

Bangladesh

Contraceptive Market Segmentation Analysis

Final Report

Deepika Chawla
David Sarley
Susan Scribner
Ruth Berg
Asma Balal

November 2003



COMMERCIAL MARKET STRATEGIES
NEW DIRECTIONS IN REPRODUCTIVE HEALTH



DELIVER
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Abstract

Segmentation of the contraceptive market in Bangladesh already exists with the public and private sectors playing crucial roles. Using the Demographic Health Survey (DHS) data to highlight each sector's efforts to reach contraceptive users, this report will help guide policymakers and other stakeholders in resource allocation decisions. Analysis of the users by income, region, and other characteristics has helped determine which methods are being used, by whom, and from which source. Opportunities have been identified that will help both the public and private sectors focus their attention on potential and existing clients. This report is the first step in the consultative process. The second step, a workshop in Bangladesh for donors and stakeholders, will be to develop policy to maintain market segmentation.



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Acronyms

ATP	ability to pay
BBS	Bangladesh Bureau of Statistics
BGL	Bangla-German Latex
CMS	Commercial Market Strategies
CSL	Commodity Security and Logistics Division (of USAID)
CYP	couple-years of protection
DAA	Drug Administration Authority
DFID	British Department for International Development
DHS	Demographic and Health Survey
EPZ	Export Processing Zone
ESP	essential services package
EU	European Union
FP	family planning
GDP	gross domestic product
GH	Bureau for Global Health
GNI	gross national income
GOB	Government of Bangladesh
HPSP	Health and Population Sector Program
HNPSP	Health, Nutrition, and Population Sector Program
ICDDR, B	International Centre for Diarrhoeal Disease Research, Bangladesh
IEC	information, education, and communication
IDA	International Development Association (WB)
IUD	intrauterine device
JSI	John Snow, Inc.
KfW	<i>Kreditanstalt für Wiederaufbau</i> (German funding agency for international development)
MCH	maternal and child health
MOH	Ministry of Health
MOHFW	Ministry of Health and Family Welfare
MS	market segmentation
MWRA	married women of reproductive age
NGO	nongovernmental organization
OC	over-the-counter
PATH	Program for Appropriate Technology in Health
PPP	public-private partnerships
PRSP	Poverty Reduction Strategy Paper
PSI	Population Services International
SLI	standard living index
SMC	Social Marketing Company
TFR	total fertility rate
UNFPA	United Nations Population Fund
USAID	United States Agency for International Development
WTP	willingness to pay

Preface

This paper is an analysis of the contraceptive market segmentation that already exists in Bangladesh. The study took place in 2003 as a collaborative effort between Commercial Market Strategies (CMS), funded by USAID's Office of Population and Reproductive Health; and DELIVER, funded by the Commodity Security and Logistics Division, which is part of USAID's Office of Population and Reproductive Health. This report is part of a consultative process undertaken by both projects with stakeholders in Bangladesh to help develop policy to improve the efficiency of market segmentation as a way of strengthening contraceptive security.

The researchers used the most recent Bangladesh Demographic and Health Survey and supplemented this survey by collecting quantitative and qualitative data with the help of Data International of Dhaka.

By analyzing user characteristics to determine which methods are being used, by whom, and from which source, CMS and DELIVER hope to provide useful information to the various donors and stakeholders in Bangladesh.

Acknowledgments

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Executive Summary

Bangladesh is widely considered an international success story in family planning, with an increase in contraceptive prevalence rising from 8 percent to 54 percent and a decline in the total fertility rate from 6.3 to 3.3 in the three decades since independence. Success in meeting these population goals can be largely attributed to the commitment of the Government of Bangladesh (GOB) and the Ministry of Health and Family Welfare (MOHFW), which have effectively coordinated donor organizations to ensure that free or affordable contraceptives are available in both public and private health facilities throughout the country.

Although Bangladesh has experienced a great deal of success in meeting its population goals, new challenges to contraceptive security in the country are emerging. At present, there is a widening gap between the demand for contraceptives and the available government and donor funding for contraceptive procurement. The MOHFW wants to move toward greater self-reliance for its family planning services. MOHFW goals include (1) lowering dependence on contraceptive donations to improve the long-term sustainability of its family planning programs, (donors met nearly all the country's contraceptive needs until 1998); (2) increasing the use of the most effective contraceptive methods to sustain improvements in reproductive health; and (3) using public resources for family planning as effectively and efficiently as possible.

Moving toward self-reliance has resulted in changes in many aspects of the family planning program. One major change was that the GOB started financing commodity procurement through World Bank loans. As a result, in 2002, Bangladesh was meeting 16 percent of the public sector contraceptive requirements, with the balance provided by donors. However, raising the modern method contraceptive prevalence rate from 43 percent to 70 percent by 2010, as set out in the GOB Health, Nutrition and Population Sector Program (HNPS), requires a U.S.\$70 million annual product demand from more than 27 million users.

In June 2002, the MOHFW brought together stakeholders from the government, private sector, nongovernmental organizations (NGOs), and the donor community to participate in a symposium on contraceptive security. At this meeting, participants identified three major strategies to improve contraceptive security: (1) reinvigoration of long-term methods of contraception, (2) improved market segmentation, and (3) improved national supply chain management. In addressing the second of these three strategies, participants recognized that public-private partnerships can contribute to a well-segmented market, which would allow public resources to be targeted to clients most in need, while the private sector supplies clients who are able to pay for contraceptives.

There are two main participants in the family planning market in Bangladesh: the public sector and the Social Marketing Company (SMC). The public sector dominates the market, supplying 64 percent of current modern contraceptives; providing for 85 percent of Bangladeshi women using injectables; and 90 percent of the women using long-term methods, such as intrauterine devices (IUDs) and sterilization. The government pill brand also has more than 63 percent of the market share. The SMC, an international NGO that sells its brands at prices lower than the bulk product costs because of its reliance on donated commodities, also has a share of the market. SMC sells pills, condoms, and injectables, mostly through private sector outlets. SMC has captured 71 percent of the market share for condoms and 29 percent for the pill. The commercial sector plays a smaller role, with its market share not exceeding 5 percent of the IUD, injectable, and sterilization markets. Commercial sector condom sales also only account for 3.5 percent of condoms sold. However, given the extent of the commodity security challenge facing Bangladesh, all the major players, including the MOHFW, the

SMC, and other commercial and NGO organizations, have a crucial role to play in meeting population contraceptive needs.

To help the GOB meet their goals of developing public-private partnerships and further segmenting the family planning market, the DELIVER and CMS projects conducted a market segmentation analysis that examined the market for family planning products and services by analyzing contraceptive use by method, source, client wealth, and location. This market segmentation analysis will inform key policy questions by defining characteristics of different existing and potential users of modern methods, how they are presently supplied, the relative strengths of the different providers of contraceptives and their roles and responsibilities, and how resources can be allocated more efficiently. In addition to examining contraceptive use, the authors examined the Bangladeshi people's ability and willingness to pay for family planning services. Understanding willingness and ability to pay enhances how the family planning market is analyzed, can inform how commodities can be best priced and marketed. Some of the related key findings are willingness and ability to pay including—

1. People in the poorest quintile are paying unofficial fees at GOB clinics while often receiving poor quality of service. If possible, the poor prefer not to pay and are willing to wait in long lines and receive poorer service to avoid payment.
2. Fee for service at NGOs or private providers is more acceptable in urban areas than in rural areas where private clinics compete against the GOB facilities providing free services.
3. GOB and Raja condoms are affordable for each income decile in the population. However, GOB condoms with an unofficial fee per visit are often not affordable for the poorest two deciles. GOB pills are also not affordable for the poorest two deciles if there are unofficial fees charged by government providers.
4. There is scope to increase SMC and GOB prices in terms of likely ability to pay but contraceptive users habituated to buying at low subsidized prices may not be willing to pay more.

Because segmentation analysis looks at who is receiving what services and/or commodities with respect to their ability to pay, the results can also help identify complementary roles for the private, public, and NGO sectors in the provision of family planning services. Key findings that can inform strategies to coordinate and further segment the market include—

1. The contraceptive market in Bangladesh is already well segmented. The public sector provides contraceptives to more than 80 percent of clients in the poorest quintile¹ and only 35 percent in the wealthiest. There is significant variation among methods.
2. Of the married women who have a need for contraception, only 30-40 percent across all quintiles are accessing modern methods. This indicates that there is room for both the public and private sector to meet these needs, and that the market should be divided according to the sector with the comparative advantage in meeting those needs.
3. There are opportunities for the public and private sectors to collaborate on behavior change communication to reach the 15 percent of married women who have unmet contraceptive needs. However, women with unmet needs tend to be located in rural areas and in the poorer quintiles and have little or no education, making them an ideal target for the public sector provision of family planning services.

¹ Quintiles are indicative of socioeconomic status and are based on a wealth index developed by ORC Macro and the World Bank. The methodology is described in section 1.5.

4. Rural women in the wealthiest two quintiles prefer the pill, and they currently use those provided by the public sector. These women are also most likely to have the ability to pay for the pill. If socially marketed pills were made available in public outlets, these women may be convinced to switch brands and pay for the pill, allowing public commodities to be targeted to more needy clients.

Market segmentation will require effective collaboration and partnership among public and private stakeholders. The authors hope that this study will contribute to the participatory process so that the roles for the various sectors can be developed to ensure contraceptive security in Bangladesh.

1. Background and Objectives

Bangladesh is one of the most densely populated countries in the world, with an estimated 120 million people. The country has undergone a remarkable demographic transition during the past three decades. The average life expectancy at birth increased from 46 years in 1974 to more than 60 years in 2000. During the same period, the total fertility rate declined from 6.3 to 3.3, and contraceptive prevalence increased from 8 percent to 54 percent. These achievements have prompted observers to cite Bangladesh as a family planning success story. However, several developments currently threaten to undermine this success and the completion of Bangladesh's demographic transition. A major threat is the expected future gap between donor funding and contraceptive needs. Historically, the country has depended on donated commodities to meet the needs of its population. While population momentum and the increased interest in contraceptive use among Bangladeshi men and women guarantee that the demand for family planning will continue to grow substantially, commodity donations are expected to fall far short of meeting that future demand.

1.1 Contraceptive Security Situation

To address this contraceptive security challenge and move toward greater self-reliance, the Government of Bangladesh (GOB) has begun to finance commodity procurement through World Bank loans. A symposium hosted by the Ministry of Health and Family Welfare (MOHFW) in June 2002 highlighted that in 2002 the country met 84 percent of its contraceptive requirements through donor subsidization and 16 percent through a World Bank loan. The MOHFW seeks to progressively lower dependence on donations to improve the long-term sustainability of its family planning programs. It also seeks to increase use of the most effective contraceptive methods to sustain improvements in reproductive health. Raising the modern method contraceptive prevalence rate from 43 percent to 70 percent by 2015 translates into a U.S.\$70 million annual product demand from more than 27 million users.

At the symposium, key stakeholders from the public, nongovernmental organizations (NGO), commercial, and donor communities discussed how national policy could be developed to attain contraceptive security. With technical support from DELIVER, several strategies were defined to increase the efficiency and sustainability of contraceptive distribution. The discussion at the symposium mainly focused on the following technical issues:

1. The method mix in Bangladesh has shifted from long-term and permanent methods to less cost-effective, short-term methods in terms of procurement and commodity costs and less effective traditional methods. The effects of this shift are two-fold: first, it has been a major contributor to the total fertility rate (TFR) plateau despite increasing contraceptive prevalence; second, the shift to short-term methods directly affects the demand for contraceptives. Clearly, a component of addressing contraceptive security is the reinvigoration of long-term and permanent methods within an environment of informed choice.
2. While it is incumbent on the GOB to ensure access to contraceptives for its people, it is not necessarily the government's role to supply all the contraceptives needed, particularly for free. A more desirable model is a partnership, which includes private and commercial sectors, thus allowing for optimal resource allocation. Understanding and segmenting the market for contraceptives provides an opportunity for the MOHFW to work with commercial and NGO partners to increase the efficiency of contraceptive supply.

3. The shift of financing from direct donations of contraceptives to government procurement, using World Bank and other credits, has been problematic. To ensure contraceptive security, the process of improving procurement of the large volumes of contraceptives for Bangladesh needs to continue.
4. While the Bangladesh supply chain for contraceptives has been effective, it has not been particularly efficient. To save scarce GOB funds, efforts need to be made to shorten the supply chain and make other efficiency adjustments.

Based on these findings, three working groups were established to address areas of concern and to develop specific strategies and recommendations for attaining contraceptive security.

- Promoting the use of long-term and permanent contraceptive methods.
- Balancing public and private sector participation in the market.
- Supporting supply chain management on a national level.

Need for market segmentation: Participants at the symposium agreed that a well-segmented market is one of the desired outcomes of public-private collaboration. There was a clear notion that the limited public sector resources should be targeted to the poorest and neediest, and that clients with an ability to pay should pay for contraceptives. This becomes particularly important as the current government seeks to increase private sector financing of contraceptive commodities.

1.2. Market Segmentation Analysis Objectives

In line with the GOB's efforts to address the issue of contraceptive security in the country, the DELIVER and Commercial Market Strategies (CMS) projects advocate a participatory process aimed at identifying appropriate roles for public, NGO, and commercial sectors in providing family planning products and services. The first objective of the market segmentation analysis, explained in more detail in section 1.4, is to help identify opportunities for improving resource allocation in family planning in favor of promoting contraceptive security. Second, the analysis will serve as the common information source that feeds into the dialogue process among stakeholders. Finally, the market segmentation analysis and the accompanying dialogue process can facilitate collaboration among key stakeholders from public and private sectors.

1.3 Intended Use of Market Segmentation Analysis in Bangladesh

The market segmentation analysis is supporting the policy process to improve resource allocation by addressing the contraceptive security challenge in Bangladesh. This final report has been shared with key stakeholders from the public and private sectors; and has stimulated discussions about their respective roles, information needs, and interests in specific market segments. The feedback obtained from stakeholders during the May 2003 market segmentation workshop has helped tailor the analysis to address specific information needs, and has also identified potential opportunities for each sector. This final report should inform subsequent discussions among stakeholders about appropriate strategies to improve efficiency and effectiveness of the national family planning program. This collaborative approach will facilitate identification of appropriate roles for the public and private sector, allowing each sector to maximize its contribution and impact.

1.4 Applying Market Segmentation Analysis

1.4.1 Definitions

Market segmentation analysis is a useful analytic tool for donors, governments, and other stakeholders that are striving to achieve greater contraceptive security through a more efficient and effective allocation of resources. In its broadest sense, market segmentation analysis refers to the process of using survey data and statistical analysis to divide the reproductive health market into sub-populations whose reproductive health needs, characteristics (including ability to pay), or practices might require distinct service delivery or marketing strategies. Typically, a market segmentation analysis of the family planning market will include an examination of contraceptive users by method, method source, and economic status (e.g., income quintile). By using that information, it will be possible to determine the extent to which the family planning market is *well-segmented*; that is, whether the contraceptive sources used by different economic groups are consistent with an efficient use of public and private resources.

1.4.2 Market Segmentation as a Policy Tool

In many countries, limited resources for family planning is a primary obstacle to contraceptive security. Sources of funding for family planning include government, donors, and the private sector. The GOB contributes significantly to the national family planning program. What is the GOB's ability to meet the increased funding required as both contraceptive demand rises while donor funding decreases? Donor funding for contraceptives is declining. This means that the private sector needs to contribute significantly to meet the funding gap. In Bangladesh, as in most developing countries, virtually all private sector spending for family planning comes from households. The challenge is to increase payments from households without putting an unfair burden on the poor families of Bangladesh. Therefore, an efficient use of resources means that payments from households reflect what those households are able to pay, as a way to maximize private sector resources. Such segmentation, however, requires coordination among public and private sector stakeholders.

When used as a policy tool, market segmentation analysis creates opportunities for various public and private sector stakeholders to coordinate their efforts to meet the country's family planning needs. This assumes greater significance in a resource scarce environment where such coordination is a necessity for achieving national program objectives. Given the different objectives of the public, NGO, and commercial sectors, it should be possible to identify each sector's complimentary roles in providing family planning products and services in a given country. In most countries, the initiation of the process inevitably coincides with planned donor phaseout or an expected decline in donor-supplied free contraceptives. However, several factors are important in implementing such a collaborative process that involves all the key stakeholders. Some key factors include continued commitment by the Ministry of Health (MOH) to involve private sector stakeholders, existence of distinct market segments, and willingness of the private sector to invest resources needed for serving its target population.

It is important to recognize that with the growing demand for family planning in the country, a well-segmented market will not necessarily reduce the role of any particular sector. In fact, the proposed collaboration will enhance the overall impact of the national family planning efforts and will enable efficient and equitable targeting of resources. This market segmentation analysis will provide data to key stakeholders to help them better understand the socioeconomic, demographic, and behavioral profile of the target population in terms of—

- use of contraceptive method mix
- use of contraceptive supply source mix
- unmet need for contraceptives
- reasons for non-use of contraceptives.

1.5 Market Segmentation Methodology

1.5.1 Data

The present study relies on data from the Bangladesh Demographic and Health Survey (DHS) 1999–2000.

1.5.2 Wealth Index

The authors used the asset-based wealth index developed by ORC Macro and the World Bank to classify currently married women of reproductive age according to socioeconomic status.

The wealth index was developed explicitly for use with DHS data sets to compute a standard of living index for each woman in the DHS data set (Gwatkin 2000). The asset or wealth information is gathered using the DHS household questionnaire with questions typically posed to the head of the household concerning the household's ownership of a number of items, such as a fan, television, and car; dwelling characteristics that are related to wealth status, such as flooring material, wall material, and roofing material; type of drinking water source; type of toilet facilities; and other characteristics, such as electricity in the home.

A weight or factor score generated through principal component analysis is assigned to each household asset for which information was collected through the DHS. The resulting asset scores are standardized in relation to a standard normal distribution, with a mean of zero and a standard deviation of one. Each household is assigned a score depending on whether or not the household owns particular assets included in the asset index. The sample is then divided into population quintiles—five groups with approximately the same number of households in each group, with the first quintile being the poorest and the fifth quintile representing the wealthiest.

1.5.3 Analysis of Data

The family planning market can be segmented in a variety of ways, and there is no *best* approach. In this preliminary report, we used cross-tabulation to segment the family planning market, primarily along socioeconomic and geographic lines. The segments will be further developed and refined after the DELIVER–CMS team has received input from key stakeholders about key population segments of interest.

2. Family Planning Policy Environment and Market Structure in Bangladesh

Bangladesh's family planning program could not have achieved such impressive results in the absence of a facilitating policy environment. During the last 25 years, successive governments have displayed unwavering commitment to achieving the family planning objectives. The MOHFW identifies reduced fertility rate as one of the priority objectives that would be used to measure the success of the new Health, Nutrition, and Population Sector Program (HNPS 2003–2006). Family planning services are included in the GOB's essential services package (ESP), and increased contraceptive prevalence is one of the priority outcomes desired under reproductive health. In addition to improving efficiency and equity in the public sector service delivery, the HNPS document calls for improved public-private partnership for achieving common family planning goals at the national level.

2.1 Financing Family Planning Services

The public health sector in Bangladesh is supported through general taxation revenue and offers free services to the population, irrespective of ability to pay. The private sector is dominated by socially marketed products and NGO clinics. About two-thirds of total health spending comes from out-of-pocket expenditures (MOHFW 2002).

Historically, Bangladesh received significant donor support for its family planning program, a program that is widely recognized as one of the most successful in the world. The GOB has successfully coordinated donor resources for information, education and communication (IEC) activities; service delivery improvement; logistics management support; and contraceptive commodities (Hudgins 2002). Until 1998, donors supplied almost all the contraceptives used in the country. However, this changed under the Health and Population Sector Program (HPS) that requires the GOB to procure commodities using World Bank loan credits. The transition has been problematic because of a lack of prior experience in the country with the International Development Association (IDA) procurement procedures. The GOB is receiving technical assistance from the DELIVER project, with funding from USAID, to improve local expertise for procurement.

2.2 Family Planning Market

Total contraceptive prevalence is 54 percent, with modern method use at 43 percent (NIPORT and Mitra Associates ORC Macro et al. 2001). Prevalence rates for oral contraceptives, injectables, and female sterilization are 23 percent, 7 percent, and 7 percent, respectively.

Two key players dominate the family planning market in Bangladesh: the public sector and the SMC (Sine 2002). The commercial sector share is relatively small in providing family planning. This is not surprising in a low-income country with a per capita gross national income (GNI) of U.S.\$380 and 36 percent of the population below the poverty line (World Bank 2002).

Public sector: Sixty-four percent of current modern contraceptive users obtain their method from the public sector. With respect to long-term method users, the public sector is the source of supply for 85

percent of women using injectables, 90 percent of IUD users, and 90 percent of sterilized women. Government pill brands have more than 63 percent of the market share.

In the past, the public sector used a large field force for distribution of contraceptives to women who had limited mobility. This is reflected in the 1999–2000 data used in the market segmentation analysis data. However, with the unification of health and family welfare services at the upazila level under the HPSP, much of the family planning field workers became superfluous, creating further inefficiencies in the resource-strapped public sector (Gwatkin et al. 2000).

Donor contribution to the proposed HNPSP will depend on donors reaching an agreement with the GOB. In the absence of donor support, the GOB would need to procure large quantities of contraceptives and coordinate donor supplies to support both public sector and NGO programs.

Social marketing sector: SMC, the largest social marketing program in the world, plays a significant role in providing family planning products in Bangladesh. SMC sells pills, condoms, and injectables, largely through private sector outlets, including NGO clinics, pharmacies, and other retail shops. SMC has 71 percent of the market share for condoms and 29 percent for pills. The SMC's Blue Star program for injectable marketing has more than 2,100 providers throughout the country.

SMC has been able to sell its brands at prices far below the bulk product costs due to its reliance, almost entirely, on donated commodities. Faced with an expected decline in donor contraceptive supplies, however, the NGO is implementing a multifaceted strategy to improve its long-term sustainability. One of the key aspects of SMC's marketing strategy is to improve cross subsidization by introducing high-priced brands for pills and condoms. Despite these efforts, the benefits of cross subsidizations are likely to take several years to materialize, as is expected in a low-income country. In the meantime, SMC needs to reach an agreement with the GOB on the terms and conditions for the supply of commodities procured with World Bank loans.

Commercial sector: Overall, the commercial sector is a relatively small player in providing family planning products and services. The 1999–2000 DHS suggests that the commercial sector share does not exceed 5 percent of the IUD, injectable, and sterilization markets. Similarly for pills, the public sector and SMC dominate the market, whereas commercial brand users represent less than 8 percent of total pill users. Commercial sector sales for condoms only account for 3.5 percent of total condoms sold in Bangladesh (SMC 2003). Bangla-German Latex (BGL) is a newly formed joint venture manufacturer of condoms located in the Export Processing Zone (EPZ). It primarily supplies the international market and its products have passed European Union (EU) certification standards. Its first export orders were sent to clients in Latin America and Pakistan in March 2003. It is interested in selling its products locally, but is not yet allowed to do so because it is located in the EPZ. After taxation arrangements for local sales are agreed to with the Revenue Board, BGL could become an important source of local supply.

