanka, 8.5 percent in the Philippines, 17.4 percent in Thailand, 24.9 percent in Pakistan and 34.5 percent in India. The age at marriage in the Asian countries, where replacement fertility was achieved, is much higher. Because of the young age structure of the population, teenage mothers share 30 percent of all births. Even though there was some postponement of 2nd and 3rd births in recent decades when many couples adopted family planning after the first birth, there was no significant rise in age at marriage for women, or for that matter, in age at first birth. Consequently, the need to protect a longer reproductive life span, arising from low age at marriage and early child bearing practices, underscores the importance of use of more effective methods.

Probable role of other proximate determinants of fertility, such as postpartum infecundity, age at marriage and pregnancy termination, in recent fertility trend has not been precisely defined yet. As shown in Table 6, for example, median duration of postpartum amenorrhea steadily decreased from an average of 10.3 months in 1993-1994 to 5.8 months in 2007 (NIPORT 2009).

Table 6: Median duration of postpartum

| amenorrhea (PPA) in months | |
|----------------------------|------|
| Year | PPA |
| 1993-1994 | 10.3 |
| 1996-1997 | 8.4 |
| 1999-2000 | 7.9 |
| 2004 | 6.1 |
| 2007 | 5.8 |
| Source: NIPORT 2009 | |

The declining practice of breastfeeding, with reduced fertility impact of postpartum infecundity, partly offset the program's impact. Notably, the duration and intensity of breastfeeding practices had all along been the most dominant factor in determining fertility level until 1990s when contraceptive practice overtook as the most dominant factor (Islam et al 2002). Pregnancy termination by menstrual regulation has presumably played an important role in the fertility decline process. In fact, its role as a back up to deal with contraceptive failures has been significant.

e. Regional variation

An important policy issue emerges from the wide variation in the level and trend of fertility change, as well as contraceptive practice, between different regions (Table 7). As per BDHS 2007, fertility level varies from a TFR of only 2.0 in Khulna to 3.7 in Sylhet and contraceptive prevalence varies from a low 32 percent in Sylhet to 65 percent in Rajshahi. With nation-wide decline in fertility between 2007 and 2011, region-specific fertility must also have declined further.⁴ Wide differential is also seen in family size desire. More than half the women in Sylhet and Chittagong regions desire three or more children compared to only 22 percent and 26 percent in Khulna and Rajshahi respectively.

| Regions | TFR | Contraceptive practice | % desire 3 or more children |
|-------------------|-----|------------------------|-----------------------------|
| Khulna | 2.0 | 63.1 | 22 |
| Rajshahi | 2.4 | 65.9 | 26 |
| Barisal | 2.8 | 56.3 | 38 |
| Dhaka | 2.8 | 56.4 | 34 |
| Chittagong | 3.2 | 43.9 | 51 |
| Sylhet | 3.7 | 31.5 | 56 |
| Bangladesh | 2.7 | 55.8 | |
| Source: BDHS 2007 | | | |

The two high fertility regions (Sylhet and Chittagong) are also widely known as socially conservative and culturally orthodox. They also show greater gap between their desired family size and actual family size possibly reflecting on socio-cultural barriers to contraceptive practice.

f. Current program performance and prospect for change:

After about a decade of low performance, more recently, there appears a turnaround in the numbers of new acceptors of long term and permanent methods. As noted earlier (Table 8 and Annex table 1) numbers of new acceptor of selected effective methods, which was lowest in the year 2000-2001, rose steadily, with total sterilization rising from only 30,397 in 2000-01 to 289,637 in 2011-12 and IUDs rising from 30,397 to 244,266 during the same time.

Table 8: Year-wise acceptance of selected contraceptive methods, 2000 to 2009

⁴ Regional fertility data of BDHS 2012 were not readily available and could not be presented in Table 7.

| Year | Voluntary sterilization | | | IUD | Implanon |
|-----------|-------------------------|---------|----------|---------|----------|
| | Female VS | Male VS | Total VS | | |
| 2000-2001 | 19,205 | 11,192 | 30,397 | 101,160 | 34,127 |
| 2001-2002 | 28,974 | 22,364 | 51,338 | 161,679 | 57,876 |
| 2002-2003 | 32,761 | 43,203 | 75,964 | 181,762 | 66,163 |
| 2003-2004 | 52,132 | 41,839 | 93,971 | 195,018 | 68,307 |
| 2004-2005 | 83,627 | 60,645 | 144,272 | 208,769 | 105,958 |
| 2005-2006 | 71,133 | 52,658 | 123,791 | 257,915 | 74,871 |
| 2006-2007 | 100,571 | 91,486 | 192,057 | 222,259 | 13,812 |
| 2007-2008 | 105,787 | 92,890 | 198,677 | 236,960 | 177,351 |
| 2008-2009 | 115,754 | 100,646 | 216,400 | 330,709 | 86,720 |
| 2009-2010 | 128,605 | 162,297 | 290,902 | 226,220 | 40,278 |
| 2010-2011 | 138,381 | 150,920 | 289,301 | 307,271 | 273,677 |
| 2011-2012 | 131,324 | 158,313 | 289,637 | 244,266 | 200,796 |

Note: Years are July-June, Program statistics compiled by Engender Health, Bangladesh,

This performance trend may also explain for the recent decline in fertility between 2004 and 2011. The recent rise in use of permanent methods seems to also explain for the corresponding decline in “expressed limiters” from 10.8 percent in 2007 to 7.3 in 2011. Since permanent methods do have a cumulative effect further impact would be expected in future, especially if this trend continues.