2.3 Policy Issues Identified in Bangladesh

The GOB is facing the challenge of meeting the increased demand for family planning while experiencing constraints in the financial resources it can mobilize and allocate to fund these products and services. In this context, market segmentation analysis will help inform core policy questions pertaining to resource allocation efficiency. That is, ensuring public sector funding for contraceptives is directed at those most deserving public subsidy, while social and commercially marketed contraceptives are targeted at those more able and willing to pay. The application of market segmentation analysis to address these issues was discussed with stakeholders from the public and

private sectors in individual meetings, focus group discussions, and the market segmentation workshop held in Dhaka in May 2003. From these discussions, stakeholders identified a number of interrelated policy questions and issues:

As a matter of policy and principle, the government should target subsidies more to the poor rather than the rich.

With a more targeted allocation of resources, stakeholders believe that it should be possible to increase equity and efficiency in contraceptive use. Another key question was at what point would increasing the price cause a decrease in demand? To answer this question requires an analysis of price, cross price, and income elasticities. It was determined that, although useful, a household expenditure survey would be too time consuming at this stage. As an alternative, a literature review of other analysis undertaken on contraceptive pricing in Bangladesh and elsewhere could help determine the scope for increasing prices. Another alternative approach suggested is to look within each quintile and determine a mean income level and see what proportion of total expenditure different contraceptives would take up. We should look at experience with user fees and International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) experience in the Matlab pilot area, in particular, to see how effective these can be. Access, rather than willingness to pay (WTP) and ability to pay (ATP), is a bigger problem in rural areas. Shops are better placed to sell condoms to men than government clinics.

The GOB has a comparative advantage in serving rural communities, whereas the private sector can service the urban population through commercial outlets.

There is no sharp market segmentation; both public and private are serving all quintiles. One of the advantages of the public sector is that public facilities provide a *one-stop shop*. This means that when women visit health centers for other health concerns they can also pick up contraceptives. This may explain why even richer quintiles take from the public sector. It was felt that the government should try to serve the poorest of the poor and rural women. Participants believed that it is not possible or desirable to exclude any groups. Means testing as a way to determine what women should or should not pay was not seen as a viable policy option. Offering private contraceptives at public facilities was one option identified to give access to those who are able and willing to pay. Making contraceptives available, however, will not guarantee that clients with ability to pay will purchase them. Furthermore, can the GOB sell private sector-supplied contraceptives? This was seen as a good idea and could enable the GOB to generate income at clinics as an incentive to staff and facilities. It would give rural women better access to private brands.

The GOB and the private sector are committed to working together but there are barriers.

There is a recognized need for the commercial sector to engage the GOB in a positive dialogue. Private sector representatives have issues and have recommendations for managing the problem, but they need to be engaged by the GOB. A common theme from discussions with private sector participants is that market forces and dialogue, rather than decrees, should drive the public-private partnership. Those that can pay should pay to ensure that government subsidies are well targeted. While there is a clear GOB policy in favor of public-private partnerships, the attitudes of individual civil servants is seen by the private sector as a barrier. While the GOB cannot and should not do everything, GOB will continue to play the largest role for some years to come. One factor identified is that people go the private sector because they are uncertain about unofficial fees at GOB facilities.

There are not adequate policy incentives for a public-private partnership (PPP) while substantial institutional barriers exist. For example, there is no policy for pricing donated products. The private sector requires Drug Administration Authority (DAA) approval for pricing decisions. Price mark-ups are fixed at 50 percent, which is not sufficient considering high marketing costs, and the mark-ups do

not allow private organizations enough profit to cross-subsidize. Private and public sectors need to lobby more effectively. The Director of the DAA reports to the Secretary MOHFW and is a key decision maker. Informing the Secretary MOHFW of the impact of DAA pricing decisions on the private sector would help identify necessary changes.

The private sector would like to get injectables classified as over-the-counter (OTC) but there are restrictions on OTC product sales. OTC products cannot be sold within 30 miles of a border, and products need a client address to be dispensed. The GOB needs to introduce an effective incentive for long-term methods that ensures free choice, but would have a cost. In the past, some corruption problems with the incentive payments have been reported. How can the government give incentives to private practices to deliver clinical contraceptives methods? Can franchising methods be used? There is only so much GOB can do to reinvigorate long-term methods. All sectors need to put more emphasis on counseling and client preparation.

Market segmentation could be addressed in phases, starting with pills, condoms, and injectables. The public-private collaboration could be build on to develop segmentation for other products and services. Public and private sectors need to define partnerships and address how the government can be a partner. Stakeholders need to define their respective roles and responsibilities. For example, the commercial sector believes that SMC's subsidized products create challenges for commercial sales.

The consensus from discussions was that GOB SMC relations are improving.

Discussions between the public and private sectors clarified that the SMC is a not-for-profit wholesaling entity and does not yet make sufficient revenue to cover all its administrative and purchase costs. The GOB is interested in the SMC becoming self-sustaining, but recognizes that this is a medium- to long-term objective and needs a long-term plan for it to be achievable. Part of this self sufficiency requires the SMC to cross-subsidize brands aimed at lower quintiles. There has been a major communication gap between the SMC and GOB, and misinformation has been compounded by a lack of transparency on the SMC's part. The SMC needs to be more accountable to GOB, but this does not mean GOB should run the SMC. The GOB needs some level of reporting and transparency from the SMC while the SMC acknowledged that it used to do this but then stopped. A memorandum of understanding is needed to clearly define the roles and responsibilities of each partner, while remembering the relationship is a partnership.

Market segmentation analysis is consistent with the GOB's poverty reduction strategy.

There are clear links between the MS analysis and the GOB interim Poverty Reduction Strategy Paper (PRSP) targets, in particular, the objective of making reproductive health services available to all and reducing the maternal mortality rate by 75 percent by 2015. It is important that this is recognized by senior staff from the Ministry of Finance and Planning and the MOH needs to advocate this within the government.

The level of unwanted pregnancies was 14 percent in 2000, up from 11 percent in 1996, but, overall unmet need has declined. Therefore, discontinuation and dropout rates are far more important challenges. These are very high at 48 percent and, while the HNPSP goal is to reduce this to 15 percent, it is not clear how this will happen. Such a large reduction is very unlikely.

A number of data assumptions, analysis, and presentation issues were identified by stakeholders including—

- Quintile 1 should be considered the poorest of the poor; they are least able to pay but are willing to pay.

- Quintile 2 are also poor and are unable to pay but are willing to pay.
- Quintile 3 and quintile 4 are very similar and should be grouped together; they have some ability to pay but are not always willing to pay.
- Quintile 5 is the richest and are able to pay and more willing to pay.
- Were the homeless included in the DHS survey? If not, the data may not be representative of the poorest groups in society. Another weakness with the use of DHS data is that the DHS survey does not explicitly include commercial sex workers (CSW). This group is the most frequent users of condoms. How do we count them? Another factor is that women are usually very reluctant/hesitant in admitting to condom use. The under-reporting of CSW use accounts for part of the apparent leakage of condoms from the family planning (FP) programs.
- Non-surgical vasectomy has increased since its introduction, and it could become more important than female sterilization.
- It was felt that urban and rural poor have different characteristics, however, this was not found to be significant when the wealth index was divided between rural and urban households.
- Sterilization data reflects historic use and does not imply a 12 percent uptake each year.

2.4 Policy Consensus

Perhaps the biggest underlying policy conclusion from the first stakeholder workshop was that both the public and private sector have a crucial role to play in meeting future population contraceptive needs in Bangladesh. The MOHFW and the private sector cannot meet population contraceptive needs by working alone. As the evidence shows, the public and private sectors are already working in a de facto partnership. The market is already segmented with some clients relying heavily on the MOHFW and others on the SMC, commercial, or NGO providers. In the remainder of this report we seek to identify—

- The relative strengths and weaknesses of each contraceptive provider and their respective comparative advantage in providing contraceptives.
- How the public-private sector partnerships can be strengthened to ensure the comparative advantage of each is realized, leading to increased contraceptive security.
- The policy or institutional issues undermining this partnership, and how these can be addressed.
- The types of contraceptive services and which population groups are best served by the MOHFW, the SMC, and other commercial and NGO providers.
- How these services can be improved further to reach those members of the population with an unmet need.

The remainder of this report presents our findings from the market segmentation analysis of the DHS data. This analysis needs to be carefully reviewed, challenged, expanded, and taken forward in a positive way if contraceptive security is to be improved. In section 3, we review evidence on willingness and ability to pay from other studies undertaken in Bangladesh and elsewhere. In section 4, we present the market segmentation opportunities identified thus far. A more detailed description of the methodology and the actual analysis of the data is in appendix A.

3. Evidence on Willingness and Ability to Pay

During the May 2003 market segmentation workshop the question was raised about the need to better understand ability and willingness to pay. Given the wealth of previous studies on this issue, a literature review was commissioned by the Institute of Health Economics of Dhaka University². We present some key definitions in section 3.1, followed by the results of this review in section 3.2. The May workshop also concluded that, at this stage, the high cost and elapsed time needed to commission a new expenditure survey was not justified. As an alternative, it was suggested that the ability of contraceptors to pay could be looked at by comparing contraceptive prices for different methods to the average income in each quintile. This is done in section 3.3 before conclusions for market segmentation are drawn in section 3.4.

3.1 Key Concepts

Three key concepts need to be understood in examining the relationship between the price and quantity demanded for contraceptives. The *elasticity of demand* describes the relationship between changes in price and the subsequent changes in the quantity demanded. Ability to pay (ATP) refers to how easy it is for a contraceptive to find the money to pay for contraceptives. Willingness to pay (WTP) is a separate but related concept that refers to how much a contraceptive is willing to pay for a contraceptive.

If a small increase in the price of a contraceptive leads to a larger than proportional decrease in the quantity demanded, then that contraceptive is said to have an *elastic* demand. If the proportional decrease in demand is less than the increase in price, then demand is said to be *inelastic*. Contraceptive demand elasticity varies method by method and brand by brand. It can also vary depending on the contraceptive's level of income, on the price level being considered, and in different locations and over time. For example, the price elasticity of socially marketed condoms being used by the urban rich will differ from the price elasticity for the rural poor using the same condoms. This complexity means that estimating demand elasticity is a difficult process. As we shall see in section 3.2, different studies using different data sources and approaches can produce conflicting results.

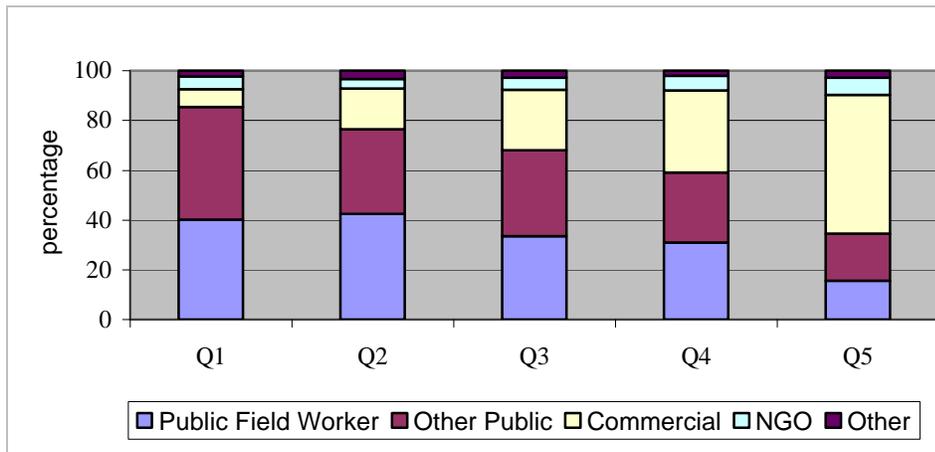
It is important to understand both what influences ATP and WTP and how these two concepts are related. While willingness to pay reflects the perceived value of a product or service, ability to pay estimates clients' available resources to meet their demand. Ability to pay is largely a function of income and the price of contraceptives. The lower the cost of contraceptives in relation to income, the greater the ability of contraceptors to pay for them. Similarly, the greater the cost of contraceptives in relation to income, the less able a contraceptive will be to pay for the contraceptives.

Willingness to pay is similarly a function of income and contraceptive price but is also influenced by personal preferences. These, in turn, vary from individual to individual and are influenced by the prices of alternative contraceptive methods, the price of other household expenditure items, a contraceptive's educational level and knowledge about contraceptives, contraceptive packaging and quality, and social and cultural factors. It is possible that while an individual may not be judged able

² Based on literature survey commissioned by DELIVER and undertaken in June 2003 by Nahid Jahan Ahktar of the Institute of Health Economics of Dhaka University.

to pay for contraceptives, personal preferences may mean that the individual is willing to pay. This is shown in figure 3-1, which is reproduced from figure A8 in appendix A. It shows that the poorest quintile obtain 83 percent of their contraceptives from the public sector. There are still 7 percent of the poorest population who are willing to pay higher prices for contraceptives from commercial outlets.

Figure 3-1.
Source Mix by Wealth Quintile



WTP surveys allow commercial managers to simulate price-related changes in demand without actually changing prices, allowing them to make pricing decisions on empirical market information. WTP surveys measure potential demand and are widely used in health, social, and environmental programs for price setting. In Bangladesh, the government has traditionally provided free contraceptive services, only charging a very nominal price for condoms. NGOs also charge prices that are far below the international bulk purchase price, remaining almost totally dependent on donated commodities. The SMC has a portfolio of products that it sells at prices ranging from heavily subsidized to those that cover cost and contribute a surplus. Despite the existence of these subsidized products, there is a small commercial market for contraceptives in Bangladesh. Consumers seem willing to pay higher prices for specialty condoms and more expensive branded oral contraceptives.

Commercial contraceptive market researchers are more interested in WTP and ATP when surveying consumer opinion about specific products. Commercial marketers are interested in understanding consumer preferences and how consumers will respond to price changes. By asking consumers about their willingness to pay different prices, market researchers assess the likely impact on product revenue from price changes. If a consumer is willing to pay a particular price for a product, commercial marketers are less concerned with their actual ability to pay. Ability to pay affects a client’s overall purchasing power to buy contraceptives.

In contrast, public policymakers who are concerned more with issues of equity and access are interested in the ability of the population to gain financial access to contraceptives. They are more concerned with contraceptors ability to pay.

3.2 Review of Evidence

In Bangladesh, during the 1960s, the pricing of family planning methods was initially introduced on a limited scale by some family planning agencies. Depot holders and part-time agents sold condoms at a token price. However, the motive for pricing at that time was not cost-recovery, but rather to reduce wastage by attaching some value to contraceptive commodities (Barkat-e-Khuda 1994). The scenario changed in 1970s due to a major change in the government policy regarding family planning service, with an aim to increase the contraceptive prevalence rate and to reduce the total fertility rate. A massive supply-driven strategy was introduced, withdrawing all kinds of user fees on family planning methods. Along with it, a huge community-based distribution strategy, i.e., door-to-door delivery system, was also introduced. All currently married women of reproductive age (15-49) were visited by field workers once every two months. This is reflected in the market segmentation analysis, which uses data from 1999–2000.

There have been several studies of the impact of contraceptive price changes in Bangladesh. The results from these studies are summarized in table 3-1. These studies, using a variety of approaches and sample sizes, and undertaken at different times, not surprisingly provided mixed evidence. This can be partly explained by the way questions were asked and data collected. It may also reflect sampling differences. Several themes from this work and other work undertaken by the Health Economics Unit (HEU) stands out. Careful review of the analysis suggests—

1. When the government introduced pricing for condoms in July 1990, at a nominal rate of Taka 1.00 per dozen, the distribution of condoms subsequently declined. As a result, in November 1990, the price of condoms was reduced to Taka 0.50 per dozen. However, prices have not changed since then, suggesting some scope to increase prices as real incomes have increased.
2. Poor people are already paying for contraceptives and family planning (FP) services. While some pay for commercial, social marketing, and NGO products and services, there appears to be a widespread payment of unofficial fees at GOB facilities but with poor quality services from providers. Evidence suggests unofficial fees are regressive, with poorer clients being charged more than richer clients. The poor would prefer not to pay and are willing to accept longer waiting times and poor quality service to avoid payment.
3. It is unlikely that the poorest (quintile) have the ability to pay much more for contraceptive services, over and above unofficial fees already being paid. Consumers in urban areas have a greater willingness and ability to pay and are likely to choose private and NGO services if they are paying. There is less willingness and ability to pay in rural areas.
4. Wealthier clients are far more willing to pay, although they may face periodic cash flow constraints. They may use credit, where available, from NGO providers.
5. The evidence on price elasticities is mixed. The SMC estimates that demand for its products is inelastic so that demand falls less proportionately than any price increase. However, the size of consumer response increases for larger price increases.
6. In contrast, analysis of NGO data shows that demand is elastic for both short-term and long-term methods, with the latter being more elastic than the former.

Table 3-1. Summary Findings of Literature on WTP and ATP for Contraceptives in Bangladesh

Country, Study, Author, and Year	Purpose	Approach	Findings
Bangladesh, <i>Testing of Financial sustainability of MCH-FP Extension by ICDDR, B</i> (Levin et al. 1997)	Investigated the effect of price and access on contraceptive use, choice of method, and source.	A cross-sectional survey on contraceptive pricing in May–June 1996 from two rural sites and two baseline surveys in 1993 and 1994 in two rural field sites. Total sample was 5,942 married women.	Econometric analysis showed price was not a significant determinant of demand but access was. Contraceptors were more likely to switch to IUD if pill prices increased. Showed a positive cross-price elasticity between methods.
Bangladesh <i>Study of WTP and ATP for Urban Family Health Partnership (UFHP) Services</i> (Khan et al. 2000)	To determine the population WTP and ATP for NGO essential service package services including contraceptives.	Selected 10 fixed and 40 satellite clinics at random for survey plus a survey of 300 households from the UFHP catchment areas. Respondents were asked about their WTP. ATP was defined using the WHO definition of 5% of total expenditure for all health services.	A high proportion of women, 70–63% obtain their contraceptives from private sector sources, with only a third aware of free family planning services. The women surveyed selected the private sector for 96% of their pill needs while UFHP were the main source for injectables, and the GOB the main source for long-term methods. Of the 75% sampled who pay for services, about half would pay more. WTP was greater in urban than rural settings and for services provided from private rather than public sources.
Bangladesh <i>Study of WTP for NGO Rural Service Delivery Partnership</i> (Khan et al. 2001)	Analyzed WTP and ATP for improved quality NGO services.	In depth survey of 5,400 households in catchment areas.	Findings included 58% of women knew a free provider, 37% of women paid no money, and 55% paid Taka 10 or less. Higher expenditure households were more willing to pay for services, only 5.6% of all households would pay more. Households are less likely to pay for NGO services when there are free GOB services nearby.
Bangladesh <i>Study of Contraceptive Pricing studies in Urban Areas</i> (Routh et al. 2000)	Examined the socio-economic and demographic factors influencing payment behavior in urban areas.	Randomly identified 6,000 households in Dhaka zone 3 and 5,000 married women in both slum and non-slum areas interviewed.	<p>Finding included 90% of injectable users obtained their last shot from the GOB and NGO, with 70% making some payment. Slum dwellers are more likely to make a payment than non-slum dwellers. Of GOB service users, 69% had paid unofficial fees ranging from Taka 2 to 20. While NGO service users paid between 2 and 6 Taka.</p> <p>Eighty percent of pill users had paid between Taka 1 and 20 per cycle for this method, with Taka 19 paid by those obtaining from pharmacies and Taka 4 by those obtaining from field workers.</p> <p>Fifty-two percent of condom users obtained from field workers and 40% from pharmacies with 88% paying between Taka 1 and 5 for a dozen for this method.</p>

Table 3-1. Summary Findings of Literature on WTP and ATP for Contraceptives in Bangladesh (continued)

Country, Study, Author, and Year	Purpose	Approach	Findings
<i>Bangladesh, WTP Survey of UFHP and RSDP</i> (Chao 2003)	Estimated the price elasticity of demand for family planning services.	Analyzed the same data as Khan et al.	Estimated an elasticity of 1.7 for temporary methods and 2.5 for longer-term methods, implying that demand for contraceptives is highly elastic, higher than in other comparison countries. The elasticities were higher in the lowest three quintiles but lower in the richer two quintiles, showing a weak positive association between income and price elasticity.
<i>Bangladesh Client and Community Reactions to NGO Program Changes</i> (Schuler, Bates, and Islam 2002)	Analyzed the WTP and ATP of clients facing increased user charges by USAID-supported NGOs.	Qualitative data collected from two urban and three rural areas where the transition from home to clinic-based services was underway. During visits between 1998 and 2000, 500 in-depth interviews were conducted, with 30 focus group discussions.	Women responded that most families are unwilling to pay for contraceptives, particularly in poor families as women have to bare the burden of side effects. The quality of care received by poor families is also much lower than wealthier families, and the GOB and NGO services are not fully reaching the poor. Poor people are willing to spend a lot of time to get free services, as they are heavily dependent on these. Fee for service by NGO was more acceptable in urban areas than rural because there is greater access to alternative free GOB services. Clients were more WTP for NGO than GOB services. NGO facilities could not charge for long-term methods as these are subsidized with incentives by GOB. NGOs had to provide 25% of their clients with fee waivers and another 29% with service on credit because of inconsistent cash flow.
<i>SMC WTP Study</i> (2002)	Market research-based analysis of consumers WTP for SMC contraceptives.	Survey of retailers and consumers based on qualitative and quantitative interviews with application of a value for money index. Study assumed all prices were increased simultaneously to eliminate any cross-price elasticities between different orals or different condoms.	Oral contraceptives were estimated to have an inelastic demand with lower-priced brands more inelastic than higher-priced brands. SMC price increases would likely lead to small decreases in demand, with consumers switching to other cheaper brands. Demand for Sensation condoms is price elastic with a 10% price increase leading to a 12.5% decrease in demand while the change in demand for Raja and Panther condoms was negligible, following a price increase. While price increases for SMC were possible, these should be conducted step-by-step in small increments.
<i>Contraceptive Price Changes the Impact on Sales in Bangladesh</i> (Ciszewski and Harvey 1995)	Reviewed SMC experience implementing price changes.	Observations on changes in price and demand for SMC condoms and orals.	Before 1990, when SMC increased prices by small amounts (10%), it did not notice much drop off in demand. A larger (60%) increase in 1990 led to sales of Raja condoms reduced by 29% and Maya pills declined by 15%, suggesting both had inelastic demand.