A Proposed Path to Population Stabilization

In view of an earlier conclusion that “*if all unwanted births could be eliminated, the total fertility rate in Bangladesh would reach replacement level or below replacement level*”, it appears feasible to achieve population stabilization. The existing unmet needs justifies making family planning services as the most priority focus in population policies. Policies should aim at, first, expanding access to safe, effective and affordable contraceptive services, secondly, improving reproductive health, and thirdly, implementing social and economic measures that would generate further demand for fertility regulation.

Scopes for expanding family planning services

Opportunities exist to improve program performance by expanding access, improving quality of care, creating awareness of benefits of newer generation of methods, through communication support and making special efforts in low performing areas.

a. Method specific actions

Within the broader principle of equal choice, in Bangladesh context, a special emphasis on more effective methods is legitimate. The ICPD-POA recommended policies that ensure: “...*informed choices and make available a full range of safe and effective methods...*” (UN 1995). In Bangladesh context, experts emphasized that “*programs for sterilization need to be given renewed priority to improve the effectiveness of the method-mix*” (Islam et al 2002). It was also noted that “the wide availability of **effective** methods through the public or private sector is required to achieve high levels of effectiveness” (Bongaarts 2008). Method-specific strategies are therefore recommended to reach an effective and desirable method mix.

(i) Promote use of IUDs: Modern IUDs, such copper T 380A and hormonal IUDs, are greatly more effective and safer as compared to the older generations such as Lippe’s loop. “Misperceptions about safety of the IUD help explain low rates of use in many countries” (Salem et al. 2006). This interpretation is fully

relevant in Bangladesh. Misperception about IUDs originated from old unpopular IUDs in the 1960s and 1970s, which were delivered under poor and inadequate service conditions. Notably, IUDs are popular in Muslim countries. For example, as shown in Annex Table 2, rate of IUD use, as percent of eligible couples, is 49.7 percent in Uzbekistan, 36.5 percent in Egypt, 27.6 percent in Tunisia, 25.7 percent in Syria, 24.8 percent in Palestinian territory and 23.6 percent in Jordan as compared to only 0.9 percent in Bangladesh (PRB 2008). The new IUDs are almost as good as sterilization with an added advantage of being reversible. WHO-sponsored multi-centred studies have found failure rate of copper T 380A at 0.4 percent which is comparable to that of sterilization (UNDP et al. 1997). Many experts believe that IUDs are the most under utilized potential in the contraceptive field and, if promotional actions are taken, IUDs can play a major role in attaining replacement fertility. IUDs would likely be more acceptable if only facts are known widely. Notably, recent changes to *WHO guidelines now allow women with STIs other than gonorrhoea, Chlamydia or purulent cervicitis to have IUDs inserted* (WHO 2004). Minor RTIs such as bacterial vaginosis, trichomoniasis, moniliasis, non-specific cervicitis, do not constitute a contraindication for IUD insertion. Long-term studies showed that risk of pelvic inflammatory diseases (PID) was comparable to that in population at large (Salem 2006).

To popularize IUDs it is essential to (a) implement well-designed, innovative strategies to communicate above facts and to create a new image of IUDs; (b) strengthen counselling efforts to dispel doubts and remove misperceptions about IUDs; (c) improve quality of clinical services, especially that for aseptic precaution, proper screening for contraindications and use of correct insertion techniques; (d) revise clinical indication to IUD use in conformity with recent WHO's eligibility criteria (see explanations below); and, thereby, (e) create a cadre of satisfied users to act as peers to inform others.

Concern has been expressed regarding a high incidence of reproductive tract infections (RTIs) which may constitute contraindications for IUD use. A review of the patterns of RTIs (Annex Table 5A & 5B) defines clinical measures necessary. In fact, IUD acceptance offers a clinical screening opportunity for detection and treatment of RTIs among potential users who otherwise would remain undiagnosed. Moreover, as noted above, not all RTIs are contraindications for IUD use. It should however be useful to undertake further research to define the current incidence and pattern of RTIs as a basis to formulate a simpler standard syndromic management regime for RTIs.

(ii). Expand sterilization services: New acceptance of sterilization is already on the rise in recent years. A positive note is that there is a proportionately greater rise in male sterilization, which may be attributed to a wider use of no-scalpel vasectomy (NSV). In view of high unmet needs, especially that for limiters, easy access to quality services should increase acceptance of sterilization further. Wider involvement of doctors, in both private and public sector, in sterilization services is necessary, by making it financially competitive with their medical practice earnings. Further expansion of no-scalpel vasectomy (NSV), together with communication materials designed to dispel doubts about its safety and possible effect on masculinity, can promote acceptance of male sterilization further. To make it more user-friendly, with easy accessibility, names of centres providing sterilization should be enlisted and publicized, with hours of service availability.

(iii). Expand access to emergency contraception: Use of emergency contraceptives (ECs) after unprotected sexual exposure can prevent unwanted pregnancy. However, since it must be used within a short window of 3-5 days after an unprotected sexual exposure, without prior knowledge of the method, its use would not even be thought of. A recent study shows that only 23 percent of wives and 26 percent of husbands knew about emergency contraception, while only 14 percent of wives and only 12 percent of husbands had specific knowledge of emergency contraceptive pills (Khan et al 2009). Only 1.3 percent had ever used EC pills. To promote use, its knowledge must be widely disseminated, its availability, sources for supplies and use instructions expanded. An innovative idea can be to display informative posters on walls for all reproductive health clinical facilities. Several commercial brands of emergency pills are available in the market which should be known to family planning service providers. Family planning service providers training should include how standard dose oral pills can be used as ECs. Method-specific communication strategies are needed to disseminate the relevant knowledge. Another possible option to widen access to EC would be to offer it through social marketing channels. Knowledge of copper bearing IUDs as an effective emergency contraception should also be promoted.

(iv). Introduce newer generations of implants: Recent introduction of Implanon, which have only one rod as compared to six in Norplant, appears to have made implantable devices more popular. Consideration should also be given to introduction of Sinoimplant (II) which, with four years of protection, would be more convenient and, with less than half the cost as compared to any comparable western product, would be more affordable for longer term use. It may be noted that Sinoimplant (II) is gaining increasing popularity in recent years in several countries including China and Indonesia (Ringheim and Gribble 2009).

(v) Promote effective use of injectables: An uneven erratic trend in Injectable use rate, from 9.7 percent in 2004 to 7.0 percent in 2007 and to 11.2 percent in 2011, has been attributed to irregular supplies. BDHS 2007 data on intended future use showing 15 percent of non-users expressing interest to use injectables may, in one hand, imply that many of them were unable to obtain services and, on the other hand, suggest that improved access to services should raise Injectable use significantly. To meet the needs of expressed future users, services should be expanded, supplies should be regular and counselling should be strengthened. Besides above actions, introduction of simpler technique can allow wider use of the method. Recently developed Depo-SubQ Provera (DepoSQ), which has been specially reformulated for administration by subcutaneous route, can be provided by community based workers (Landey and Richey 2009). The new device is already available in USA and several European countries. A still newer innovation is awaiting introduction soon which provide DepoSQ in pre-filled uniject single syringe.

(vi). Improve menstrual regulation services: Demand for menstrual regulation (MR) has all along been very high in Bangladesh since liberation and, in fact, MR has played an important role in preventing many abortion related maternal mortality as well as unwanted births. Importance of MR services in policy pursuit towards population stabilization can be underscored by findings of an analysis of 170 countries that none had achieved replacement level fertility without access to safe services for pregnancy termination (Campbell and Adams 2001). Besides its impact on fertility, greater access to safer MR services can prevent clandestine abortion and health complications arising out of that eventually improving maternal health and saving hospital resources (Khan et al. 1984). Specially, in Bangladesh context, in view of high use rate of less effective methods involving risk of method failures, MR represents an important back-up to minimize unwanted births. Unfortunately, there are no clear strategies to improve MR services.

Even though MR is offered free in public sector clinics, largest majority are known to pay. As per one study, only 11 percent received free services and all others had to pay even in public sector facilities, with around 40 percent paying more than 500 Takas per service (Akhter 1998). Such an amount should pose financial constraint for many poor women which would limit its affordability. On the other hand, providers receiving forbidden payments for MR services are inclined not to report the cases, leaving most cases unreported (Khan 2000). There are also an unknown number of MR cases performed by untrained providers in unsafe environment on clandestine basis, many of which may in fact end up with complications representing an important health problem. Wider access to safe and quality services should prevent this health problem.

It seems therefore urgently necessary to document current status of MR services, including its quality of care, accessibility and affordability, and formulate strategies to improve MR services. Possible scopes for action are expanded availability, improved quality of care and improved provider skill and technical competence through training and monitoring. An institutional mechanism is needed to monitor and also assure quality of its services.

The existing restriction imposed on USAID funded NGOs to offer MR grossly limits access to MR in the country. This requires that Government assume a greater role and responsibility in MR programs. Government may organize a non-AID NGOs consortium supported by donors who have a liberal policy on MR services to coordinate and promote its services.

(vii). Ensure continuity of commodity supplies: The high method discontinuation is known to be at least partly due to inadequate or irregular supplies and temporary stock-outs. Therefore, regular supplies of commodities must be ensured at every service point. To ensure regular supplies at all service points and to

avoid small pockets of temporary unavailability, it may be useful to establish a reproductive health commodity supply (RHCS) monitoring cell under the logistics system that will keep a watch on stock levels at peripheral points.

(viii). Define problems through research: Besides actions proposed above, scientific efforts, including operations research on quality of care, acceptability studies are needed to identify method-specific issues and problems. Clinical studies are needed to define the incidence and pattern of contraindications and gaps in clinical practices and technical competence. A useful study can be undertaken by using interdisciplinary approach in methodology to define existing incidence and pattern of reproductive tract infections (RTIs), current practices in clinical procedures in IUD insertion, MR procedure and antenatal care, which would greatly contribute to improved reproductive health as well as increased method use.

b. Strengthening of community level services including community clinics

Importance of bringing services closer to people is underscored by a finding in Bangladesh that couples were two and a half times less likely to use contraception if obtaining a method would require a travel time of 30 minutes or more from home (Levin et al. 2000). Priority attention is therefore needed to make the existing community clinics function at an optimum level of their projected capacity. Creation of a new cadre community health care provider (CHCP) has been announced to manage and run the community clinics (Rahman 2010). Accordingly, plans are underway to recruit 13,500 married women with higher secondary education and computer literacy in this new cadre (Ujjal 2010). Besides bringing services nearer to door-step, the community clinics are likely to increase public sector involvement in contraceptive services.