The evidence (Khan et al. 2001) indicates that a WTP for contraceptives exists for all income levels, but some evidence suggests that it varies between income quintiles based on ability to pay and levels of education. Evidence from the HEU (MOHFW N.d.) suggests the poorest are being discriminated against, and are being charged higher unofficial fees than richer clients. The reasons for this are unclear but it could reflect that poorer and particularly illiterate patients may be less aware of their rights and free entitlements and, therefore, are being exploited more. For middle income clients, they may not have much ATP but they may have a better understanding of their rights and may be less willing to pay unofficial fees. The richer clients do have greater ATP and WTP for private sector contraceptives. This would suggest a scope for private sector suppliers to be charging slightly more for their products that are sold to those in the higher income quintiles. The scope for GOB to charge for its products would depend on whether these fees could substitute for unofficial fees. It would also depend on clients WTP for products they are accustomed to getting for free or for a nominal price.

3.3 Estimating Ability to Pay

The World Health Organization's (WHO) definition of ATP for health services uses the ratio of expenditure on medical care to total expenditure. For poor economies, if the total health care expenditure is about 5 percent of total expenditure, the medical services are considered affordable. In Bangladesh, total health care expenditure (including family planning) is about 5 percent of GDP, of which approximately one-third is provided through the government. National Health Account estimates indicate that total private out-of-pocket health care expenditure is around 3.5 percent of GDP. This covers traditional and modern medicines, service provider fees, and contraceptives.

Khan et al. (1997) suggests that an efficient system in poor countries should allocate about one-third of total health care expenditures on very basic health care services. This suggests that about 1.5 percent of total expenditure in Bangladesh should be allocated on basic health care services (outpatient care only).

Another rule of thumb estimate used by social marketers is to assume that reasonable contraceptive expenditure equals 1 percent of total household income (Harvey 1994). Using this definition, if the household cost of contraceptives to income ratio exceeds 1 percent, the household can be categorized as *unable to or less likely to pay*. This does not mean the household is unwilling to pay. Rather, the more the cost of contraceptives to income ratio exceeds 1 percent, the less likely households would be able to pay. As social marketing is geared to serving middle income segments of the population, it is unclear how relevant this assumption is for poorer segments. Given that poorer people have less disposable income and typically have lower education and information about contraceptives, a lower ratio of 0.5 percent may be more realistic.

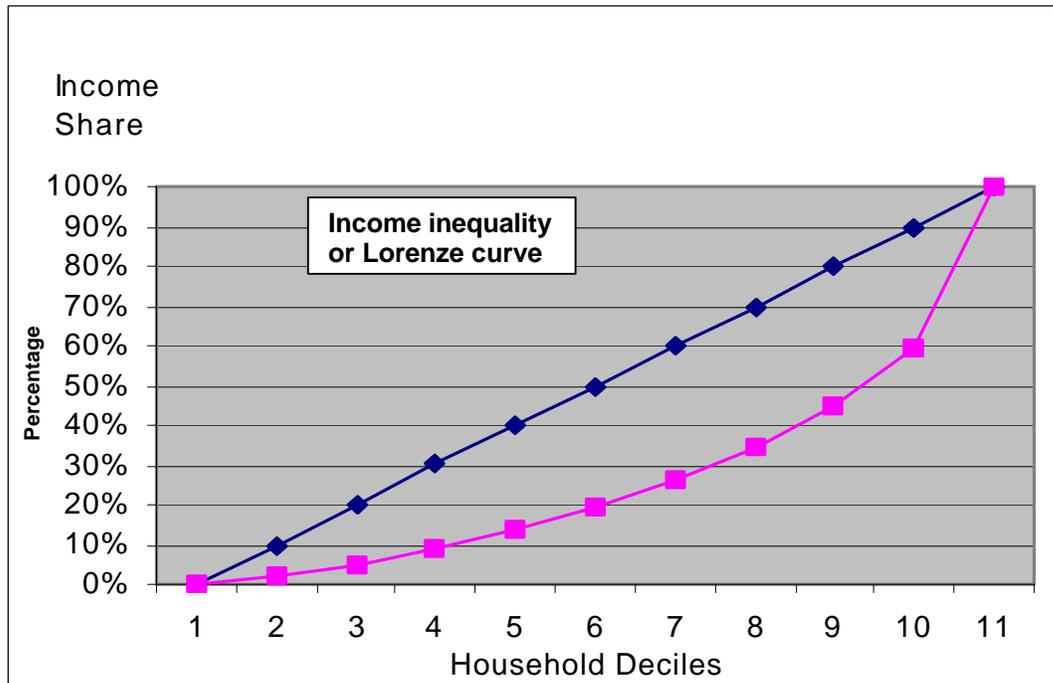
3.3.1 Deriving per Capita Income by Quintile

The approach adopted for estimating ability to pay revolved around deriving the average per capita income by income quintile and comparing this number to the cost per couple-years of protection (CYP) for different contraceptive methods, from different sources. The extent to which these ratios exceed 1 percent then provides an indication of whether each quintile is able to pay for the respective contraceptive brands.

Information on the percentage share of income of households by income group was obtained from the Bangladesh Bureau of Statistics Report on the Household Income and Expenditure Survey, 2000. Figure 3-2 shows the distribution of household income in Bangladesh by income decile.

The graph, presented as a Lorenz curve, shows the cumulative share each decile has of total income. If there was perfect equity, each decile would have a 10 percent share of household income, as shown by the 45° line. The greater the distance of Bangladesh's distribution from the 45° line, the greater the inequality. As figure 3-2 shows, the poorest 10 percent or decile in Bangladesh account for 1.84 percent of income and the poorest 20 percent less than 5 percent of total household income. While subsequent deciles account for an increasing share of income, it is only the eighth decile that reaches 10 percent. The poorest 50 percent of the population account for less than 20 percent of income. The third and fourth quintiles together account for 31 percent of household income, The ninth decile accounts for 14.3 percent, while the richest decile accounts for 40.72 percent of household income. This is not untypical for an Asian developing country, but it does indicate that more than half the purchasing power in the Bangladesh economy is concentrated among the richest 10 percent. It should be noted that the Bangladesh Bureau of Statistics (BBS) income deciles and the DHS wealth quintiles are not strictly comparable, and there is no direct correlation between the two. In the absence of income data from the DHS, a direct comparison is not possible with the wealth quintiles presented in appendix A and section 4.

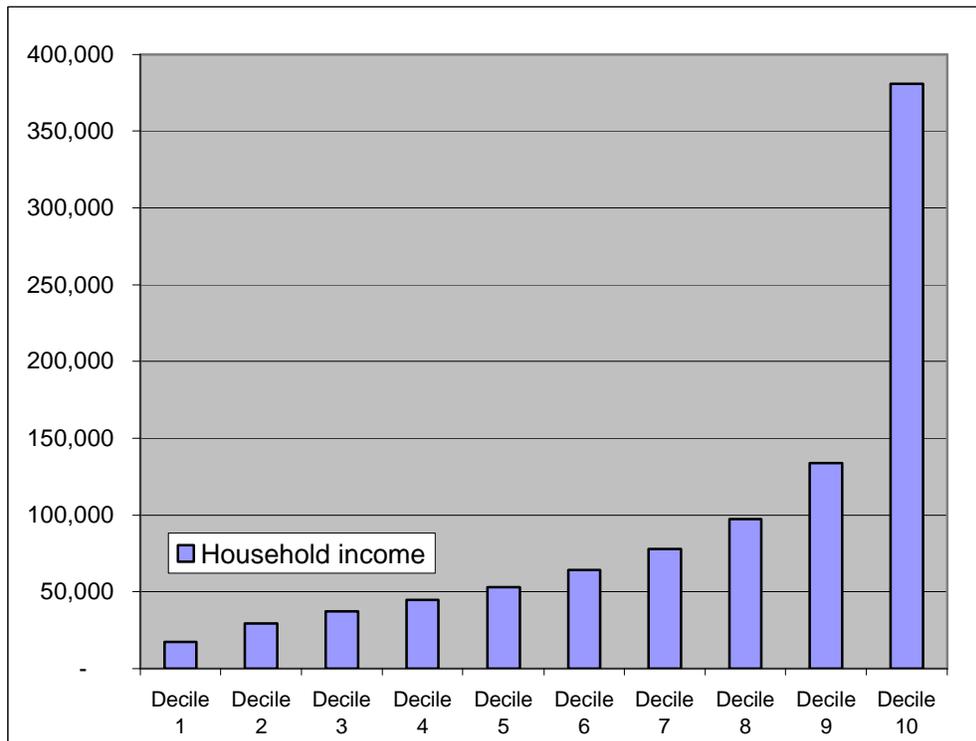
Figure 3-2.
Distribution of Income in Bangladesh in 2000



Source: BBS Report on the Household Income and Expenditure Survey in 2000

The average annual income for each decile was derived by first applying the BBS income shares to total gross domestic product (GDP) for 2000 to obtain total GDP by decile. Average household income levels by income decile were derived by dividing income per decile by the total number of households per decile. Figure 3-3 shows the estimated average per capita income levels by household decile in 2000 using the national GDP estimate of Taka 2,370,856 million, then estimate of number of households of 25,362,321 with an average of 4.9 people per household.

Figure 3-3.
Estimated Average per Capita Income by Income Quintile



People in the poorest decile have an estimated average income per household per annum of Taka 17,000 (U.S.\$342). This compares to an estimated average household income of Taka 380,648 (U.S.\$7,563) in the richest decile.

3.3.2 Comparing Contraceptive Costs to Income Levels by Quintile

The next stage of the analysis requires a comparison of contraceptive costs for different methods and sources. Focusing on condoms and orals, table 3-2 presents the average cost per unit in 2000 for GOB and SMC brands of condom and oral pill in Taka and U.S. dollars. By assuming 120 condoms per year equals one CYP and 13 cycles of pills equals a CYP, we can derive the commodity cost per CYP. Table 3-3 presents the cost expenditure ratios for a CYP for condoms and pills provided by the GOB, SMC, and NGO. It also includes an indicative cost of GOB products with a Taka 10 and a Taka 20 per visit unofficial fee. This is within the range of unofficial fees identified by Routh (2000). These unofficial fees are included to determine how they compare to the ability of the poorest deciles to pay.

Table 3-2. Price of SMC and GOB Condoms and Pills (2000)

		Taka Cost	U.S.\$ Cost	Unit Cost
SMC Condoms	Unit			
Raja	Strip of 4	2	\$ 0.04	\$ 0.010
Panther	Pack of 4	5	\$ 0.10	\$ 0.025
Sensation	Pack of 3	10	\$ 0.20	\$ 0.066
GOB condom	Per dozen	1.2	\$ 0.02	\$ 0.002
SMC Pill				
Minicon	Cycle	5	\$ 0.10	
Femicon (low dose)	Cycle	5	\$ 0.10	
Nordette (low dose)	Cycle	18	\$ 0.36	

Note: All other GOB contraceptives are distributed free. NGOs charge a price for contraceptives varying from Taka 2 to Taka 3 per dozen condoms and Taka 5 for a cycle of pills and an IUD insertion.

We then compared the cost per CYP to the average household income level per decile from table 3-3. Percentages in excess of 0.5 percent for the poorest 40 percent and in excess of 1 percent for the remaining population indicate where households may not be able to pay the current prices for a full CYP (see table 3-3). This compares to the assumed affordable level of household expenditure on contraceptives, by decile, with an estimated cost per CYP for each contraceptive product.

Table 3-3. Ability to Pay by Contraceptive Product by Household Income Decile

Affordable Household Expenditure		86	146	185	223	531	639	778	972	1337	3806
Taka											
Taka Cost per CYP	Household Income Deciles Products (%)	10	20	30	40	50	60	70	80	90	100
		Poorest				Least Poor					
12	GOB condom										
30	NGO condoms										
60	SMC Raja										
150	SMC Panther										
400	SMC Sensation										
132	GOB condoms with Taka 5 unofficial fee per visit										
252	GOB condoms with Taka 20 unofficial fee per visit										
40	GOB pills with Taka 5 unofficial fee per visit										
80	GOB pills with Taka 20 unofficial fee per visit										
60	NGO pills										
60	SMC Minicon										
60	SMC Femicon										
234	SMC Nordette										
Key:	Inability to pay:		Ability to pay								

Bangladesh: Contraceptive Market Segmentation Analysis

Another set of simulations examined how ATP may be affected by different levels of unofficial fees at GOB facilities. Given that these were quoted at between Taka 5 and 20 per visit, we assumed condom users made 10 visits per year and pill users four visits a year when they were given three cycles each visit.

The analysis suggests that while most of the population can afford most of the available GOB or socially marketed contraceptives at 2000 prices, but, financial access is more limited for the poorest 20 percent. The poorest 10 percent of the population can afford GOB condoms without any unofficial fees; they can afford NGO and Raja condoms; and NGO, Minicon, and Femicon pills; and GOB pills with a Taka 5 unofficial fee. They cannot afford Panther and Sensation condoms, GOB condoms with unofficial fees attached, or Nordette or GOB pills with a higher Taka 20 per consultation unofficial fee. The situation is only marginally better for the second decile. For the third and fourth deciles, they can afford all products except Sensation, Nordette, or unofficial fees in excess of Taka 20. All products are affordable for households in the fifth decile onward.

A second set of simulations were undertaken with prices doubled for each product to see if this affected the population's ability to pay, assuming a 0.5 percent and 1 percent of income cut-off point. See table 3-4. Doubling the price of pills makes them unobtainable for the poorest 10 percent, while the poor can only afford NGO or GOB condoms without unofficial fees. The ability of the second income decile to pay for condoms is also affected, although pills are more affordable. Panther and Sensation condoms would only be affordable, respectively, from the fifth and eighth decile onward.

Table 3-4. Ability to Pay by Contraceptive Product by Household Income Decile with Commodity Prices Doubled

Affordable Household Expenditure Taka		86	146	185	223	531	639	778	972	1337	3806
Taka cost per CYP	Household Income Deciles Products (%)	10	20	30	40	50	60	70	80	90	100
		Poorest								Least Poor	
24	GOB condom	■	■	■	■	■	■	■	■	■	■
60	NGO condoms	■	■	■	■	■	■	■	■	■	■
120	SMC Raja	■	■	■	■	■	■	■	■	■	■
300	SMC Panther	■	■	■	■	■	■	■	■	■	■
800	SMC Sensation	■	■	■	■	■	■	■	■	■	■
144	GOB condoms with Taka 5 unofficial fee per visit	■	■	■	■	■	■	■	■	■	■
264	GOB condoms with Taka 20 unofficial fee per visit	■	■	■	■	■	■	■	■	■	■
40	GOB pills with Taka 5 unofficial fee per visit	■	■	■	■	■	■	■	■	■	■
80	GOB pills with Taka 20 x unofficial fee per visit	■	■	■	■	■	■	■	■	■	■
120	NGO pills	■	■	■	■	■	■	■	■	■	■
120	SMC Minicon	■	■	■	■	■	■	■	■	■	■
120	SMC Femicon	■	■	■	■	■	■	■	■	■	■
468	SMC Nordette	■	■	■	■	■	■	■	■	■	■
Key:	Inability to pay:	■									
	Ability to pay								■	■	■

3.4 Conclusions

Anyone drawing conclusions from this study must remember that our approach uses a rule-of-thumb approach to estimate ability to pay. In reality, ability to pay may be only one of several factors determining demand. Levels of education, availability of information, quality of service, cultural factors, and proximity to service providers are also important and, combined, may encourage households to spend more or less than 1 percent of their household income on contraceptives. In the absence of a more robust alternative we conclude that—

1. GOB, NGO, and SMC Raja condoms were affordable, on average, for each income decile in the population. Now that SMC Raja's price has doubled, it may no longer be affordable everyone in the poorest decile.
2. SMC Panther and Sensation were affordable for all but the poorest 20 percent and 40 percent of the population, respectively, in 2000.
3. Unofficial fees adversely affect the affordability of GOB condoms. Depending on the level of these fees, the poorest 40 percent may not be able to afford GOB condoms.
4. While GOB oral pills are free, in principle, the application of unofficial fees makes them less affordable for the poorest decile.
5. SMC Minicon and Femicon and NGO oral pills are affordable for all income deciles of the population, while Nordette is not affordable by the poorest 40 percent.

If we add these conclusions to those identified from the literature review, it would seem that—

- SMC could increase all its prices.
- GOB could marginally increase the price of condoms and pills but not if unofficial fees remain.
- While the poor could pay more for their GOB pills and condoms, they do not seem willing to pay more.

4. Market Segmentation Opportunities

This section presents an analysis of findings from the segmentation study. The data indicate potential areas where clients' needs are not being fully met, where different sectors offer services to the same clients, or where the efficiency of resource allocation can be improved. The data also provide information on current and potential clients that each of the sectors can use to reach their target audiences more effectively. These findings are combined with the qualitative information from stakeholders who participated in the May 2003 workshop to review preliminary results from this market segmentation study. From the data and stakeholder input, the authors have developed a list of opportunities to improve the segmentation of the contraceptive market in Bangladesh. While the list of opportunities may not be completely comprehensive, it highlights several paths for improving segmentation and increasing contraceptive prevalence.

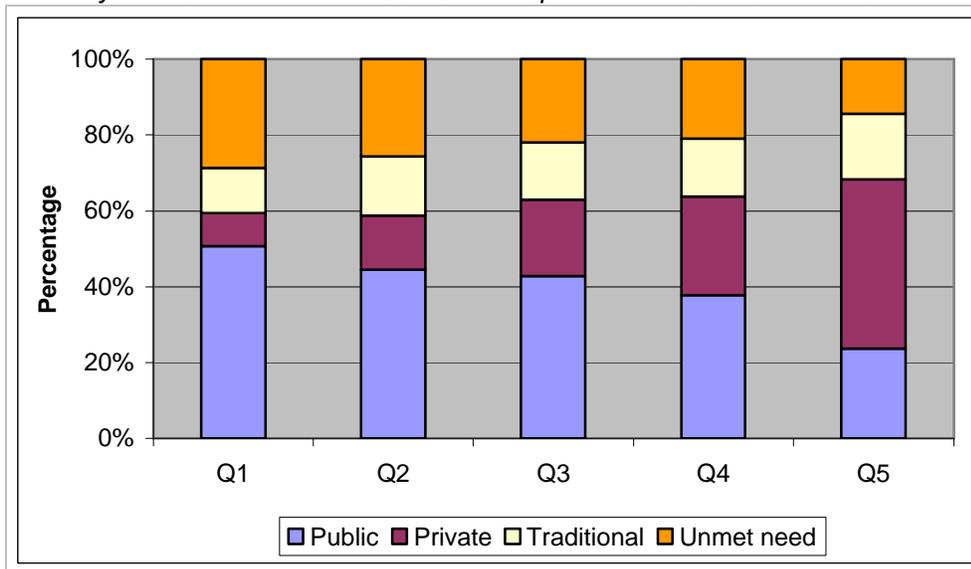
For each opportunity, key data are presented and discussed that illustrate and validate the opportunity. Following the data is a discussion of the programmatic or policy implications for each opportunity. The implication discussion indicates which sector or sectors could address the opportunity and what actions would be needed.

4.1 Currently Married Women

Of currently married women who have a need for contraception³, 30 to 40 percent, across all income quintiles, are not accessing modern methods. As figure 4-1 illustrates, modern method prevalence among women with a need for contraception—which is the sum of the publicly and privately provided contraceptives—ranges from 59 percent in quintile 1 to 68 percent in quintile 5. The remaining women use traditional methods or do not use any contraception. Figure 4-1 also shows that both the public and private sectors are active in meeting the needs of modern contraceptive users. The current pattern of market segmentation is excellent. The public sector serves 85 percent of modern method users in quintile 1 but only 35 percent in quintile 5. Conversely, the private sector supplies only 15 percent of women in quintile 1 but 65 percent in quintile 5.

³ This includes women who currently use some form of contraception and women who have an unmet need. It does not include women who do not need contraception (e.g., women who are pregnant, want to get pregnant, infecund, or menopausal), which account for 31 percent of all currently married women. Because the denominator is smaller, the contraceptive prevalence rates are higher in this group than for all currently married women.

Figure 4-1.
Currently Married Women Who Use Contraception or Have an Unmet Need



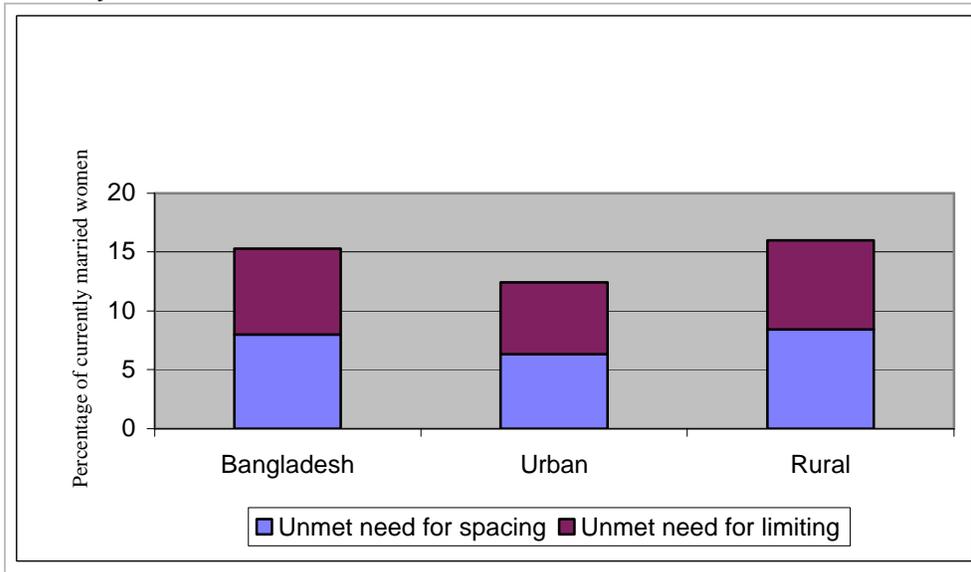
Implications: There is a substantial opportunity to increase acceptance of modern contraceptives among women with a need to contracept. Both the public and private sectors have a role in addressing this need. Because the need is substantial across quintiles, public and private sectors should divide the market according to the sector that can reach different groups within the target audience and has the comparative advantage to meet their needs.

4.2 Women with an Unmet Need

There is high intention to use contraception among those with an unmet need. Fifteen percent of all currently married women have an unmet need for contraception, defined as women who are not using any method of contraception but do not want any more children or want to wait at least two more years before their next birth. While unmet need presents a clear opportunity to increase contraceptive prevalence, the rate is not as high as in many other countries, which is indicative of the widespread success of Bangladesh’s family planning program.