Success of the clinics however depends on the appropriate training and supervision of this cadre. Several propositions in this regard are to (i) strengthen supervision and guidance; (ii) design and institute a system of accountability for the clinical service providers; (iii) contract out some selected clinics, especially those located within operational reach of, to some reputed NGOs for operational management and supervision; and (iv) make community leadership responsible to oversee a few selected clinics on experimental basis. In reference to premature stoppage of outreach services by field workers, as indicated from BDHS 2007, likelihood of using modern contraceptives was found to be 1.6 times higher for those who were visited by a field worker. Therefore consideration should be given to restore domiciliary level outreach services at least until community clinics replace their needs and at least in selected low performing conservative areas.

c. Strengthening of private service outlets

Growing use of private sources for contraceptive services calls for strategic efforts to strengthen technical capacity of these sources. Because of privacy and convenience in obtaining supplies, expectedly, private sources' role is likely to further increase. The reported high discontinuation from health problems (20.8% for pills and 33.6% for injectables) can be partly attributed to inadequate or lack of counselling for supplies received from pharmacies and retail stores. New acceptors are especially vulnerable to insufficient information and therefore remain unprepared to deal with side effects. For this purpose, provision should be made for better, updated information and advice on use instruction in case of methods. These efforts should be in conformity and coordinated with the technical support system in the mainstream program. Adequate provision is needed for instructional materials and technical manuals to pharmacies and retailers. Pharmacist curricula in the universities should be reviewed and updated to include newer generation of contraceptives and new scientific evidences influencing user instructions. Such policy updates should be undertaken periodically on regular basis and as warranted by new developments.

d. Managing an appropriate system for financial compensation

Even though compensation for providers and acceptors were used and abused in the past, and the payments were also seen as to conflict with ‘informed choice’, there are sufficient justification for keeping a suitably balanced compensation structure to promote acceptance of more effective, longer term and permanent methods. Payments to clinical providers is particularly important because the existing health system, by default, allows the health care providers in government facilities to practice privately and earn extra money which necessitates that compensation amounts are financially competitive with what they would otherwise earn. However, amount of compensation payments is critically important because, in one hand, unnecessary high amount can invite abuse and fraud or allure insufficiently motivated acceptors just for money, which is the main argument on its conflict with ‘informed choice’. On the other hand, lower amount may be insufficient to compensate for loss of wage and transportation of acceptors and may also not be financially competitive for the clinical providers.

Possibility of abuse and fraud can be minimized if the amounts paid to acceptors and providers are just enough to compensate for their lost time and travel for service, not too high or too low. A scientific monitoring system should be instituted for periodic review of amounts of compensation. Recently, the compensation/payment amounts, including that for providers and acceptors, has been reviewed and revised. Possible impact of this change on program performance and possible abuse remains to be seen.

e. Improving quality of care

Improvement of quality of care is essential to reduce method discontinuation, frequent switching of methods, promote acceptance and, thereby, promote effective use. Improvement of quality of care remains as the major frontline for the program to focus on if further gains in contraceptive prevalence are to be achieved (Khan 2000). Two strategies are important. First, improved provider skills in counselling can effectively address issues such as appropriate choice of methods, knowledge to deal with side effects and encourage continuity, and facilitate cross referrals as and when necessary (Bruce 1989). Secondly, improved technical skills, especially for aseptic precaution, screening for contraindication and clinical procedures can reduce side effects and complications and, thereby, promote acceptor satisfaction, method continuation and effectiveness. Given the method mix trend, efforts should focus on “raising the awareness and availability of under-used methods, overcoming provider biases for and against certain methods, and strengthening provider’s counselling skills” (UNFPA/PATH 2008). An often neglected aspect of quality of care is provision of unbiased information, including those on expected side effects and possible complications. Effective implementation of quality of care strategies necessitate institutions of a technically competent support system to monitor on a regular basis, clinical procedures, aseptic precautions, counselling practices, follow-up arrangements, and availability of equipment and supplies.

f. Focussing communication strategies

Communication efforts in support of family planning programs and services have been grossly inadequate or unfocused in recent years. It is a misnomer to say that knowledge of family planning is universal because, in many instances, knowledge of a method is incorrect, unsupported by sources of availability, and often shrouded by doubts, confusion and misperceptions. There is also wide-spread ignorance regarding safe motherhood and child care needs. Connection between education and fertility behaviour is well understood. However, as shown in Table 9, educational attainment is related to TFR, but unrelated to total wanted fertility, meaning it does not influence the fertility motive, but influence fertility by creating better access to and effective use of fertility control means.

| |
|---|
| Table 9: Wanted and total fertility and the difference by |
|---|

| educational attainment | | | |
|------------------------------|------|-----|----------------|
| | TWFR | TFR | Difference (%) |
| No education | 1.9 | 3.0 | 59 |
| Primary incomplete | 2.0 | 2.9 | 45 |
| Primary complete | 1.9 | 2.9 | 53 |
| Secondary incomplete | 1.9 | 2.5 | 32 |
| Secondary complete or higher | 1.8 | 2.3 | 28 |
| Total | 1.9 | 2.7 | 42 |
| Source: BDHS 2007 | | | |

This would imply that, *in theoretical term, the gap between wanted fertility and total fertility can be eliminated by innovative communication approaches and education programs.* Therefore, properly planned strategies for behaviour change communication (BCC) can be an essential tool to translate policy intents into public acceptance. However, for effective BCC strategy, it is necessary to identify the extent and pattern of ignorance, misinformation, doubts, rumours, confusion and, accordingly, design problem-specific communication materials. A few suggested areas of communication support are to (a) improve knowledge of methods, including their benefits, side effects, use instructions, especially those for more effective methods such as IUDs and sterilization; (b) dispel existing doubts, misinformation and rumours about contraceptives; (c) popularize the community clinic system; (d) create awareness about health and social implications of early marriage and early child bearing; (e) promote social equity for and participation of women in all walks of life; and (f) create social awareness about maternal and child health issues. To reinforce a message, BCC strategy should use both mass media (TV, radio, news paper, posters, bill boards) as well as inter-personal communication, at outreach and in clinical settings (Shane 2006).

g. Implement region-specific strategies

Wide regional variation in fertility decline and program performance calls for special attention to diverse regional issues. As noted earlier, some of the low performing areas are also widely known as socially conservative and culturally orthodox. Socio-cultural factors that affect family size norm or act as a barrier to contraceptive practice are uniquely different in magnitude and nature between regions, which calls for formulation of region-specific micro-strategies. In this respect, the basic principles underlying policy proposition *“Decentralize population activities and ensure the people’s participation in population, nutrition and health activities, decentralization of services through devolution of power to the upazila level and further below”* appears sound and should be acted upon (GOB 2004).

Unequal fertility decline between regions calls for region-specific population goals, with targets to achieve below replacement for regions which are already around that level which would have an averaging effect in reaching nation-wide overall replacement fertility. Decentralized service strategies should also be planned carefully taking into account regional norms, values and cultures. While decentralization is appropriate to address the local issues and problems, there must be back-up support for technical oversight and quality assurance to be applied uniformly without compromise. In addition, centrally or regionally instituted technical expertise should be maintained to assist in micro-level problem solving. For example, conservative, religious issues – mostly arising from ignorance about religious teachings – may be an important factor in Sylhet. Accordingly, communication strategies, both at mass level and inter-personal level in that region should be specially designed in the regions. Recent surveys and selected research findings provide regional data on social, economic and cultural factors that should be useful in identifying region-specific issues. The findings of surveys that the poorer sections of population obtain

contraceptive services mainly from public sector imply the need for emphasizing the role of field workers in selected areas inhabited by poorer population such as urban slums.

Reproductive health

Even though the primary focus of the paper is population and family planning, reproductive health issues are so closely linked and interactive with family planning and population that effective population policies cannot be conceived in isolation of relevant reproductive health issues. Necessarily, these are briefly reviewed with due attention to the prospect for mutual integration of services that would make family planning more widely acceptable and effective.

a. Safe motherhood

Significant progress has been made in recent years in proportion of childbirths attended by medically trained personnel, which rose from 18.0 percent in 2007 to 31.7 in 2011 (Table 10).

| Wealth quintile | Delivered by medically trained personnel (%) | | Delivered by caesarean section (%) | |
|-----------------|--|------|------------------------------------|------|
| | 2007 | 2012 | 2007 | 2012 |
| Lowest | 4.8 | 11.5 | 1.8 | 5.0 |
| Second | 6.7 | 18.6 | 1.9 | 10.3 |
| Middle | 12.1 | 28.2 | 3.3 | 18.9 |
| Fourth | 22.5 | 43.2 | 8.5 | 18.9 |
| Highest | 50.9 | 63.8 | 25.7 | 34.7 |
| Total | 18.0 | 31.7 | 7.5 | 17.1 |

Source: BDHS 2007 & 2012

In spite of this progress, as yet more than two-thirds of child births still occur without a skilled attendant. Continued efforts are therefore needed to train midwives and other medical personnel and equip facilities to improve safe motherhood. Since pregnancy complications can occur unpredictably, it is also essential to create access to emergency obstetric care (EOC) for all pregnant women as and when necessary (Starr 1997). Safe motherhood programs in Bangladesh have adopted these strategies to offer EOC at two levels – basic and comprehensive – available and accessible at several tiers of service points, including hospitals and health centres. Because caesarean section is the single most important intervention that prevents long term maternal morbidity it is often used as a proxy indicator of access to EOC. By this token, there has also been a noteworthy progress with proportion of births conducted by caesarean section rising from 7.5 percent in 2007 to 17.1 in 2011 (Table 10). However, distribution by income shows unequal access to both deliveries attended by medically trained personnel and caesarean section. As also shown in Table 10, poorer sections of population have much less access to both types of services. This lack of equity in access to safe motherhood services poses as an important challenge requiring policy options to establish more equitable access to services. The role of antenatal care would focus on management of pregnancy and planning and preparing for child birth.

The incidence of postpartum haemorrhage in Bangladesh is high at 17.5 percent (Akhter 1996). This calls for implementation of a recent WHO proposed intervention on Perspectives on Postpartum Haemorrhage Initiative (PPPHI) designed to reduce postpartum haemorrhage (PATH 2007). This involves (i) active management of the third stage of labour (AMTSL) by skilled attendant or, when that is not an option, (ii) administration of an uterotonic drug (oxytocin or misoprostol) by a trained health worker (WHO 2007).

b. Infant and child survival

Notably, child survival was found as an important barrier to further decline in fertility (M. Islam et al. 2002). In this respect, improved child survival in recent years is seen as a positive aspect for population policies. Recent studies have also shown that son-preference has diminished in recent decades. Expectedly, parental perception of the chance of survival of their existing children will continue to improve further reducing their family size desire. Innovative communication strategies may help to enhance parental confidence in this regard, while continued efforts are needed for further improvement in infant and child health.

c. Integrated approach

The expanding access to reproductive health services provides an excellent opportunity to integrate family planning messages and referral mechanisms with them. An integrated service system allows clients to reach more services in one visit making them more acceptable, with mutually reinforcing health impact. During the last three decades there have been administrative and structural changes several times on grounds of integration and separation, and it is undesirable to make any further structural changes. Integrated approaches have already been clearly adopted though most service components even when these are not under one roof. There exist opportunities to promote the principles of integration through better coordination and cross referral between different components of reproductive health.