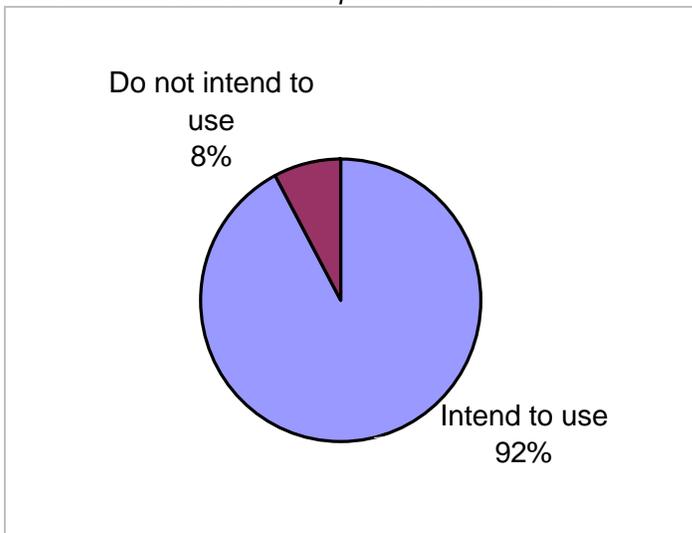
Unmet need in Bangladesh is 15 percent, ranging from 12 percent in urban areas to 16 percent in rural areas (see figure 4-2). Unmet need is evenly divided between the need to space (wanting to delay their next birth for two or more years) and the need to limit or wanting no more children.

Figure 4-2.
Currently Married Women with an Unmet Need



As illustrated by figures 4-3 and 4-4, the majority of women with unmet need report an intention to use family planning in the near future. For women with a need to space births, 92 percent intend to use a method, while 77 percent for women who desire to limit their births intended to use a method.

Figure 4-3.
Percentage of Married Women with Unmet Need to Space Who Intend to Use Contraception in the Future



Implications: Because intention to use among women with unmet need is so high, it underscores the opportunity for expanding contraceptive prevalence. It suggests an approach to addressing unmet need where the first step is a behavior change strategy to convert women who intend to use into contraceptive users. Because unmet need exists in all wealth quintiles, and public and private sectors, both have women in their target audiences among the population with an unmet need. Public and private sectors could collaborate on behavior change communications to reach this audience.

4.3 Women Who Want to Limit Births

Women who want to limit births are a target audience for information on and access to long-term methods. As shown in figure 4-2, about half of all women with unmet need do not want any more children, which represents an unmet need to limit. Of these women, 77 percent intend to use some method of contraception in the near future (see figure 4-4). Long-term methods; including female and male sterilizations, IUDs, and NORPLANT; may be an appropriate choice for these women because they offer longer-term protection, are more cost-effective, and do not require frequent resupply.

Figure 4-4.
Percentage of Married Women with Unmet Need to Limit Who Intend to Use Contraception in the Future

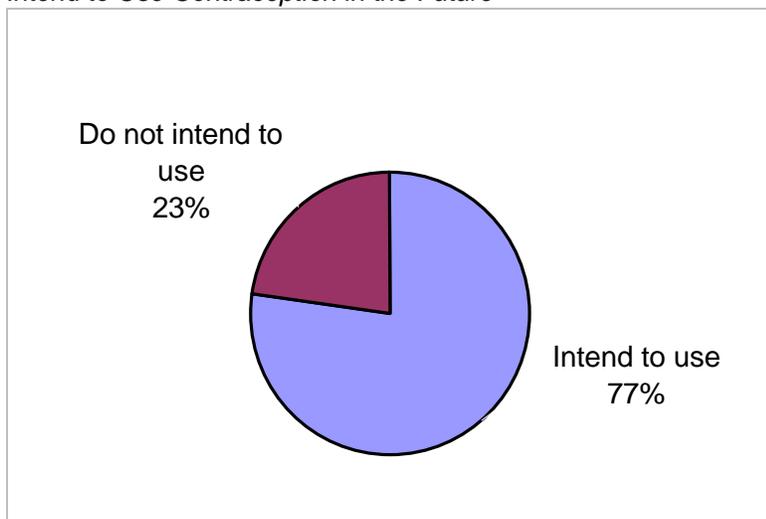
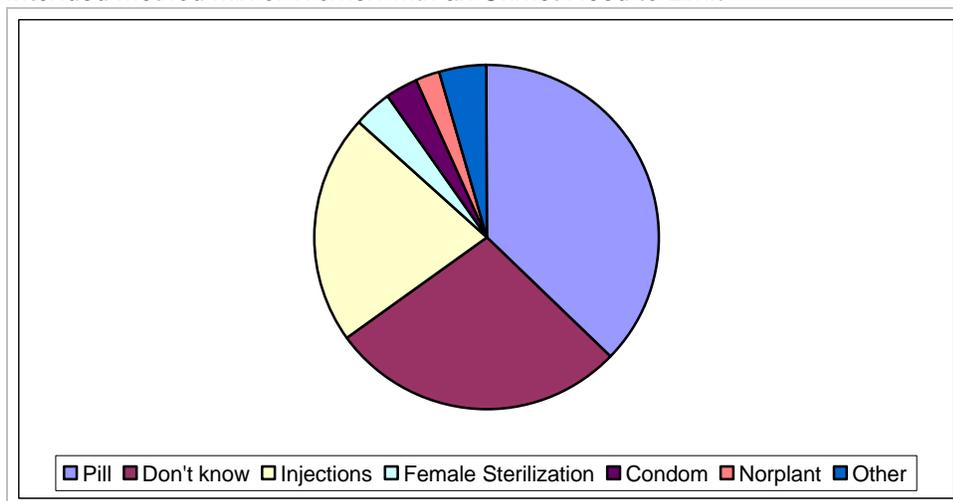


Figure 4-5 presents the intended method mix for women with an unmet need to limit. Thirty-seven percent intend to use the pill, and 22 percent plan to use injectables. For long-term methods, only 4 percent intend to use female sterilization and 2 percent NORPLANT. IUDs and male sterilizations are less than one percent each and are incorporated into the *Other* category in the figure. This represents a striking bias toward the short-term resupply methods. Furthermore, another 28 percent do not know which method they will use.

Figure 4-5.
Intended Method Mix of Women with an Unmet Need to Limit



Implications: Women who want to limit births and are not currently using a method are a target audience. It is important that they have information about and access to the full range of contraceptive choices. Because the public sector is the primary provider of long-term methods, as well as a significant provider for other methods, it is logical for the public sector to take the lead in crafting and delivering messages targeting women who want to limit births, and ensuring that these women have access to services.

In addition to the limiters who have unmet need, there are women who want to stop having children, and they currently use the pill or other short-term methods. These women may be a secondary audience for public sector information on the array of contraceptive methods and access to services for long-term methods.

4.4 Women with an Intention to Contracept

Among all women with an intention to use a method in the future, almost one-third do not know which method to use. As figure 4-6 illustrates, 32 percent of current non-users who intend to use a method in the near future do not know which method they will use. Forty-one percent intend to use the pill and 17 percent intend to use injections.

Figure 4-6.
Percentage of Current Non-Users Intending to Use a Particular Method

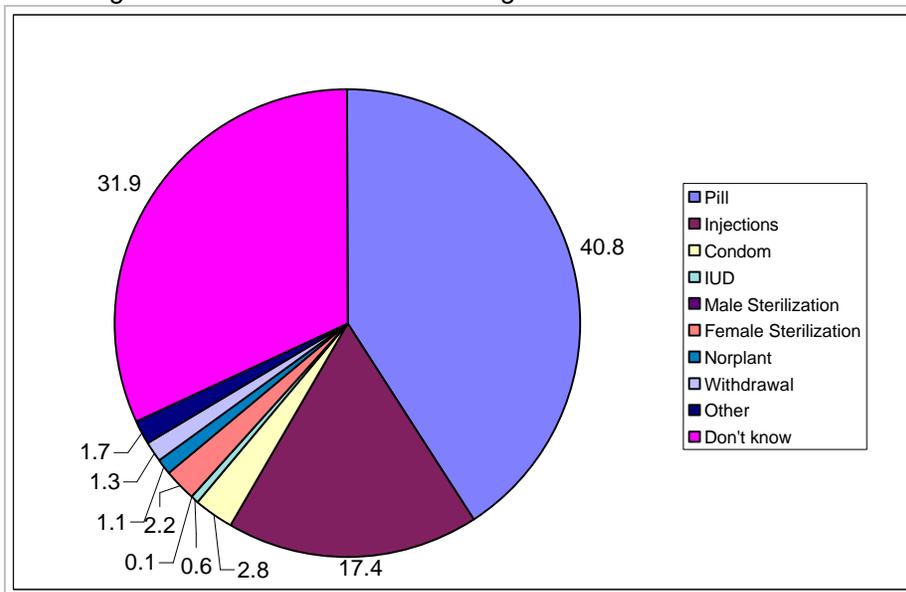
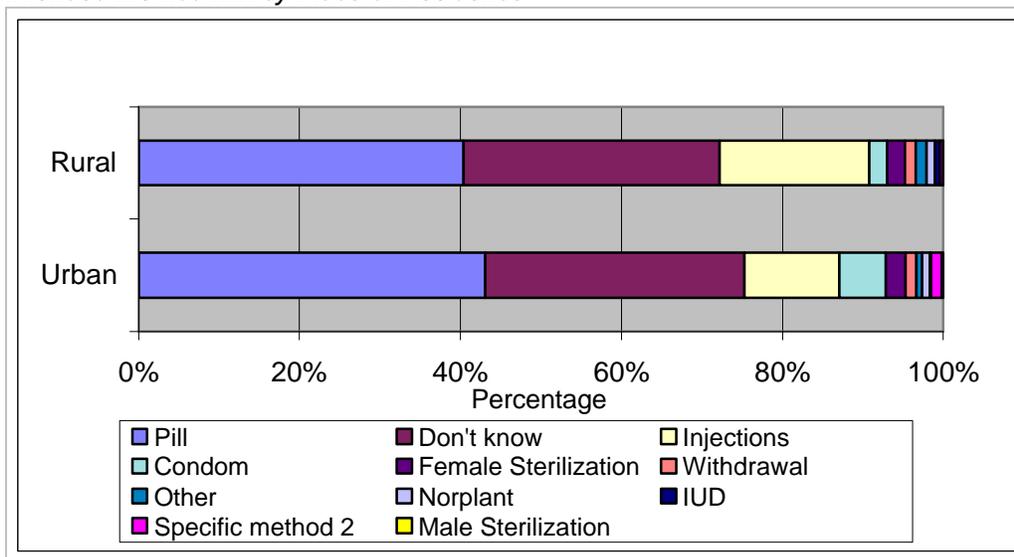


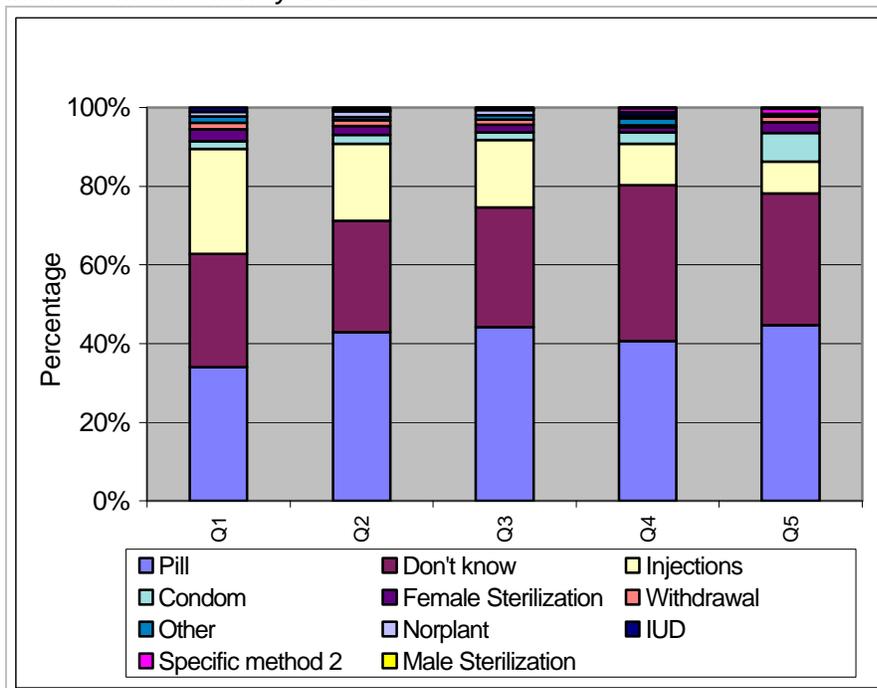
Figure 4-7 shows that the percentage of intenders that do not know what method to use is 32 percent, the same for rural and urban areas.

Figure 4-7.
Intended Method Mix by Place of Residence



As figure 4-8 illustrates, the percentage of intenders who do not know which method to use also does not vary greatly among quintiles and shows no clear pattern. The highest proportion of undecided intenders is 40 percent in quintile 4; and the lowest is 28 percent in quintile 2. Taken together, these data indicate that many women who intend to use a method in the future have not decided which method to use, and these undecided women come from rural and urban areas and from all wealth quintiles.

Figure 4-8.
Intended Method Mix by Quintile

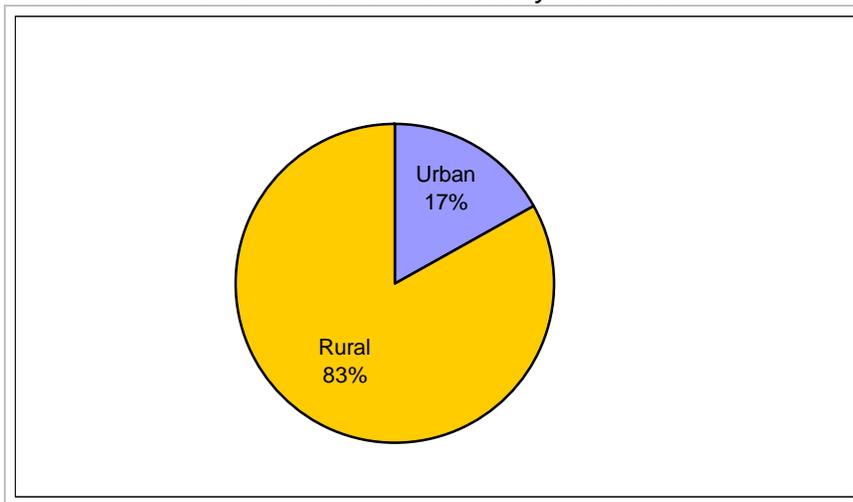


Implications: To convert women from intenders into users, the women must have information to make an informed choice and have access to their chosen method. The high percentage of women who do not know which method to use could indicate that these women do not have adequate access to the full range of information and contraceptive products and services. Because these undecided women span rural and urban locations and all wealth groups, they include members of the target audiences for both public and private sectors. Therefore, both sectors need to ensure that non-users, especially the majority interested in using contraception, have the necessary information, counseling, products, and services available.

4.5 Unmet Need Is Concentrated in Specific Populations

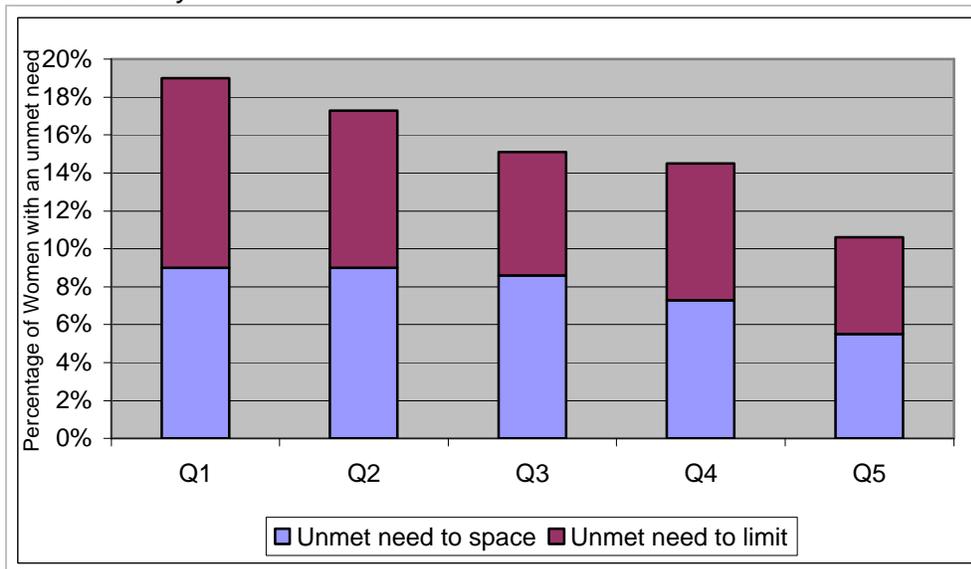
Unmet need in Bangladesh is 15 percent of all currently married women. However, some sub-segments of the population have substantially higher rates of unmet need than others. As figure 4-9 illustrates, 83 percent of women with unmet need are located in rural areas.

Figure 4-9.
Distribution of Women with an Unmet Need by Residence



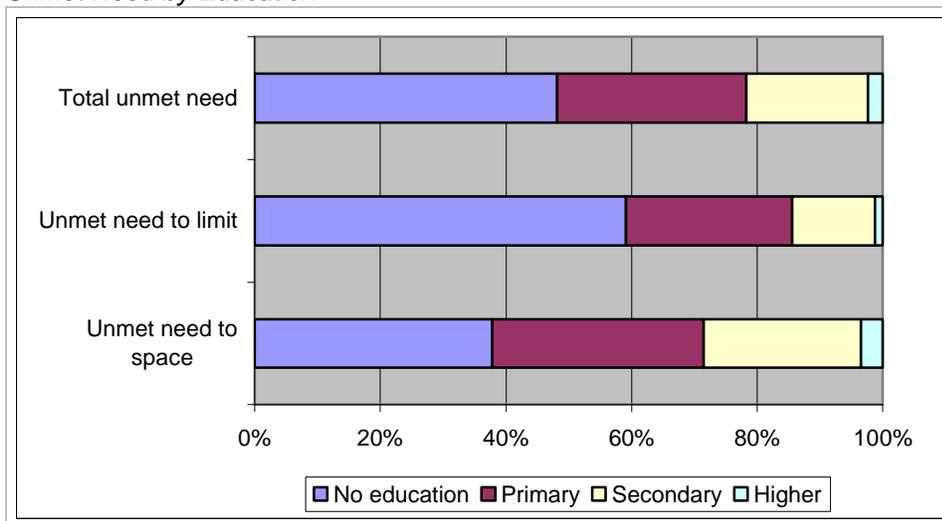
Women with unmet need are also more heavily concentrated in the poorer quintiles. Figure 4-10 shows that unmet need ranges from a high of 19 percent in the poorest quintile to 11 percent in the wealthiest quintile.

Figure 4-10.
Unmet Need by Wealth Quintile



As shown in figure 4-11, of all women with an unmet need, 48 percent have no education and another 30 percent only have primary education. For women with an unmet need to limit births, 59 percent have no education and 26 percent only have primary education.

Figure 4-11.
Unmet Need by Education

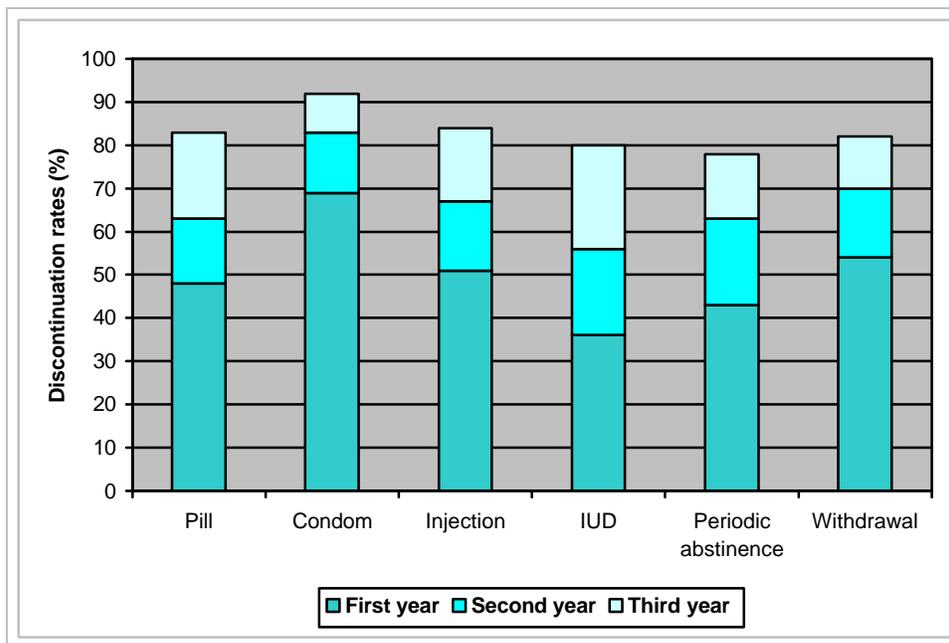


Implications: Women with unmet need are disproportionately rural, poor, and uneducated. As a result, attempts to reach these women with messages and services need to be appropriately targeted. Because poor, rural, and uneducated women are typically difficult to reach, they are usually a target audience for the public sector. To reduce unmet need, the public sector should make a concerted effort to target information, counseling, products, and services to these women.

4.6 Discontinuation Rates Are High and Vary by Method

Discontinuation rates for all methods in Bangladesh are high. However, the rates must be interpreted carefully. Discontinuation does not necessarily mean that the user stopped using contraception completely. Some people who discontinue one method switch to another. Although switching methods may mean that user continues to be protected from unwanted pregnancy, it may indicate that the client was not well counseled initially. For pills, the likelihood that a user discontinues in the first year is 48 percent (see figure 4-12). This increases to 63 percent in year two and 83 percent by the end of three years. Discontinuation rates are highest for condoms, at 69 percent in the first year and 92 percent in year three. The rates are lower for IUDs, at 36 percent in the first year but increasing to 80 percent by year three.