Policy interventions on social factors

Socioeconomic development was seen as a “key driver of fertility decline” during the early demographic transition in the developed world in the past centuries (Bongaarts 2008). More recent experience with fertility transition in many developing countries have showed that certain social indicators, such as education, women’s development, organized community efforts and legal reforms, can be advanced independent of broader economic progress, which in turn can influence fertility without any significant economic development. Notwithstanding the need for economic progress, selective policy actions in social sectors – many such issues are seen as important on their own merit – should therefore be pursued more vigorously. Most important among them in population context are the following.

a. Women’s development

Improved status of women in the family and society is an important determinant in fertility decline process. Women’s economic and social roles – especially those requiring out-of-home activities – provide the motive, knowledge and power to prevent unwanted pregnancy and also positively contribute to economic progress. The UN Forum acknowledges that:

“ensuring gender equity and equality and empowerment of women depends in part on overcoming cultural, social and economic constraints that limit women’s access to education, as well as providing universal access to reproductive health services that allow them to control their fertility” (U.N. 2002).

Recognizing this interrelationship, Government has shown commitment to women’s development as reflected in its development policies and program actions in all relevant sectors. Most importantly, a number of legal measures have also been taken, including Dowry prohibition Act (1980), Cruelty to women Act (1983), Family Court Ordinance (1985), Women and children repression prevention Act (1995) and Acid Offenses Prevention Act (2002). More recently, legal reforms are being considered for equal rights of women to inherit property. Increased political

role of women have been noticeable. The above actions and reforms have heavily contributed to women's participation in social and economic activities with visible transformation in women's status especially in urban areas. However, rural women living in a conservative social environment, still remain subjected to discrimination. Orthodox rural society, together with widespread ignorance, shrouded by deep-rooted religious misconception, has been a limiting factor for women to play their share in the rural societies.

Efforts should continue to (a) create social support in favour of women's education, enhanced role in social, political and economic activities, (b) adopt further social and legal measures to prevent violence against women, (c) dispel social and religious misconceptions (such as the one that lead to so-called "fatwas"), and (d) enforce legal provisions to prevent discrimination against women.

b. Education

Education, especially for women, is the single most important factor which can remove superstition, ignorance and misgivings, create aspirations and opportunities in life, generate further demand for and promote family planning. In recent years, there has been significant increase in school enrolment, especially that for girls, though socio-cultural and economic barriers still pose as major hindrance in retention of girl children in school. Innovative policies, such as provision of lunch, books and supplies, stipends, parental education and community mobilization, are needed to improve retention in schools. It is particularly important to retain girl children in schools until they gain physical and emotional maturity to understand the implications of early marriage and early child bearing. Suitably designed population subjects need to be integrated in education curricula, including that for existing madrasa education system, and reviewed on a regular basis to ensure that these are in conformity with correct knowledge.

c. Age at marriage, early child bearing and adolescent health

Age at marriage in Bangladesh, as noted earlier, has remained very low with teen-age pregnancy rate at one of the highest in the world. Both these factors have been relatively un-responsive to program and policy actions and pose as major obstacles for fertility decline. As per BDHS 2007, 66 percent of women are married before 18 years, the legal age of marriage for women. Low age at marriage with early child bearing also carries important health and economic implications for the mothers and as well as for the children. Recommended options are: (a) Innovative measures to enforce legal age at marriage. With new birth certification systems it should be easier to enforce legal provision now than ever before. (b) Communication activities and public campaign to create social awareness on the importance of allowing girls to become physically and emotionally mature before they are married. (c) Education of girls as a means to keep them busy. (d) Community based activities designed to encourage delayed marriage, delay in first birth as well as child spacing. (e) Adolescents health programs designed to enhance and create access to reproductive health and sexuality knowledge, counseling, services and supplies. (f) Review of current age at marriage law to explore possible options to increase it to 20 years.

d. Development of community institution

Sector-wide policies and programs may benefit from institution of a structure of community organization that would generate community consensus in favour of policies and programs. For such purposes, community facilities should be in place to hold meetings, promote exposure to media through provision of newspapers, books, radios and television and cultural events. Once instituted, communities can be involved in vetting policies and programs including those on population. Such organized community efforts can be a powerful legitimizing force for raising literacy and education, girl's education, women's role in society, addressing maternal health

needs, access to adolescent knowledge and services, awareness about health and social implications of early marriage and early child bearing.

Policies to minimize impact of “population momentum”

As noted earlier, even after fertility declines to replacement level, population will continue to grow due to effects of “population momentum” – which is an inevitable consequence of the young age structure caused by high fertility in the past – until the age structure of population stabilizes. On a longer term perspective, it is therefore critically important to seek policy options that would minimize the impact of “population momentum” and reduce the lag period between achievement of replacement level and stabilization of population growth. Possible options are (i) adoption of one-child family norm and (ii) postponement of births by increasing age at child bearing and child spacing. Recent program slogan “Dutir beshy noi, ekta hole bhalo hoi” (meaning not more than two, better if one”) is already in conformity with this proposition. This also underscores the importance of policy actions to enforce existing legal age at marriage, further raise legal age of female marriage and delay child bearing. Notably, above propositions were earlier made under HNPS 2003-2010 (MOHFW 2005). It is necessary to designate a focal point to carry these policy intents forward and, because of multi-disciplinary nature of possible activities, such policy options may be best addressed under an inter-ministerial consortium.

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| Annex Table 1: Contraceptive method mix trend from 1975 to 2011 as percent women age 15-49 using different methods, different sources | | | | | | | | | | | |
|---|----------|----------|----------|----------|----------|----------------|----------------|----------------|-----------|-----------|-----------|
| Method | 1975 BFS | 1983 CPS | 1985 CPS | 1989 BFS | 1991 CPS | 1993-1994 BDHS | 1996-1997 BDHS | 1999-2000 BDHS | 2004 BDHS | 2007 BDHS | 2011 BDHS |
| Any method | 7.7 | 19.1 | 25.3 | 30.8 | 39.9 | 44.6 | 49.2 | 53.8 | 58.1 | 55.8 | 61.2 |
| Modern method | 5.0 | 13.8 | 18.4 | 23.2 | 31.2 | 36.2 | 41.5 | 43.4 | 47.3 | 47.5 | 52.1 |
| Pill | 2.7 | 3.3 | 5.1 | 9.6 | 13.9 | 17.4 | 20.8 | 23.0 | 26.2 | 28.5 | 27.2 |
| IUD | 0.5 | 1.0 | 1.4 | 1.4 | 1.8 | 2.2 | 1.8 | 1.2 | 0.6 | 0.9 | 0.7 |
| Injectable | -- | 0.2 | 0.5 | 0.6 | 2.6 | 4.5 | 6.2 | 7.2 | 9.7 | 7.0 | 11.2 |
| Implant | -- | -- | -- | -- | -- | -- | 0.1 | 0.5 | 0.8 | 0.7 | 1.1 |
| Condom | 0.7 | 1.5 | 1.8 | 1.8 | 2.5 | 3.0 | 3.9 | 4.3 | 4.2 | 4.5 | 5.5 |
| Female Sterilization | 0.6 | 6.2 | 7.9 | 8.5 | 9.1 | 8.1 | 7.6 | 6.7 | 5.2 | 5.0 | 5.0 |
| Male sterilization | 0.5 | 1.2 | 1.5 | 1.2 | 1.2 | 1.1 | 1.1 | 0.5 | 0.6 | 0.7 | 1.2 |
| Traditional meth | 2.7 | 5.4 | 6.9 | 7.6 | 8.7 | 8.4 | 7.7 | 10.3 | 10.8 | 8.3 | 9.2 |
| Periodic abstinence | 0.9 | 2.4 | 3.8 | 4.0 | 4.7 | 4.8 | 5.0 | 5.4 | 6.5 | 4.9 | 6.9 |
| Withdrawal | 0.5 | 1.3 | 0.9 | 1.8 | 2.0 | 2.5 | 1.9 | 4.0 | 3.6 | 2.9 | 1.9 |
| Other traditional | 1.3 | 1.8 | 2.2 | 1.8 | 2.0 | 1.1 | 0.8 | 0.9 | 0.6 | 0.6 | 0.4 |
| Source: NIPORT et al 2009 reporting from various surveys from 1975 to 2007 & NIPORT 2012 | | | | | | | | | | | |

| Annex table 2: Contraceptive method mix for selected countries | | | | | | | | | | |
|---|------------|------|------|--------|--------|-------------------------|--------|------------------|--------|---------|
| | Any method | | | | | Voluntary sterilization | | Source of supply | | |
| | | Pill | IUD | Inject | Condom | Male | Female | Tradi | Public | Private |
| Bangladesh | 55.8 | 28.5 | 0.9 | 7.0 | 4.5 | 0.7 | 5.0 | 8.3 | 57 | 38 |
| China | 86.9 | 1.7 | 39.6 | 0.1 | 4.3 | 6.9 | 33.0 | 0.7 | - | - |
| India | 56.3 | 3.1 | 1.7 | 0.1 | 5.2 | 1.0 | 37.3 | 7.8 | 71 | 24 |
| Indonesia | 60.3 | 13.2 | 6.2 | 27.8 | 0.9 | 0.4 | 3.7 | 3.6 | 28 | 67 |
| Iran | 73.8 | 18.4 | 8.5 | 2.8 | 5.9 | 2.7 | 17.1 | 17.8 | 76 | 25 |
| Nepal | 48.0 | 3.5 | 0.7 | 10.1 | 4.8 | 6.3 | 18.0 | 3.7 | 77 | 20 |
| Pakistan | 29.6 | 2.1 | 2.3 | 2.3 | 6.8 | 0.1 | 8.2 | 7.9 | 57 | 18 |
| Sri Lanka | 70.0 | 6.7 | 5.1 | 10.8 | 3.7 | - | 23.1 | 20.5 | - | - |
| Thailand | 71.5 | 30.9 | 1.2 | 10.4 | 1.4 | 1.0 | 24.5 | 1.4 | - | - |
| Viet Nam | 75.7 | 9.0 | 35.9 | 1.2 | 7.6 | 0.5 | 5.8 | 14.8 | 86 | 14 |
| Source: Population Reference Bureau, 2008 Data Sheet, Washington DC | | | | | | | | | | |