Figure 4-12.
Life Table Discontinuation Rates



Source: Bangladesh DHS 1999–2000

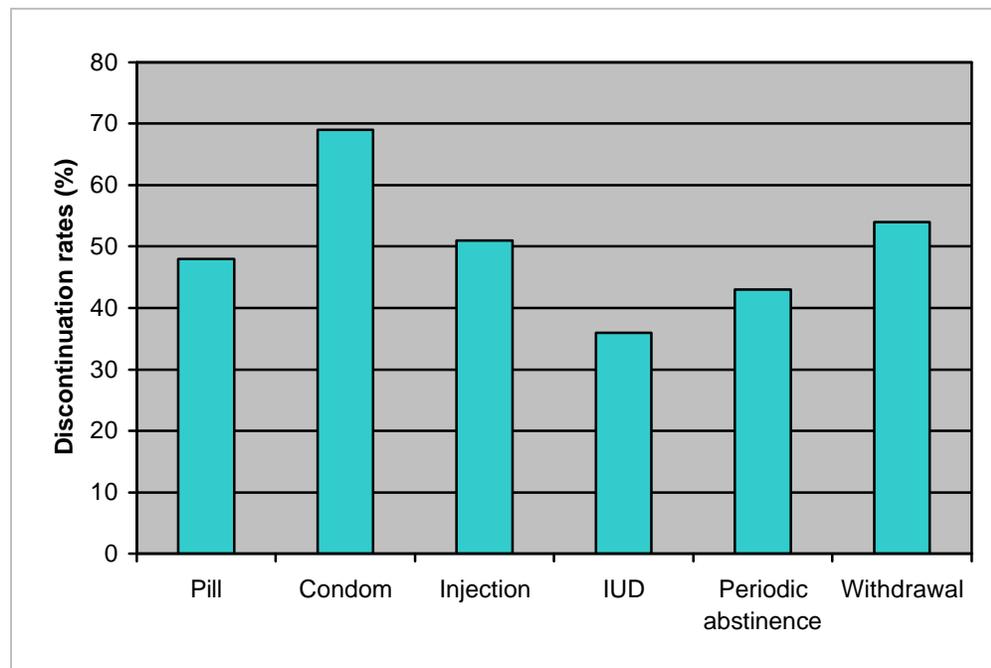
Understanding contraceptive discontinuation rates provides insight on use dynamics, quality of services, and contraceptive prevalence rates. How discontinuation rates impact on quality of service is ambiguous, however. In a low contraceptive prevalence country, high discontinuation rates may suggest poor quality of service, but in a high contraceptive prevalence country, high discontinuation rates may suggest improved methods choice and, thus, better quality of service.⁴

Discontinuation rates in Bangladesh are generally high and vary by method (more than 50 percent in the first year). Some people who discontinue one method may have switched to another while other people may discontinue to have a baby and then continue use later. Although switching methods may mean that a user continues to be protected from unwanted pregnancy, it may also indicate that the client was not well counseled initially. Figure 4-13 shows discontinuation rates for each method for

⁴ The discontinuation rates presented here were calculated using the Bangladesh Demographic and Health Survey information on month-by-month episodes of contraceptive use obtained retrospectively using the calendar method data collection techniques, and covering the period from April 1994 to December 1999.

first year. For pills, the likelihood that a user discontinues in the first year is 48 percent. Discontinuation rates are highest for condoms, at 69 percent in the first year. The rates are lower for IUDs, at 36 percent.

Figure 4-13.
Life Table Discontinuation Rates for the First Year



Source: Bangladesh DHS 1999–2000

Implications: High discontinuation rates may indicate that clients are not satisfied with the choice of method, which reflects how they were counseled and the quality of services, and, consequently, may affect contraceptive prevalence rates. Improving quality of service through better counseling, expanding method choice, and increasing access may contribute to lowering discontinuation rates.

4.7 Discontinuation Rates by Residence

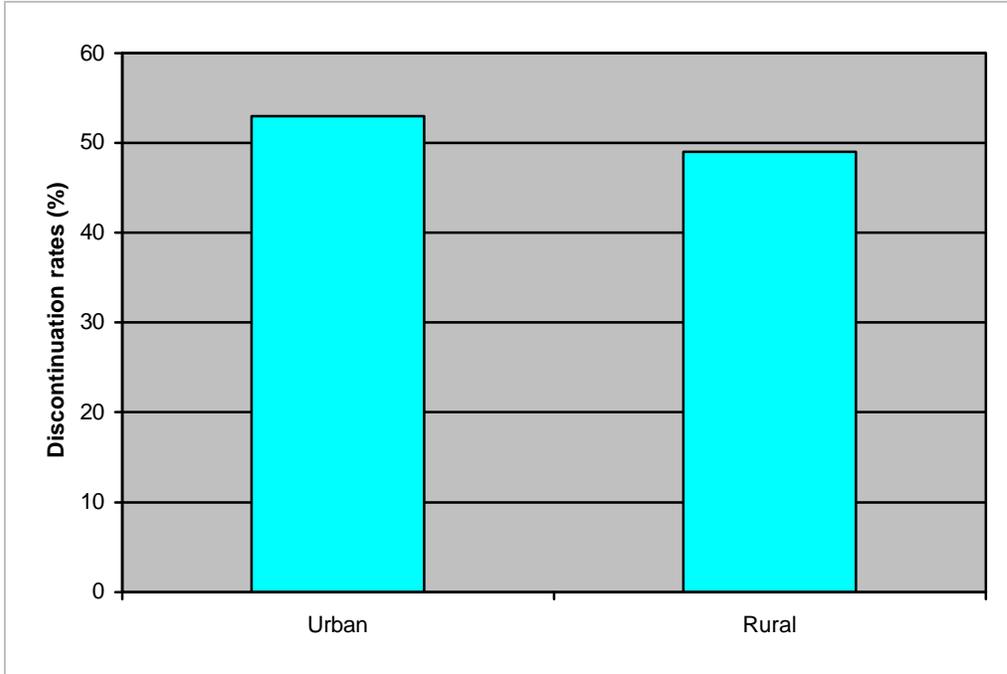
Figure 4-14 presents discontinuation rates by residence. Discontinuation rates are higher in urban areas, among wealthier clients, and when the source is the private sector. Urban women are generally more likely than rural women to discontinue a method. In urban areas, the first year discontinuation rate for any method is 53 percent, compared with 49 percent in rural areas. Urban women may be more likely to discontinue because they have better access to information and a greater choice of methods. Similarly, women with higher incomes may be better informed about other methods. (see figure 4-15). The rates range from a low of 43 percent in quintile 2 (it is slightly higher at 47 percent in quintile 1) to 53 percent in quintile 5. High-income women may be more likely to discontinue because they know about method choices and want to see what works best for them.

When the known source of contraceptives is the private sector⁵, discontinuation rates are higher, especially for IUDs and injections (see figure 4-16). It is not clear whether this reflects quality in the private sector or the preferences of women who are private sector clients. When the known source of

⁵ In the Bangladesh data set, the closest indicator of source cutting across all ever users is source of method. This is not necessarily the source of the discontinued method.

method is the private sector, more women who discontinue could reflect inadequate counseling. However, it is important to note that known source may not necessarily suggest that the method discontinued was obtained from that source.

Figure 4-14.
First-Year Life Table Discontinuation Rates of All Methods



Source: Bangladesh DHS 1999–2000

Figure 4-15.
First-Year Life Table Contraceptive Discontinuation Rates by Wealth Quintile

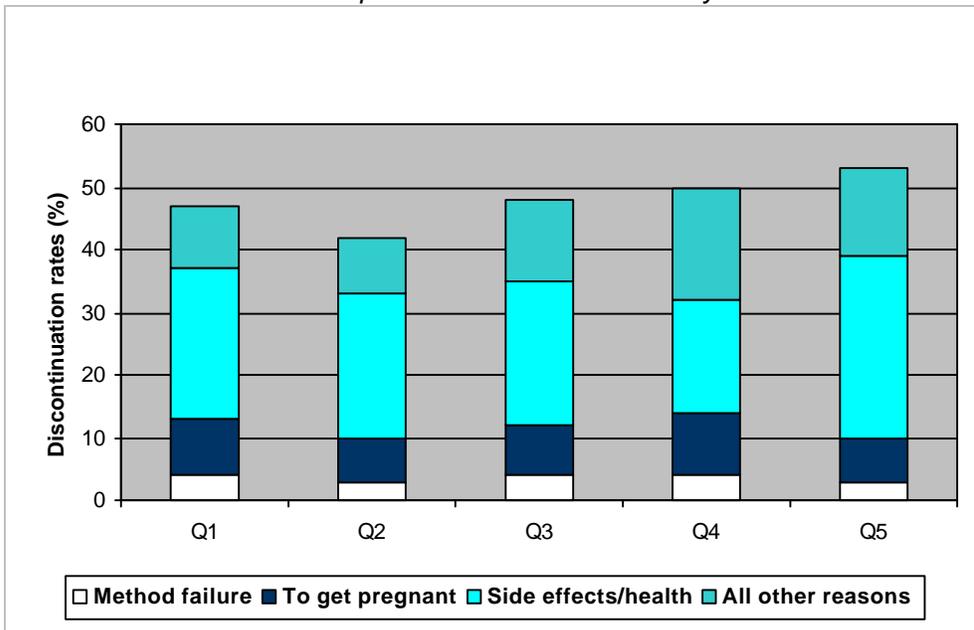
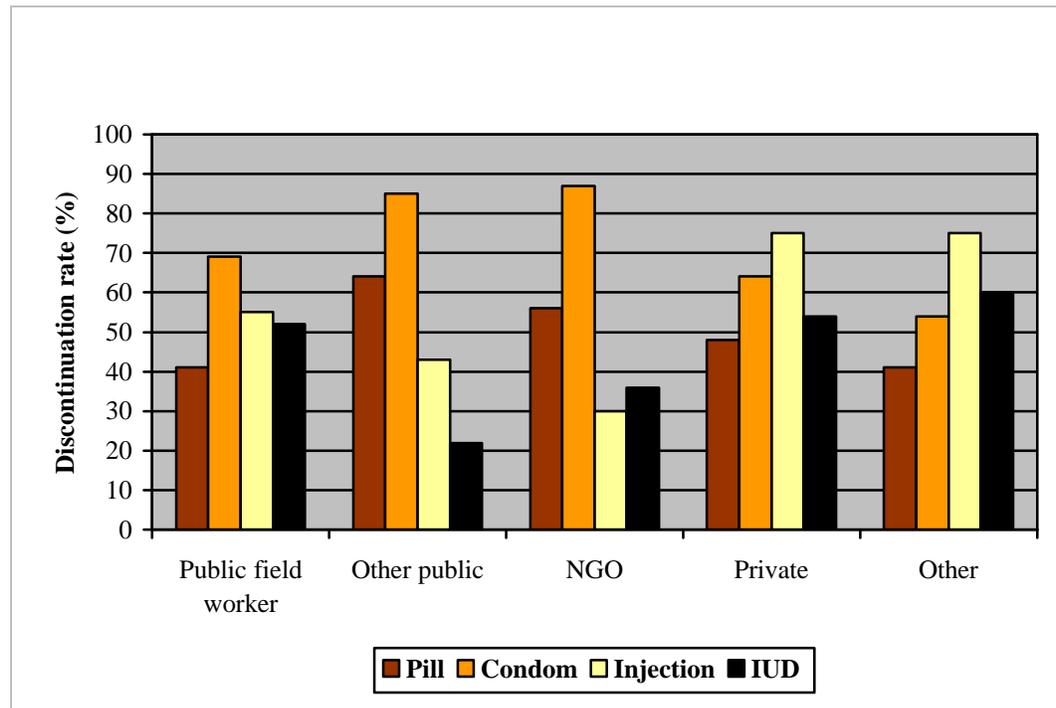


Figure 4-16.

First-Year Life Table Contraceptive Discontinuation Rates by Method and by Source



Source: Bangladesh DHS 1999–2000

Implications: The interpretation of discontinuation is complex, because it is difficult to determine how it affects consistent contraceptive use. Nevertheless, improving counseling—rather than increasing access or method choice—is likely to decrease discontinuation among women who are switching methods. Private sector providers should strive to provide sufficient information and follow-up with clients.

4.8 Reasons for Discontinuing Methods

Side effects and health concerns are the primary reason for discontinuation, but reasons vary by method. Women may discontinue methods for various reasons, including side effects and health concerns, to get pregnant, and method failure. In general, urban women are more likely than rural women to discontinue for any of these reasons. Side effects and health concerns are the most common reasons given by women for discontinuation. In urban areas, discontinuation because of side effects and health concern is 42 percent (see figure 4-17) and in rural areas is 40 percent (see figure 4-18). The catchall, *all other reasons*⁶, is second, at 36 percent among urban women and 33 percent among rural. Desire to get pregnant is 14 percent urban and 17 percent rural, and method failure is 8 and 10 percent, respectively. Figures 4-19 and 4-20 show important dynamics in contraceptive discontinuation; side effects and health concerns are the predominant reasons for discontinuation by users of pills, injections, and IUDs. For condoms users and those who practice periodic abstinence and withdrawal, however, all other reasons is predominant. This is not surprising, because the hormonal and clinical methods have more side effects. Method failure is a substantial reason for

⁶ Other reasons mentioned are partner disapproves, availability problems, inconvenience of method, infrequent sex, and wants more effective methods.

discontinuation among users of withdrawal, periodic abstinence, and, to a lesser extent, condoms. This may be due to lack of correct knowledge on how to use the method effectively.

Figure 4-17.
Reasons for Discontinuation among Urban Users Who Discontinued Any Method in the First Year

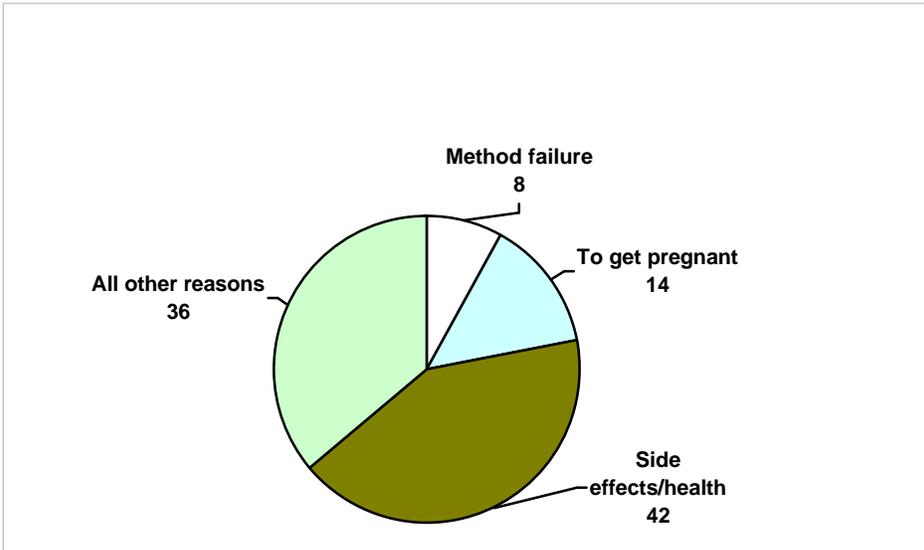
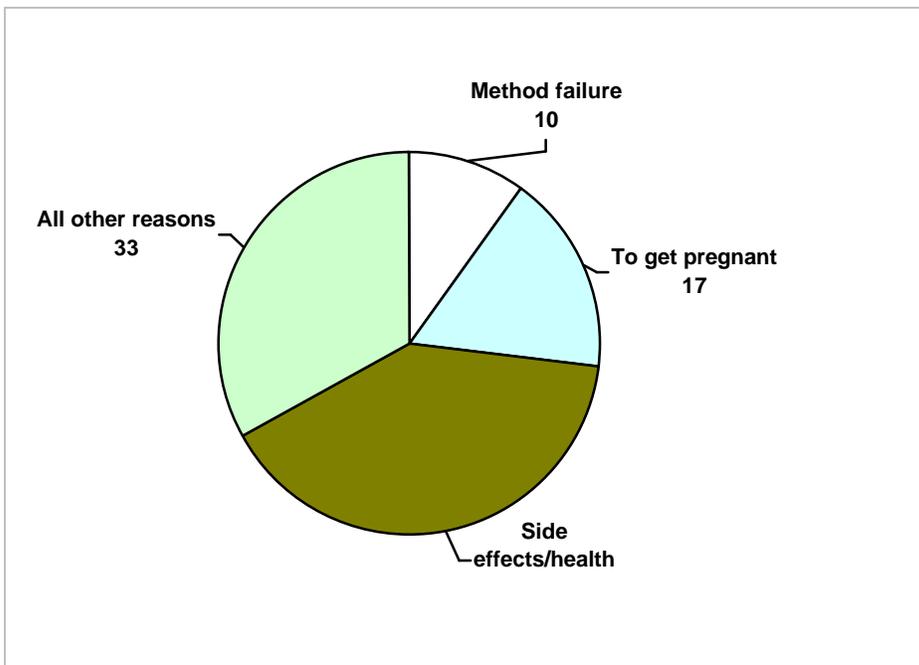


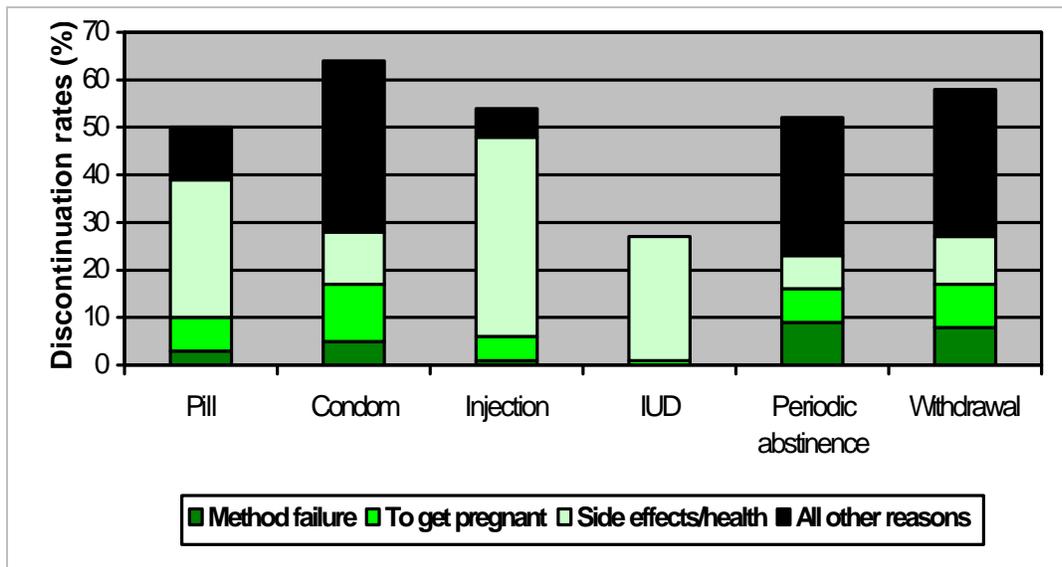
Figure 4-18.
Reasons for Discontinuation among Rural Users Who Discontinued Any Method in the First Year



Source: Bangladesh DHS 1999–2000

Figure 4-19.

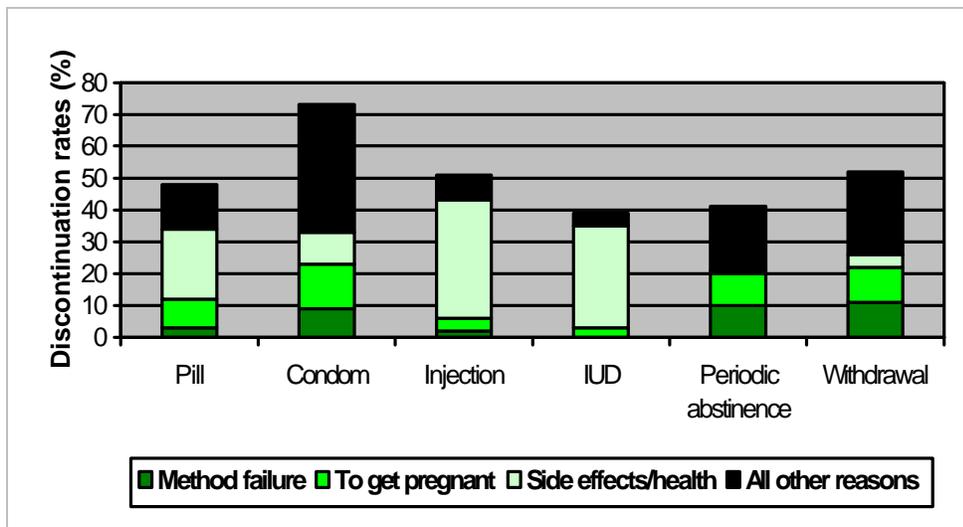
First-Year Life Table Contraceptive Discontinuation Rates for Urban Residence by Method According to/ Reasons for Discontinuation



Source: Bangladesh DHS 1999–2000

Figure 4-20.

First-Year Life Table Contraceptive Discontinuation Rates for Rural Residence by Method According to Reasons for Discontinuation



Source: Bangladesh DHS 1999–2000

Implications: Strategies to reduce reasons for discontinuation vary by method. Improved counseling on the advantages and disadvantages of each method can address discontinuation due to side effects and health concerns. Reducing discontinuation for the reasons of side effects and health concerns may increase the use of more effective methods in the short run and, thus, increase quality of service and contraceptive prevalence in the long run. A multidimensional approach that includes simultaneously

addressing the other reasons (not discussed) may be necessary to substantially increase overall quality of service and contraceptive prevalence.

4.9 Wealthier Rural Women Use Pills from the Public Sector

As figure 4-21 shows, rural women in the wealthiest two quintiles, like all women in Bangladesh, prefer the pill. The pill is the method of choice for 47 percent of rural women in quintile 4 and 44 percent in quintile 5. For these two quintiles in rural areas, this represents about 55 percent of modern method use.