| Year | Permanent methods | | | IUD | Implant | Injectables |
|---------|-------------------|---------|---------|---------|---------|-------------|
| | Female | Male | Total | | | |
| 1972-73 | 129 | 240 | 369 | 15,600 | | - |
| 1973-74 | 1,016 | 446 | 1,462 | 27,590 | | - |
| 1974-75 | 4,707 | 14,469 | 19,176 | 50,391 | | 58 |
| 1975-76 | 11,078 | 37,839 | 48,917 | 77,840 | | 1,908 |
| 1976-77 | 41,248 | 75,066 | 116,314 | 59,421 | | 2,548 |
| 1977-78 | 44,722 | 32,643 | 77,365 | 40,464 | | 4,527 |
| 1978-79 | 81,719 | 24,705 | 106,424 | 22,631 | | 11,280 |
| 1979-80 | 171,248 | 27,534 | 198,782 | 21,801 | | 26,028 |
| 1980-81 | 232,497 | 26,296 | 258,793 | 41,601 | | 112,010 |
| 1981-82 | 235,084 | 67,824 | 302,908 | 83,668 | | 81,065 |
| 1982-83 | 274,842 | 88,315 | 363,157 | 117,743 | | 72,697 |
| 1983-84 | 336,502 | 215,665 | 552,167 | 303,338 | | 122,457 |
| 1984-85 | 232,389 | 259,210 | 491,599 | 432,465 | | 165,933 |
| 1985-86 | 116,418 | 151,125 | 267,543 | 367,668 | | 216,489 |
| 1986-87 | 140,625 | 209,935 | 350,560 | 420,338 | | 314,748 |
| 1987-88 | 96,169 | 99,846 | 196,015 | 379,128 | | 389,299 |
| 1988-89 | 130,946 | 13,027 | 143,973 | 361,698 | | 598,702 |
| 1989-90 | 141,953 | 83,109 | 225,062 | 365,623 | | 1,257,581 |
| 1990-91 | 97,404 | 67,896 | 165,300 | 274,231 | | 1,689,114 |
| 1991-92 | 92,133 | 69,142 | 161,275 | 269,565 | | 2,254,778 |
| 1992-93 | 63,200 | 50,416 | 113,616 | 261,770 | | 2,561,166 |
| 1993-94 | 71,225 | 49,134 | 120,359 | 335,840 | 40,359 | 3,533,643 |
| 1994-95 | 53,821 | 16,821 | 70,642 | 244,891 | 49,448 | 4,333,234 |
| 1995-96 | 39,074 | 10,266 | 49,340 | 195,111 | 23,925 | 5,454,159 |
| 1996-97 | 43,286 | 7,603 | 50,889 | 175,487 | 40,359 | 6,305,035 |
| 1997-98 | 55,955 | 13,117 | 69,072 | 194,535 | 99,448 | 6,552,054 |
| 1998-99 | 45,220 | 16,500 | 61,720 | 176,514 | 50,183 | 7,193,788 |
| 1999-00 | 33,839 | 21,617 | 55,456 | 146,270 | 50,565 | 6,926,575 |
| 2000-01 | 19,205 | 11,192 | 30,397 | 101,160 | 34,127 | |
| 2001-02 | 28,974 | 22,364 | 51,338 | 161,679 | 57,876 | |
| 2002-03 | 32,761 | 43,203 | 75,964 | 181,762 | 66,163 | |
| 2003-04 | 52,132 | 41,839 | 93,971 | 195,018 | 68,307 | |
| 2004-05 | 83,627 | 60,645 | 144,272 | 208,769 | 105,958 | |
| 2005-06 | 71,133 | 52,658 | 123,791 | 257,915 | 74,871 | |
| 2006-07 | 100,571 | 91,486 | 192,057 | 222,259 | 13,812 | |
| 2007-08 | 105,787 | 92,890 | 198,677 | 236,960 | 177,351 | |
| 2008-09 | 115,754 | 100,646 | 216,400 | 330,709 | 86,720 | |
| 2009-10 | 128,605 | 162,297 | 290,902 | 226,220 | 40,278 | |
| 2010-11 | 138,381 | 150,920 | 289,301 | 307,271 | 273,677 | |
| 2011-12 | 131,324 | 158,313 | 289,637 | 244,266 | 200,796 | |

Source: data from service statistics compiled by Engender Bangladesh

| Annex table 4: Percent married women using any FP method and IUDs in selected countries | | |
|---|------------|------|
| Countries | Any method | IUDs |
| Selected Muslim countries | | |
| Uzbekistan | 64.9 | 49.7 |
| Egypt | 59.2 | 36.5 |
| Tunisia | 62.6 | 27.6 |
| Syria | 58.3 | 25.7 |
| Palestinian territory | 50.2 | 24.8 |
| Jordan | 55.8 | 23.6 |
| Turkey | 71.0 | 20.2 |
| Lebanon | 58.0 | 13.8 |
| Iraq | 49.8 | 12.2 |
| Libya | 45.2 | 11.2 |
| Qatar | 43.2 | 9.0 |
| Iran | 73.8 | 8.5 |
| Indonesia | 60.3 | 6.2 |
| Pakistan | 29.6 | 2.3 |
| Bangladesh | 55.8 | 0.9 |
| Other countries | | |
| North Korea | | 42.8 |
| China | | 39.6 |
| Source: PRB Family Planning Worldwide Data Sheet 2008 | | |