Figure 4-21.
Contraceptive Method Mix by Wealth Quintile and Residence

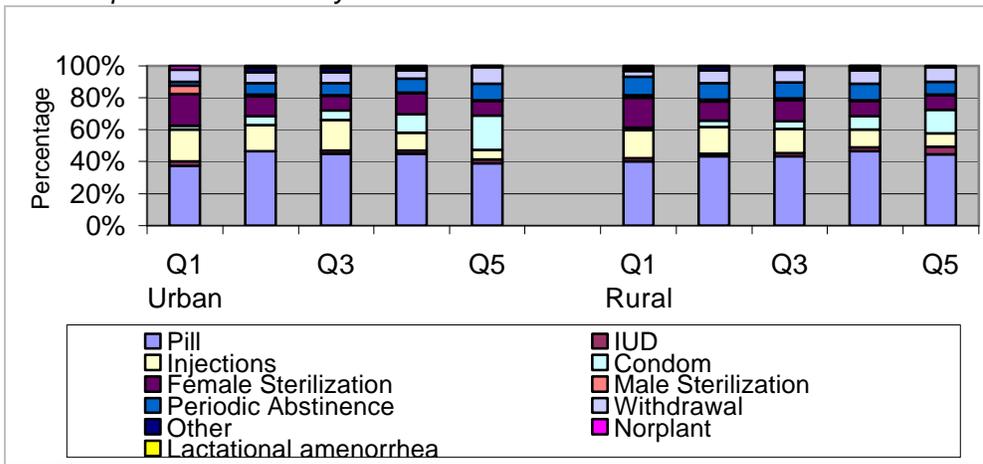
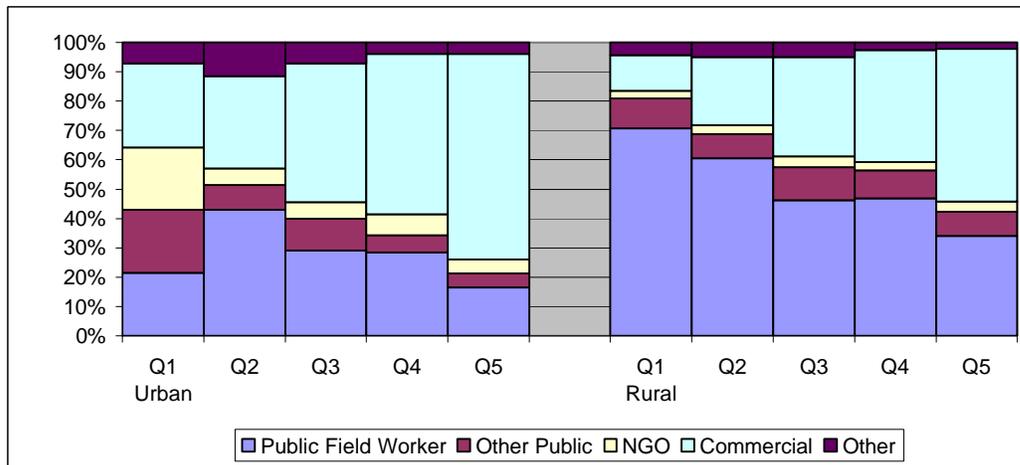


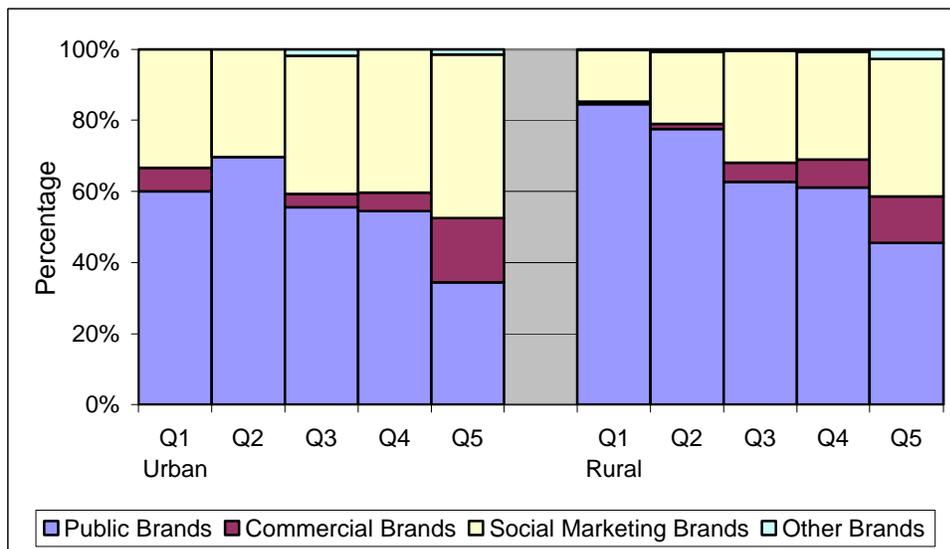
Figure 4-22 shows that for rural women in the highest two quintiles, the public sector is an important source of supply. In quintile 4, 56 percent of rural women obtain their pills from the public sector (47 percent from public field workers and 9 percent from other public sources). In quintile 5, the public sector provides 42 percent (34 percent public field worker and 8 percent other public). This is a high percentage of women who access the public sector from a group that can probably pay for their pills.

Figure 4-22.
Sources by Quintiles by Residence for Oral Contraceptives



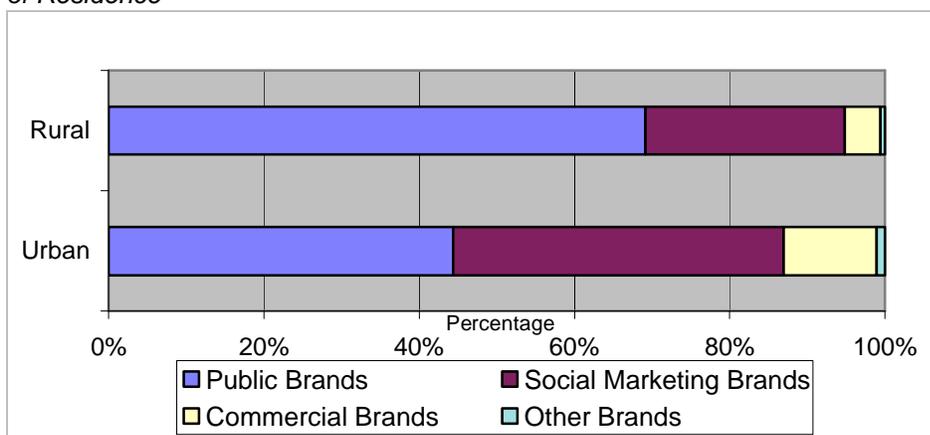
The picture is similar in the distribution of oral contraceptive users by brand in figure 4-23. Of pills users in rural areas in quintile 4, 61 percent use a public sector brand. Among pill users in rural areas in quintile 5, 46 percent use a public sector brand.

Figure 4-23.
Distribution of Oral Contraceptives Users by Type of Brand, by Place or Residence, and by Quintile



Of all rural pill users, 69 percent use public sector brands, 26 percent use social marketing, and 5 percent use commercial brands (see figure 4-24).

Figure 4-24.
Distribution of Oral Contraceptive Users by Brand Used According to Place of Residence



Implications: In rural areas, many women in the upper two quintiles rely on public sector pills provided by public field workers and other public facilities. If socially marketed pills were available from these government outlets and marketed to these women, they may be convinced to switch brands and begin to pay for their contraceptives. This would be an opportunity for collaboration between the public sector and SMC.

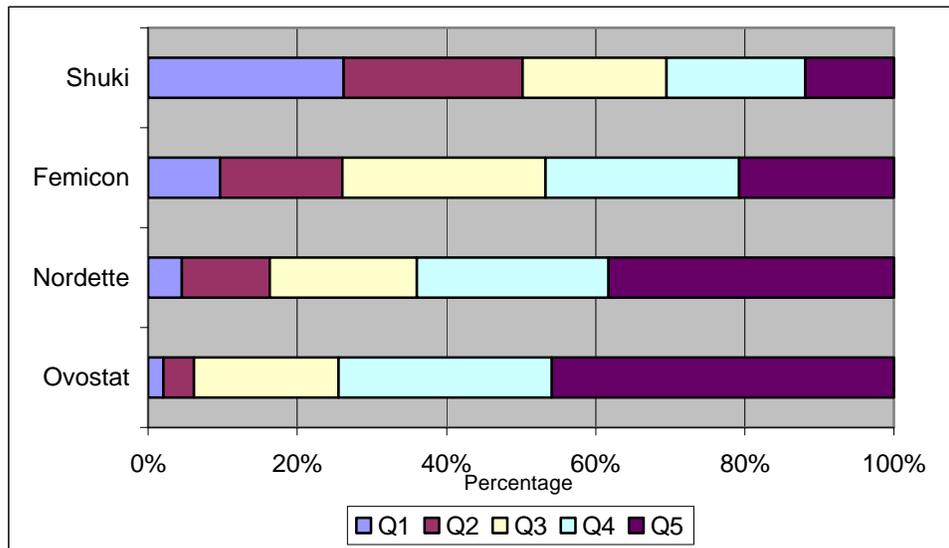
4.10 Public Sector Clients Switching to Private Providers

There are pockets of public sector clients who could be switched to private providers, thereby freeing government resources to serve other clients. This opportunity presents a couple of target audiences that are illustrative of potential market niches that could be switched to the private sector. Such efforts at incremental change to improve market segmentation could result in savings of government resources, which could then be directed to other needy clients.

The previous opportunity focused on upper quintile pill users in rural areas. It is also possible to switch upper quintile pill users in urban areas. Although the percentage of these women who use the public sector is smaller than in rural areas, women in the highest two quintiles are concentrated in urban areas. As shown in figure 4-22, in urban areas, 21 percent of pill users in quintile 5 obtain their pills from the public sector (16 percent public field worker and 5 percent other public). Of urban pill users in quintile 4, the public sector supplies 34 percent (28 percent from field workers and 6 percent from other public).

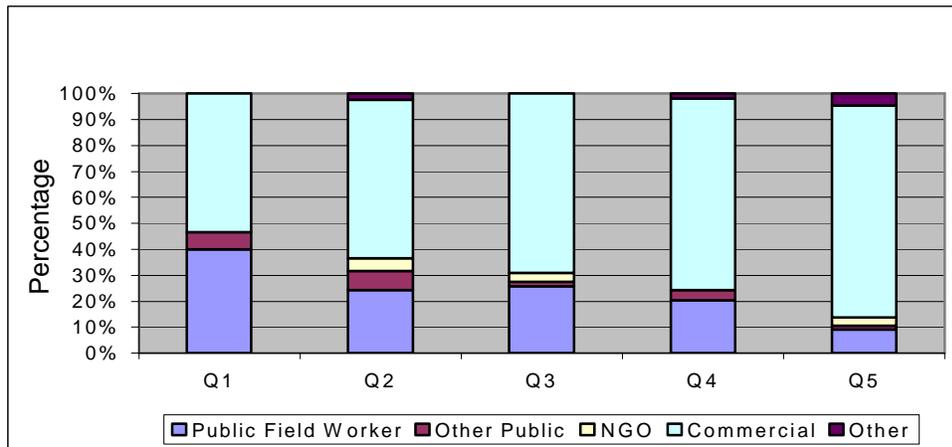
Shuki brand of oral contraceptives, which is a public sector product, is the most popular pill in Bangladesh. Sixty-four percent of all pill users choose Shuki. Among the users of the Shuki brand, 31 percent are in quintiles 4 or 5 (19 percent in quintile 4 and 12 percent in quintile 5), as shown in figure 4-25. This is a target audience to shift to socially marketed or commercially marketed products. Femicon and Nordette are the two most popular socially marketed brands. A large percentage of the users of these brands are in quintile 5 (21 percent for Femicon and 38 percent for Nordette). These women could be a target audience for shifting to commercial sector brands like Ovostat. Too many higher quintile women rely on the public sector for their pills.

Figure 4-25.
Distribution of Oral Contraceptive Users by Quintile, According to the Four Leading Brands



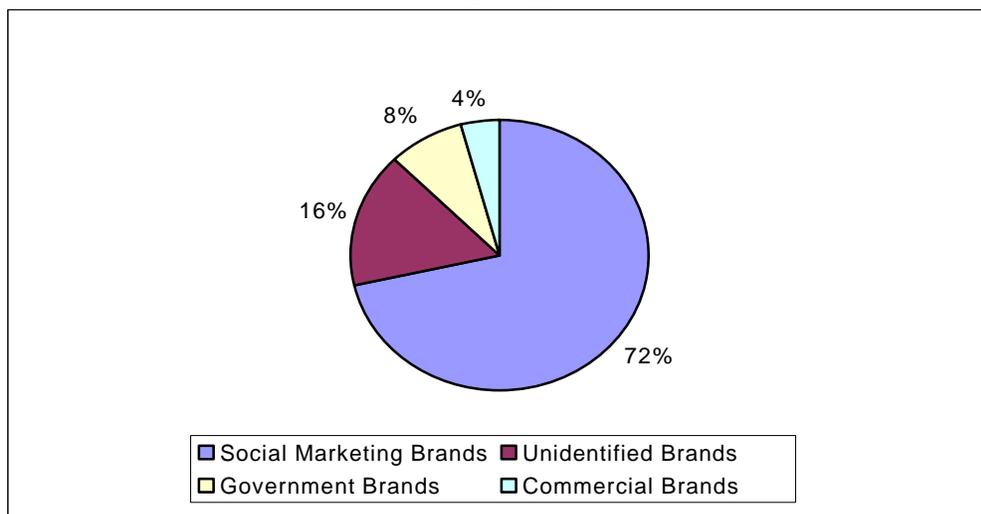
Condoms provide another limited opportunity for improving segmentation. Condoms users are relatively urban and are from the higher income quintiles. The majority of condom users in all quintiles obtain their condoms from the commercial sector, ranging from a high of 82 percent in quintile 5 to a low of 53 percent for quintile 1 (see figure 4-26).

Figure 4-26.
Source Mix by Wealth Quintile for Condoms



Condom use is dominated by the socially marketed brands, which account for 72 percent of condom users (see figure 4-27). The socially marketed brands along with the commercial brands (4 percent) are available through the commercial sector. Only 8 percent of condom users chose government brands. However, 16 percent of users could not identify their condom brand, which makes precise interpretation of market share difficult.

Figure 4-27.
Distribution of Condoms Users According to Type of Condom Brands Used



Because condom users are concentrated in quintile 5, quintile 5 users represent the largest percentage for all types of condoms brands (see figure 4-28). The pattern across quintiles is similar for all types of brands. For the government brand, 41 percent of users are in quintile 5, and 18 percent are in quintile 4. The bottom three quintiles combined receive only 41 percent of the government brand condoms. The majority of government condoms are captured by clients who are able to purchase their own condoms and are likely to have access to commercial sector outlets. As there are so few condom users in the poorer quintiles, and those clients are already more likely to use social marketing or commercial brands than government brands, the public sector should consider discontinuing government brand condoms.

Figure 4-28.
Distribution of Condoms Users by Quintile According to Type of Condom Brand Used

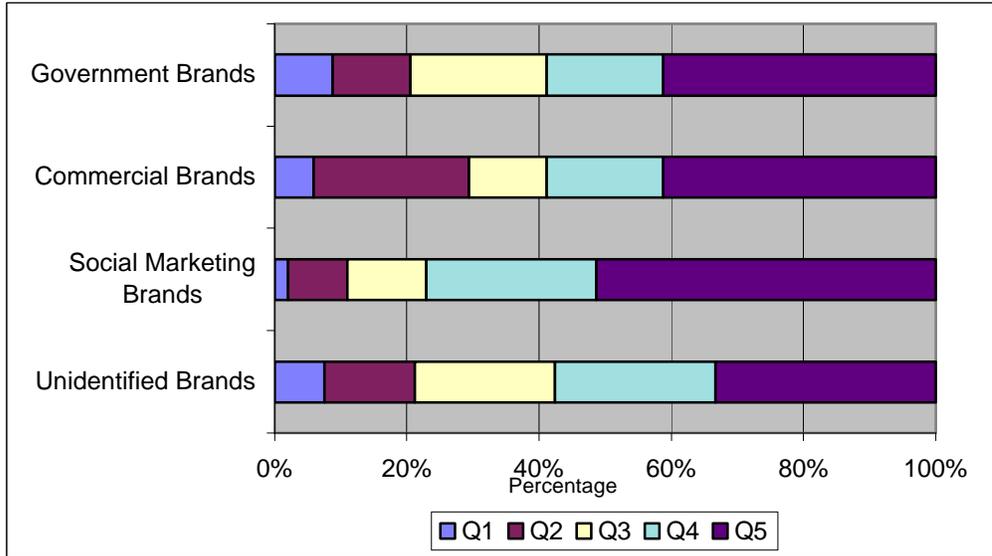
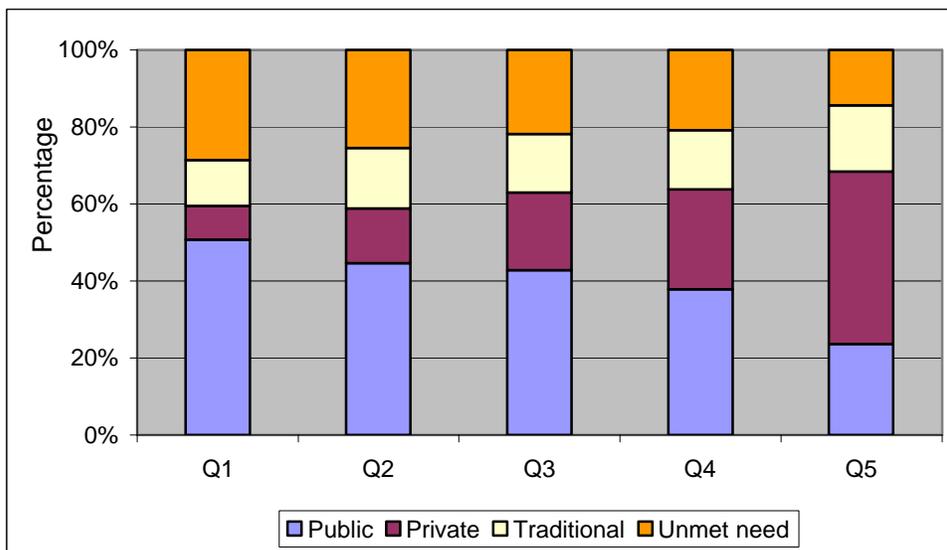


Figure 4-1 is presented again as figure 4-29 to illustrate the potential for improving market segmentation. As the earlier examples illustrate, there is potential for improving segmentation by shifting users with an ability to pay from government provision to socially marketed and commercial products. In quintile 5, 24 percent of women with a need for contraception use the public sector. If they could be switched to the private sector, the government could use those resources to target the 14 percent of women in that quintile with unmet need and/or the 17 percent who currently use traditional methods. In quintile 4, if the government did not need to provide contraceptives for the 38 percent of public sector users, they could target the 21 percent with unmet need and convince the 15 percent of traditional method users to switch to modern methods.

Figure 4-29.
Currently Married Women Using Contraception or with an Unmet Need for Contraception

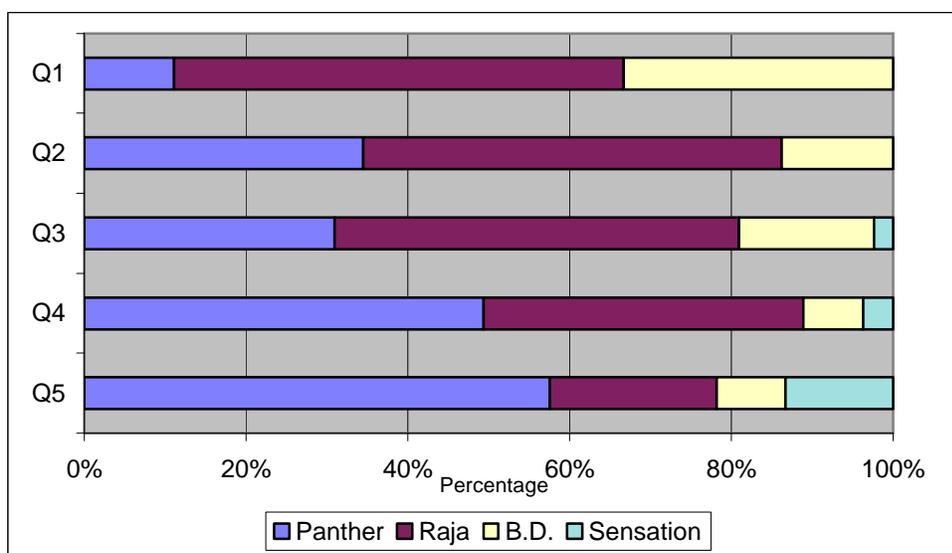


Implications: Public and private sectors can collaborate to try to switch users with access and ability to pay for socially marketed or commercial products. This could free public sector resources, which could be spent to address unmet need or to increase modern method use. However, switching users from one source of supply to another is not easy. Public and private sectors need to work together using marketing strategies to attract clients with appropriate messages, services, and products.

4.11 Improve Segmentation and Resource Use

Price adjustments for government and SMC products could improve segmentation and resource use based on the findings from the literature review and ability to pay analysis. It appears that SMC could increase the price for Panther and Sensation condoms without adversely affecting demand. Most users of these brands indicate that they are willing to pay more. Higher prices would bring in greater revenue for SMC, which could be used to cross-subsidize lower-priced brands. SMC’s Raja brand and government and NGO condoms remain as lower-priced alternatives for any users who are unwilling to pay more. It would be more challenging to raise the price for Raja condoms, because this brand is affordable to clients in all quintiles. As figure 4-30 shows, Raja is the most commonly used brand by condom clients in the poorest three quintiles.

Figure 4-30.
Distribution of Condom Users by the Four Leading Brands



Government pills are currently free of charge and government condoms have a minimal fee. As a result, these products are considered affordable to clients in even the poorest quintiles. It is imperative that these products remain affordable to vulnerable and needy clients, especially clients in rural areas without access to alternative private sector sources. It may, however, be possible to charge a small fee for pills or slightly increase the fee for condoms. Fees would ensure that contraceptives are perceived as valuable by clients, and will contribute a small amount of revenue to public facilities, although the revenue may not be sufficient to merit the administrative burden of using it for contraceptive procurement. Fees and price increases could be piloted in select government facilities, or a willingness to pay survey among government clients could be conducted to help set fees. However, there is an important prerequisite to charging increased fees. The opening to charge increased fees in the public sector is being absorbed by the system of unofficial fees. According to table 3-4 (see section 3), unofficial fees of Taka 5 per visit make condoms unaffordable to the poorest quintile

clients. If the unofficial fee climbs to Taka 20, only the wealthiest quintile condom clients can afford the public sector.

Implication: The most cost-effective pricing system will charge higher prices for products that are targeted to clients with a greater ability to pay, while ensuring that the poorest clients still have access to free or affordable products and services. There is leeway to raise prices for several contraceptive products and, in some cases, to use the increased fees to cross-subsidize products that target and reach poor clients. Price increases by government and social marketing sectors should be managed carefully to ensure that clients who are unable to pay higher prices still have access to affordable alternative sources.

5. Conclusions

Based on key findings and opportunities identified in the previous sections of the report, there appears to be a meaningful role for each sector that would help improve contraceptive security in Bangladesh. Following are the main conclusions that can be drawn from this market segmentation analysis.

5.1 Public Sector

The public sector is the primary provider of family planning, catering to 65 percent of all family planning clients in the country. The public sector contribution is more pronounced for long-term methods where 80 percent of all long-term method users obtain the method from a public sector facility. Moreover, 56 percent of the pill users obtain this method from the public sector. As expected, the public sector family planning sources cater to the bulk of family planning clients in rural areas.

Given the limited resources and the need to maximize the impact of family planning efforts, the role of the public sector seems best suited to meeting the family planning needs of poor and rural women, including increasing CPR. To achieve this objective, it is necessary to target unmet need, modern method discontinuation, and traditional method use, possibly through implementing a behavior change campaign. Furthermore, because the public sector has a comparative advantage in providing long-term methods, it should improve counseling and increase access to such methods, especially for women who want to limit their family size.

One strategy to improve targeting of limited public sector resources would be a collaboration between the government and SMC to allow the sale of social marketing products at public sector facilities. Alternatively, the public sector could charge a fee to those clients who can afford to pay. The objective is to direct subsidized public sector resources toward those most in need: the poorer, vulnerable, and hard to reach segments.

5.2 Social Marketing Sector

Social marketing plays a significant role in providing pills and condoms in Bangladesh. More than 70 percent of condom and 29 percent of pill users are using a socially marketed brand.

Of social marketing pill brands, only 20 percent go to quintiles 1 and 2 combined. The remaining 80 percent is divided fairly equally among quintiles 3, 4, and 5. Social marketing pill brands are also more prevalent among urban users (ranging from 33 percent in quintile 1 to almost 50 percent in quintile 5) compared to rural users (14 percent in quintile 1 to 40 percent in quintile 5).

Condom use (all brands) is significantly more prevalent among better off and urban women. Among social marketing condom brands, 50 percent go to quintile 5 and another 25 percent to quintile 4.

Social marketing can play an important role in providing information, counseling, and products to middle quintile women. At the same time, social marketing also needs to address issues around unmet need and modern method discontinuation in the same target population. To improve resource allocation, social marketing firms need to partner with the public sector to pursue strategies, such as sale of social marketing brand at public facilities, by targeting clients with ability to pay. Moreover,

strategies aimed at improving cost recovery through cross subsidization need to be implemented. Collaboration with the commercial sector can reduce unfair competition by subsidized brands.

5.3 Commercial Sector

As expected, the commercial sector has a limited role in providing family planning products and services in Bangladesh. This role is largely limited to pills and condoms. Overall, 48 percent of commercial pill brands go to quintile 5, and only 25 percent to quintiles 1, 2, and 3 combined. However, among pills users in quintiles 4 and 5, only 8 percent and 16 percent respectively, use commercial brands. Commercial brands contribute about 4 percent to overall condom use. Forty percent of all commercial condom brands go to quintile 5, and another 20 percent go to quintile 4.

The commercial sector can play a role in expanding the pill and condom market among women who are able to pay. The objective should be to attract new users and switch current users of public sector and social marketing brands who can afford to pay the commercial prices. At the same time, the commercial sector should also target information to these clients to reduce unmet need and modern method discontinuation.

5.4 Nongovernmental Organizations

NGOs serve 5 percent of all family planning clients, primarily for pills and condoms. NGOs are concentrated in urban areas where they cater to the poor, serving 18 percent in the poorest quintile and 7 percent in the wealthiest quintile. In rural areas, about 4 percent in each quintile seek family planning from NGOs.

The NGOs should continue to target the poorer urban population segments. Given the rates of unmet need and modern method discontinuation, NGOs should provide information and comprehensive counseling, as well as refer clients to other private and public sector providers, as appropriate.

Appendix A
Detailed Analysis

Detailed Analysis

1. Data and the Wealth Index

The family planning market can be segmented in a variety of ways, and there is no *best* approach. In this report, the authors used cross-tabulation to segment the family planning market, primarily along socioeconomic and geographic lines.

The present study relies on data from the Bangladesh Demographic and Health Survey (DHS) 1999–2000. The asset-based wealth index, developed by ORC Macro and the World Bank, was used to classify currently married women of reproductive age according to socioeconomic status.

The wealth index was developed explicitly for use with DHS data sets to compute a standard of living index for each woman in the DHS data set.⁷ Questions from DHS household questionnaire are used to gather asset or wealth information through questions typically posed to the head of the household concerning the household’s ownership of certain items, such as a fan, television and car; dwelling characteristics, such as flooring material, wall material, and roofing material; type of drinking water source; type of toilet facilities used; and other characteristics that are related to wealth status, such as electricity in the home.

A weight or factor score generated through principal component analysis is assigned to each household asset for which information was collected through the DHS. The resulting asset scores are standardized in relation to a standard normal distribution, with a mean of zero and a standard deviation of one. Each household is assigned a score depending on whether or not the household owns particular assets included in the asset index. The sample is then divided into population quintiles—five groups with approximately the same number of households in each group, with the first quintile being the poorest and the fifth quintile representing the wealthiest.

Much of the analysis in this section is presented according to wealth quintile. To better understand the socioeconomic characteristics of households and composition across each quintile, it is useful to examine the asset distribution for all households across the five wealth quintiles presented in table A-1. An example will help in the reading of this table. Consider the first row, which reports the percentage of households that have electricity. As shown in the table, 33.9 percent of all households have electricity (last column), but the percentage of households that have electricity varies from 0 percent in the first SLI quintile, to 1.1 percent of households in the second quintile, 24.7 percent of all households in the third quintile, and so on. An examination of the asset and amenity distribution across the wealth quintiles highlights the difference in socioeconomic status of households across the wealth quintiles.

⁷ Information in this section draws heavily on Gwatkin et al. (2000).

Table A-1. Household Assets and Amenities by Wealth Quintile, Currently Married Women

Asset Variable	Wealth Index Quintiles (%)					Total (%)
	1	2	3	4	5	
Has electricity	0.00	1.10	24.70	64.00	92.30	33.90
Has radio	1.40	21.10	37.60	56.60	65.80	35.20
Has television	0.00	0.10	3.10	34.90	73.50	19.90
Has bicycle	4.40	16.50	26.50	38.60	31.90	23.20
Household owns homestead	77.40	89.00	91.90	93.40	87.30	87.80
Household owns any other land	22.20	56.50	60.60	69.20	58.10	53.10
Piped drinking water in residence	0.00	0.00	0.00	1.40	27.80	4.80
Piped drinking water outside residence	0.00	0.00	0.10	2.80	5.40	1.50
Tube well for drinking water	98.60	93.40	95.30	91.70	66.20	90.10
River, canal or surface water for drinking	0.50	4.00	3.80	3.70	0.50	2.60
Rainwater	0.00	0.00	0.00	0.00	0.00	0.00
Other source of drinking water	0.00	0.10	0.00	0.00	0.00	0.10
Surface well water for drinking	0.90	2.50	0.70	0.50	0.10	1.00
Septic tank or toilet	0.00	0.00	0.60	11.60	52.80	11.20
Pit latrine	0.00	0.00	0.00	0.00	0.00	0.00
Water sealed or slab latrine	3.50	21.20	33.00	49.30	26.80	26.70
Bush, field as latrine	56.30	18.80	6.30	4.10	0.40	17.90
Open latrine	29.30	27.10	28.10	12.40	13.30	22.50
Hanging latrine	5.40	5.50	3.40	0.90	0.40	3.30
Other type of latrine	0.20	0.20	0.00	0.00	0.00	0.10
Earth/bamboo floor	100.00	100.00	100.00	94.10	3.50	83.00
Wood flooring	0.00	0.00	0.00	1.80	0.40	0.40
Cement/concrete floor	0.00	0.00	0.00	4.10	96.20	16.60
Other type of floor	0.00	0.00	0.00	0.00	0.00	0.00
Natural wall	99.80	92.40	53.50	32.80	2.60	58.50
Rudimentary wall	0.00	1.20	6.70	5.50	0.30	2.90
Tin wall	0.00	5.50	39.70	44.00	6.40	19.80
Cement wall	0.00	0.00	0.00	17.50	90.70	18.50
Other wall	0.20	1.00	0.10	0.20	0.00	0.30
Natural roof	57.10	22.10	8.10	3.10	0.80	19.00
Rudimentary roof	0.00	0.00	0.00	0.00	0.00	0.00
Finish roof	0.00	0.00	2.20	8.10	47.90	10.00
Other roof	0.00	0.20	0.00	0.10	0.10	0.10
Wood roof	42.90	77.70	89.70	88.70	51.10	70.90

While the wealth index indicators are not necessarily reflective of disposable income, a number of conclusions can be drawn about the population in each quintile. While between 77 percent and 89 percent of the poorest two quintiles own their homestead, the vast majority have walls and roofing made of natural materials, are without electricity, and use tube wells for water. Only 24.7 percent of the third quintile have access to electricity in their home, with 53 percent still using natural materials for walls and 89 percent with a wooden roof.

Asset distribution was also examined separately for rural and urban areas (see table A-2). As expected, there were some differences on certain asset variables. For example, 99 percent of urban households in the fifth quintile have electricity compared to 78.5 percent of rural households in the same quintile. In terms of land ownership, 48.2 percent of urban households and 79.6 percent rural households in the wealthiest quintile own other land. Another example of urban rural difference is piped drinking water in residence: 40.2 percent of urban households in the fifth quintile have this facility compared to 1 percent of rural households in the same quintile.

Table A-2. Household Assets and Amenities by Wealth Quintile by Residence, Currently Married Women

Asset Variable	Urban—Wealth Index Quintiles (%)						Rural—Wealth Index Quintiles (%)				
	Total (%)	1	2	3	4	5	1	2	3	4	5
Has electricity	33.90	0.00	6.9	68.2	88.4	99.0	0.00	0.7	20.2	58.8	78.5
Has radio	35.20	1.1	10.6	27.1	39.5	63.7	1.4	22.0	38.6	60.5	70.3
Has television	19.90	0.00	0.00	.9	39.5	76.5	0.00	.1	3.3	34.2	67.1
Has bicycle	23.20	3.5	6.1	13.1	28.0	22.2	4.4	17.2	27.8	40.8	52.6
Household owns homestead	87.80	66.7	77.7	75.7	81.8	84.5	77.9	89.7	93.6	96.0	93.3
Household owns any other land	53.10	6.9	26.7	21.0	31.8	48.2	22.8	58.5	65.0	77.6	79.6
Piped drinking water in residence	4.80	0.00	0.00	0.00	6.9	40.2	0.00	0.00	0.00	.1	1.0
Piped drinking water outside residence	1.50	0.00	0.00	.5	10.7	7.3	0.00	0.00	.1	.9	1.4
Tube well for drinking water	90.10	98.9	96.2	98.6	81.6	52.4	98.6	93.1	95.0	94.1	96.3
River, canal or surface water for drinking	2.60	0.00	1.5	.5	.3	.2	.5	4.3	4.2	4.5	1.2
Rainwater	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other source of drinking water	0.10	0.00	0.00	0.00	0.00	0.00	0.00	.1	0.00	0.00	0.00
Surface well water for drinking	1.00	1.1	2.3	.5	.5	0	.9	2.5	.7	.5	.2
Septic tank or toilet	11.20	0.00	0.00	1.4	17.8	57.8	0.00	0.00	.5	10.1	42.8
Pit latrine	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water sealed or slab latrine	26.70	12.6	34.4	43.0	41.9	20.7	3.10	20.30	32.00	51.30	39.60
Bush, field as latrine	17.90	34.9	8.3	0.9	0.5	0.5	57.2	19.5	6.8	4.9	0.4
Open latrine	22.50	36.0	18.2	28.0	22.4	16.3	29.0	27.7	27.9	10.0	6.7
Hanging latrine	3.30	10.3	5.3	0.5	1.3	0.5	5.3	5.5	3.8	0.8	0.2

Table A-2. Household Assets and Amenities by Wealth Quintile by Residence, Currently Married Women (continued)

Asset Variable	Urban—Wealth Index Quintiles (%)					Rural—Wealth Index Quintiles (%)					
	Total (%)	1	2	3	4	5	1	2	3	4	5
Other type of latrine	0.10	0	0	0	0	0	0.2	0.2	0	0	0
Earth/bamboo floor	83.00	100.0	100.0	100.0	89.9	2.1	100.0	100.0	99.9	95.0	6.3
Wood flooring	0.40	0.0	0.0	0.0	1.9	0.4	0.0	0.0	0.1	1.8	0.2
Cement/concrete floor	16.60	0.0	0.0	0.0	8.3	97.5	0.0	0.0	0.0	3.2	93.5
Other type of floor	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Natural wall	58.50	100.0	90.8	76.6	45.9	2.5	99.7	92.5	51.1	30.3	2.9
Rudimentary wall	2.90	0.0	1.5	4.2	4.3	0.4	0.0	1.1	6.9	5.8	0.2
Tin wall	19.80	0.0	7.6	19.2	34.4	4.3	0.0	5.3	41.8	45.9	10.6
Cement wall	18.50	0.0	0.0	0.0	15.2	92.8	0.0	0.0	0.0	18.0	86.3
Other wall	0.30	0.0	0.0	0.0	0.3	0.0	0.3	1.0	0.1	0.1	0.0
Natural roof	19.00	41.4	13.7	13.6	6.7	0.9	57.8	22.8	7.7	2.3	0.6
Rudimentary roof	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Finish roof	10.00	0.0	0.0	0.5	1.6	52.8	0.0	0.0	2.4	9.6	37.4
Other roof	0.10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wood roof	70.90	58.6	86.3	86.0	91.5	46.1	42.1	77.0	90.0	88.0	62.0

2. Contraceptive Use

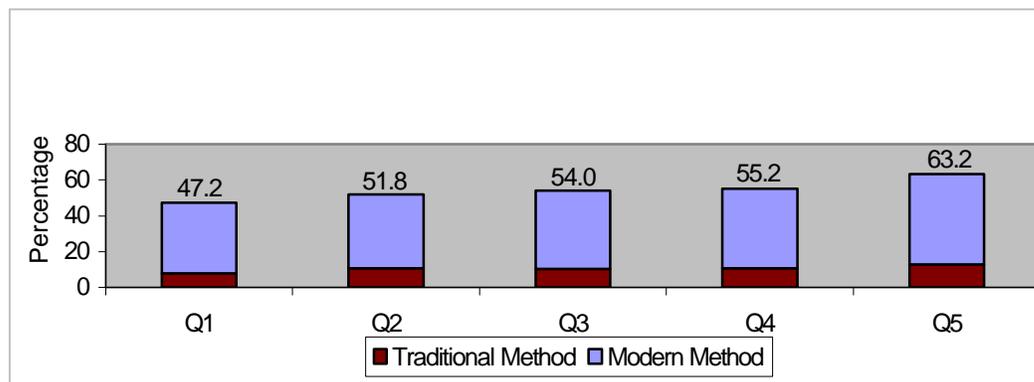
Among currently married women of reproductive age, 53.8 percent use a method of contraception.

Contraceptive use is relatively low among younger married women—only 25 percent in the age group 10–14 years use any form of contraception, but it increases with age, reaching the highest level of 68 percent among currently married women in the 35–39 years age group, and falling to 43 percent among currently married women over 45 years of age.

Only 21 percent of married women with no children use some method of contraception, but use increases dramatically to 49 percent among women with one living child, to 61 percent among women with two living children, and to 65 percent among women with three living children. Contraceptive use starts declining among women with four or more living children, dropping to 24 percent among women with nine living children.

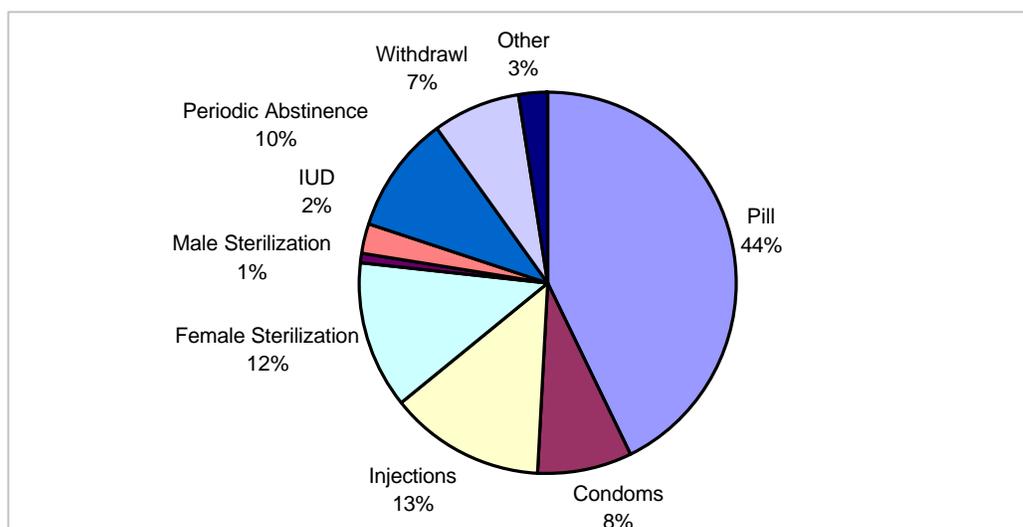
Contraceptive use increases with wealth, from 47.2 percent of currently married women in the poorest quintile to 63.2 percent of currently married women in the wealthiest quintile. Figure A-1 shows that traditional method use is about 8 percent for quintile 1; more than 10 percent for quintiles 1, 2, and 3; and increases to almost 13 percent for quintile 5.

Figure A-1.
Current Use of Contraception by Wealth Quintile



Contraception use is significantly higher in urban areas—60 percent of currently married women use some form of contraception—relative to rural areas, where the rate is 53 percent. Regional differences are significant, with the Sylhet region reporting the lowest use (only 34 percent of currently married women), followed by Chittagong (44 percent), Dhaka (54 percent), Rajshahi, and Barisal (59 percent each), and Khulna (64 percent). See figure A-2.

Figure A-2.
Contraceptive Method Mix



Literacy level is also an important determinant of contraceptive use: 58 percent of women who report being able to read easily also report using some form of contraception, compared to 51 percent of illiterate women who report using some form of contraception. Likewise, the use of contraceptives is positively related to education, rising from 51 percent use among women with no education to more than 65 percent among women with higher education.

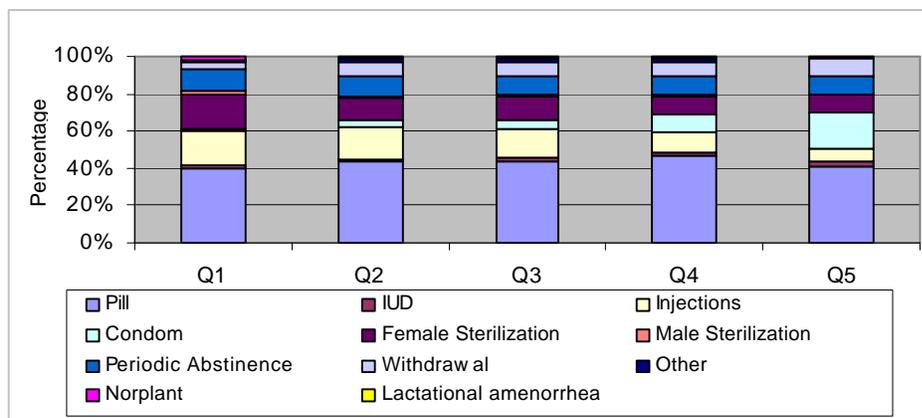
3. Method Mix

The most commonly used contraceptive method is the pill, which is used by about 43 percent of those using some form of contraception. Injections are a distant second, used by only 13 percent of all currently married contraceptive users, followed by female sterilization (12 percent); periodic

abstinence (10 percent); condoms and withdrawal (both 8 percent); other methods, including NORPLANT and lactation amenorrhea (3 percent); IUD (2 percent); and male sterilization (1 percent).

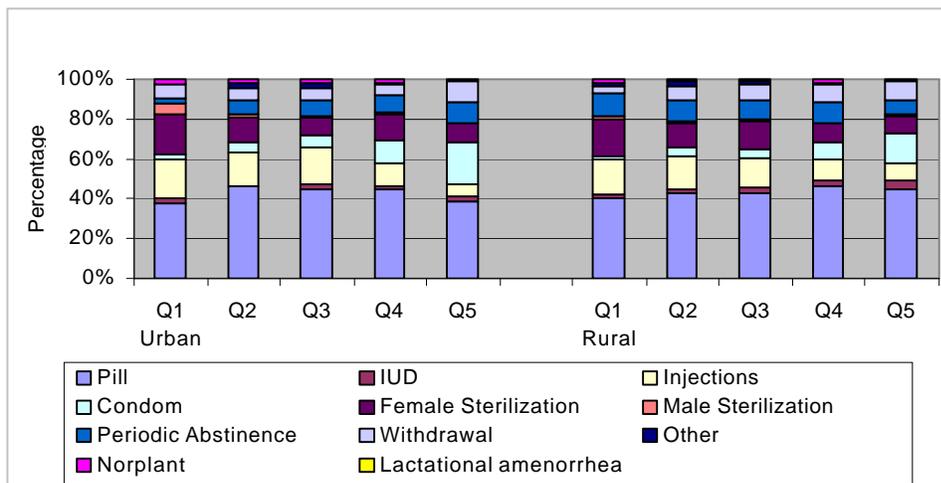
The pill is the most popular method across all wealth quintiles. Injectables are more popular in the first three quintiles compared to quintiles 3 and 4. On the other hand, condom use is relatively low in the first three quintiles but increases in quintiles 4 and 5.

Figure A-3.
Contraceptive Method Mix by Wealth Quintile



Pills are the most frequently used method across all wealth quintiles in both rural and urban areas, comprising between 37 and 47 percent of the method mix. The use of condoms increases and the use of injectables decreases significantly with wealth, especially in urban areas. See figure A-3 and A-4.

Figure A-4.
Contraceptive Method Mix by Wealth Quintile and Residence

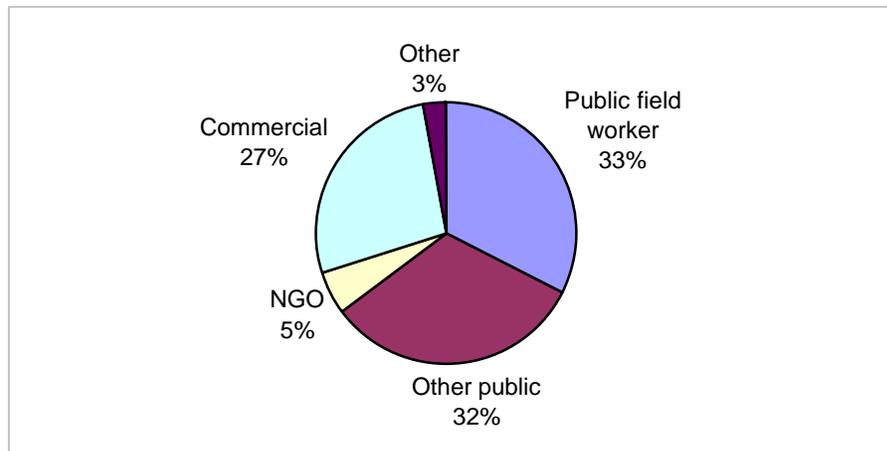


4. Source Mix

Overall, the public sector is the largest supplier of contraceptives in Bangladesh, with public field workers accounting for 32.6 percent of all contraceptives—predominantly pills and injections—and other public sources accounting for 32.1 percent of all contraceptives—predominantly female sterilization, injections, and pills. SMC and commercial sources (which include pharmacies) are the

third largest supplier of contraceptives, mostly pills and condoms, and account for 27.4 percent of total supply. Other suppliers are relatively insignificant. See figure A-5.

Figure A-5.
Source Mix for All Methods



More than 47 percent of all pills consumed are supplied by public field workers, followed by commercial sources, which account for 35.7 percent. The single largest suppliers of IUDs are other public sources, which account for 84 percent of all IUDs. Other public sources are also the largest suppliers of injections (53.8 percent), followed by public field workers (32.5 percent). Other public sources also account for most female and male sterilizations (89 percent each) and for NORPLANT (86 percent). Commercial sources are the largest suppliers of condoms and account for 75 percent of all condoms used, followed by public field workers (16.7 percent). See figure A-6.

Pills constitute 77.3 percent of all contraceptives supplied by public field workers, followed by injections (16.5 percent), and condoms (5 percent). On the other hand, female sterilizations constitute 43 percent of all contraceptives supplied by other public sources, followed by injections (27.7 percent), and pills (15 percent). Pills (37 percent) and injections (36 percent) are the main two contraceptives supplied by commercial sources. Pills constitute 69.4 percent of all contraceptives supplied by NGOs, followed by condoms (26.9 percent). See figure A-6 and A-7.

Figure A-6.
Source Mix by Method

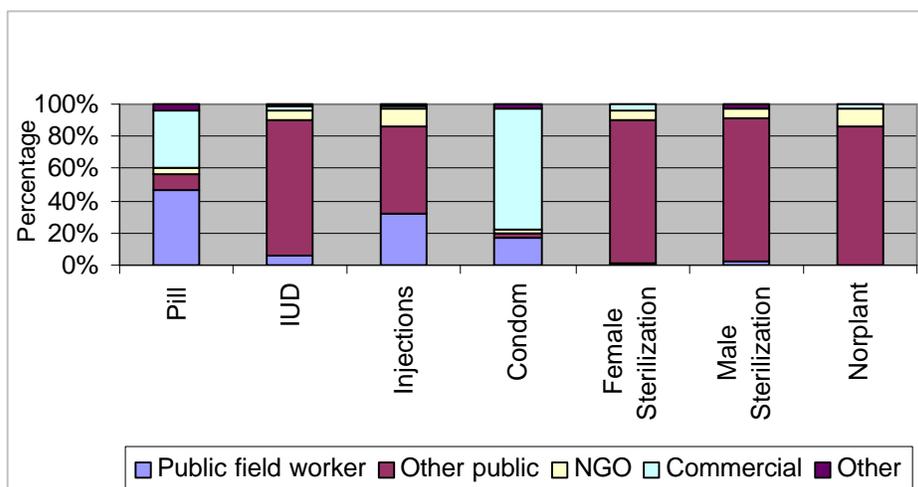
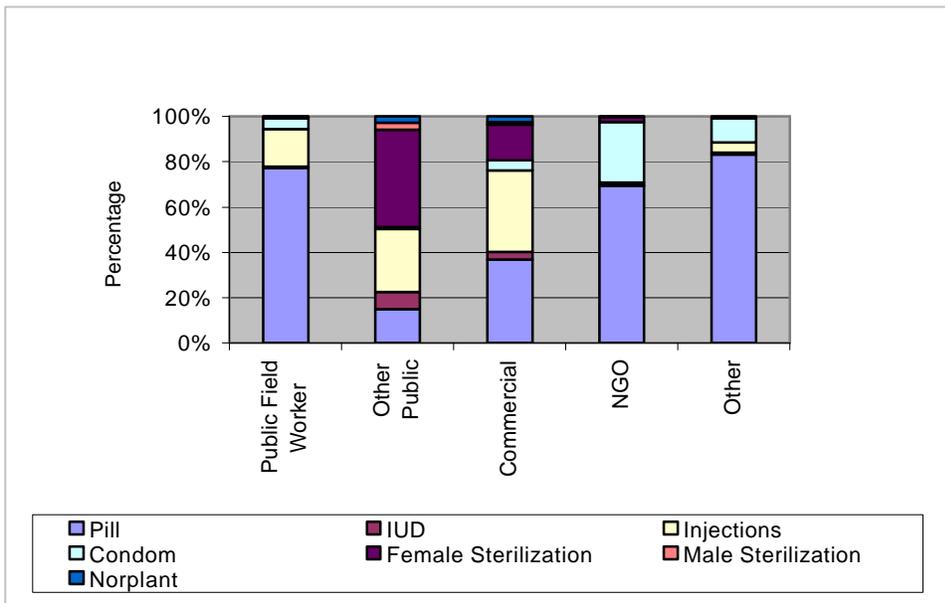
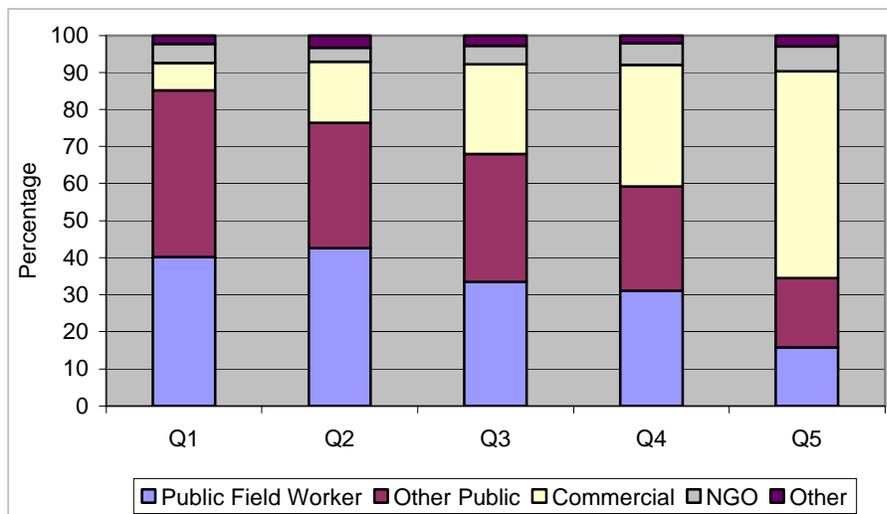


Figure A-7.
Contraceptive Method Mix by Source



The public sector is the largest provider of contraceptive methods for women in the lower wealth quintiles. Among all users in the lowest wealth quintile, 86.1 percent procure contraceptives from public sources. As household wealth rises, the percentage of women procuring contraceptives from public sources falls to 68.1 percent in the third quintile group to 34.5 percent among the richest quintile group. At the same time, the percentage of women procuring contraceptives from commercial sources rises, while the share of NGOs and other sources remains steady across wealth levels. See figure A-8.

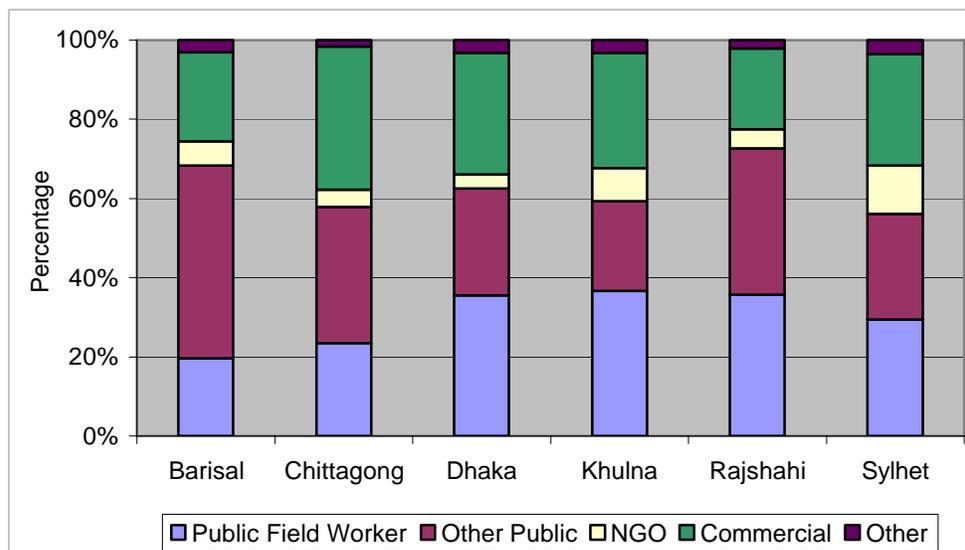
Figure A-8.
Source Mix by Wealth Quintile



The public sector constitutes the largest source for contraceptives in all the regions as well, ranging from a high of 72.9 percent in Rajshahi to a low of 55.3 percent in Sylhet. Commercial sources are used by 31.1 percent women users in Chittagong, but only by 12.8 percent women users in Rajshahi

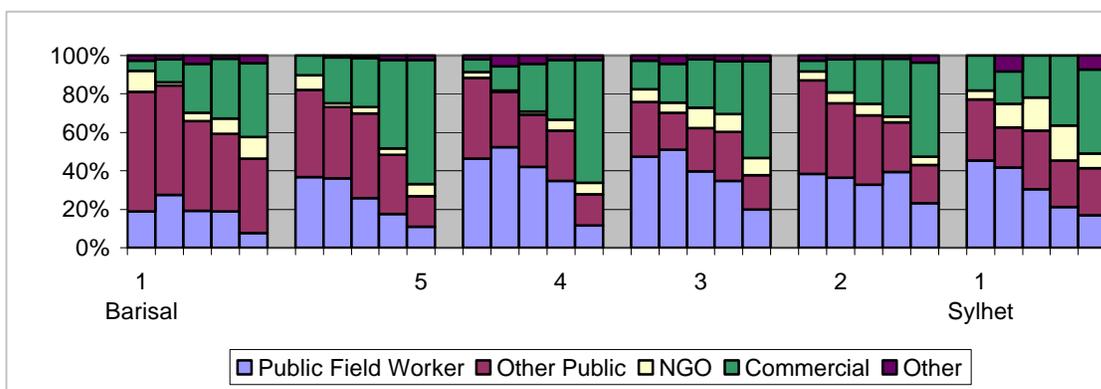
and 16.2 percent women users in Barisal. Nongovernmental organizations meet 12.1 percent of the demand in Sylhet and 8.4 percent in Khulna, but only 3.6 percent in Dhaka and 4.3 percent in Chittagong. See figure A-9.

Figure A-9.
Source Mix by Region



The public sector constitutes the largest source for contraceptives in lower income groups in all the regions. As household wealth rises, the percentage of women procuring contraceptives from public sources falls in all the regions. At the same time, the percentage of women procuring contraceptives from commercial sources rises, while the share of NGOs and other sources remains relatively steady across wealth levels. See figure A-10.

Figure A-10.
Source Mix by Region by Wealth Quintile



There are significant differences in sources of procurement of contraceptives across wealth quintiles in urban and rural areas. Across all wealth quintiles, the public sector is a much larger supplier of contraceptives in rural areas compared to urban areas. See figure A-11.

Figure A-11.
Source by Quintiles by Residence

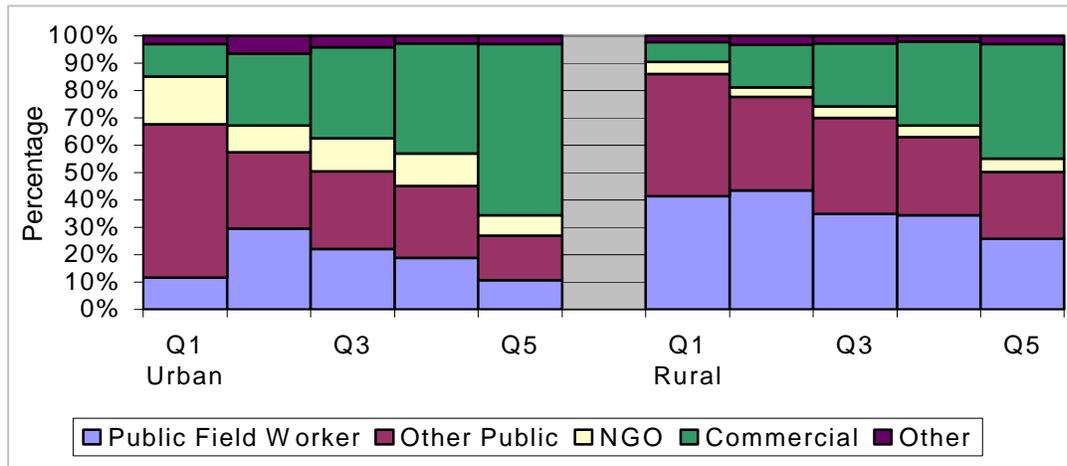
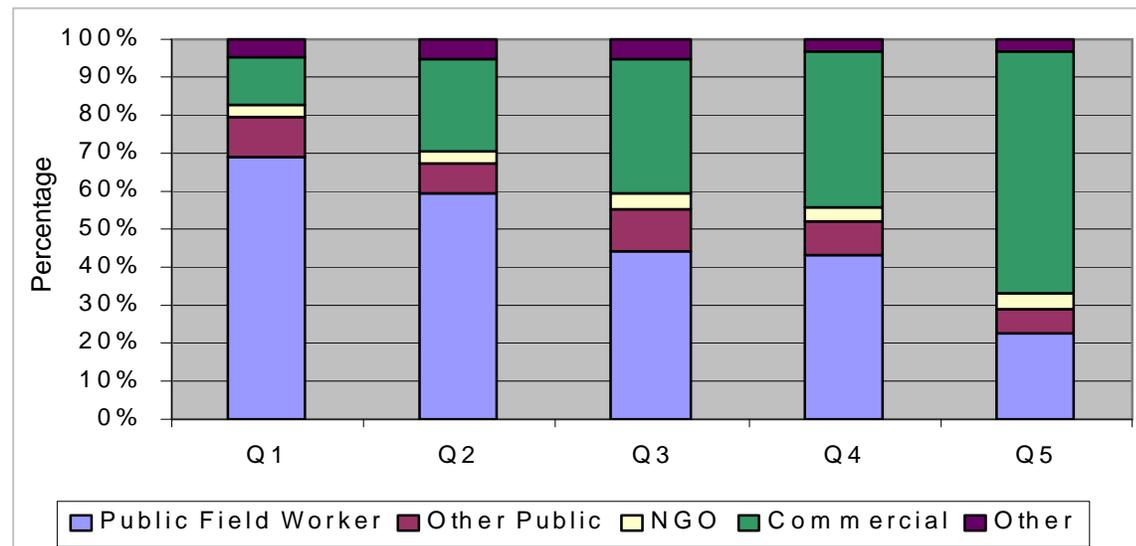


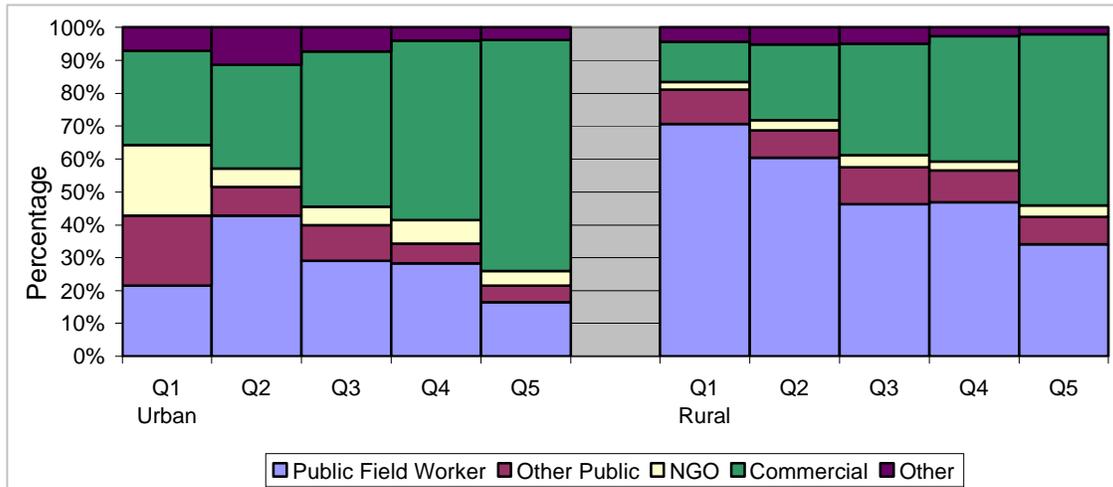
Figure A-12 shows the source mix for oral contraceptives. As expected, the share of public sector sources declines and commercial sector share increases as we move from lower to higher wealth quintiles.

Figure A-12.
Source Mix by Wealth Quintile for Oral Contraceptives



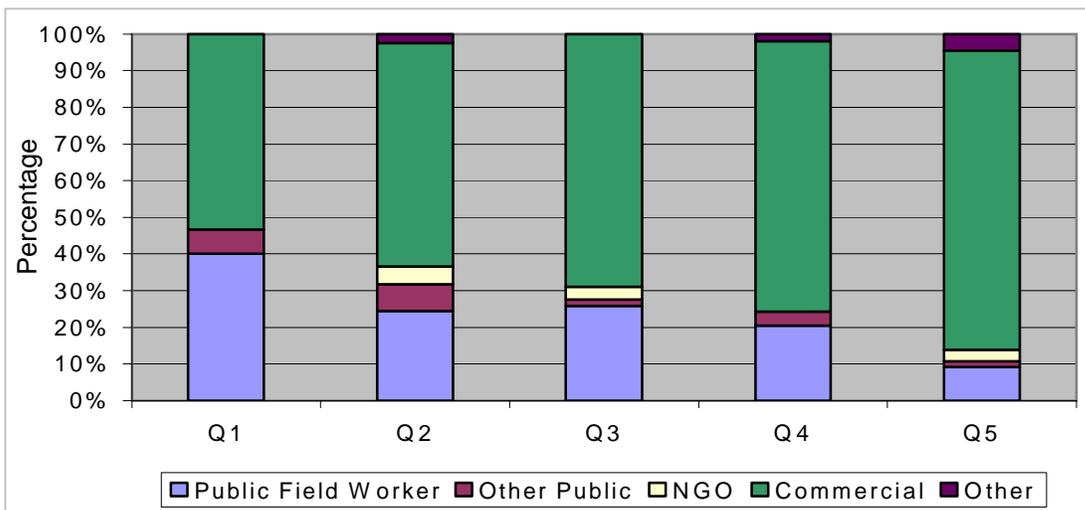
There are some differences in the use of different sectors for oral contraceptives between urban and rural areas. NGOs cater to more than 20 percent of oral contraceptive users in quintile 1 in urban areas compared to more than 2 percent in the same quintile in rural areas. More than 70 percent use the commercial sector to obtain oral contraceptives in quintile 5 in urban areas compared to more than 52 percent in the same quintile in rural areas. See figure A-13.

Figure A-13.
Sources by Quintiles by Residence for Oral Contraceptives



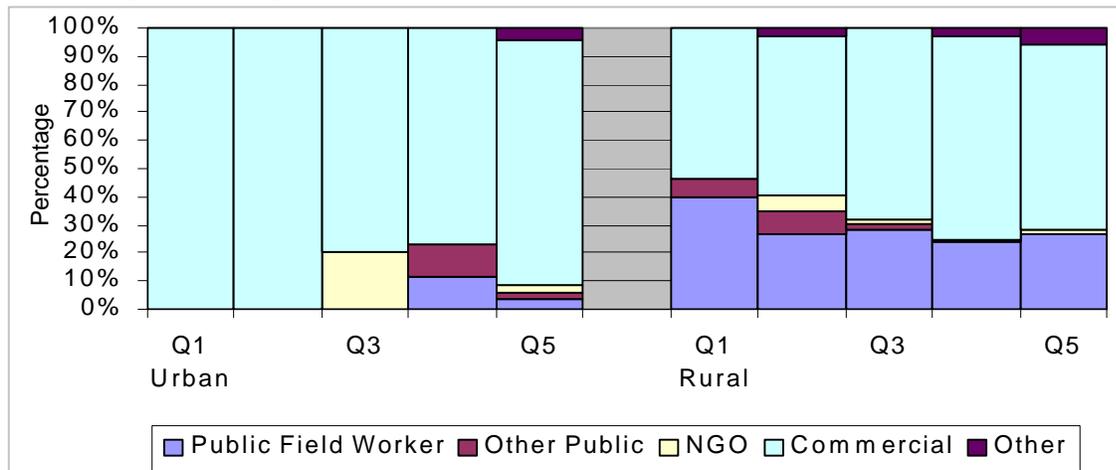
A pattern similar to oral contraceptives is seen for source mix for condoms across quintiles. Public sector share decreases and commercial sector share increases as we move from lower to higher income quintiles. See figure A-14.

Figure A-14.
Source Mix by Wealth Quintile for Condoms



When the source mix data for condoms is disaggregated by residence, the result is small sample sizes. Surprisingly, the use of public sector facilities in urban quintiles 1 and 2 is non-existent. Commercial sector sources dominate the market in both urban and rural areas. See figure A-15.

Figure A-15.
Sources by Quintiles by Residence for Condoms

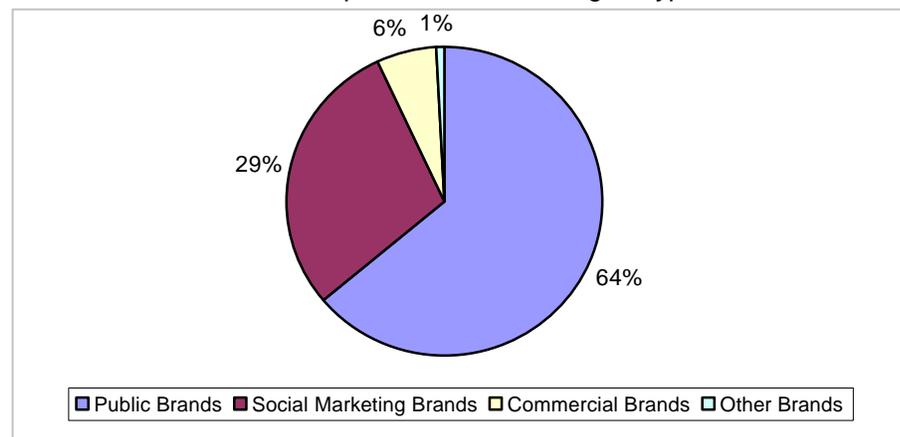


5. Brands of Contraceptives

5.1 Contraceptive Pills

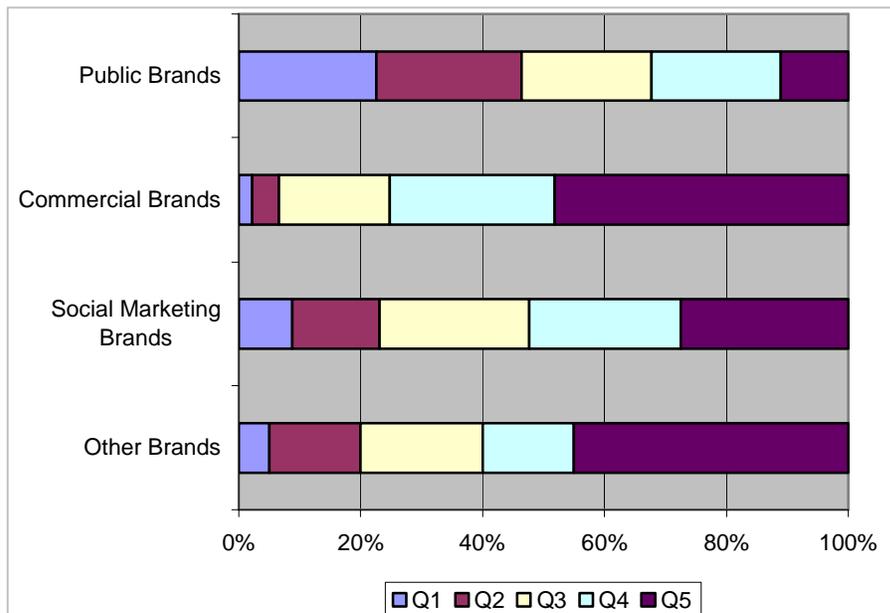
Public sector and socially marketed brands constitute 64 percent and 29 percent of the oral contraceptive market, respectively. See figure A-16.

Figure A-16.
Distribution of Oral Contraceptive Users According to Type of Brand



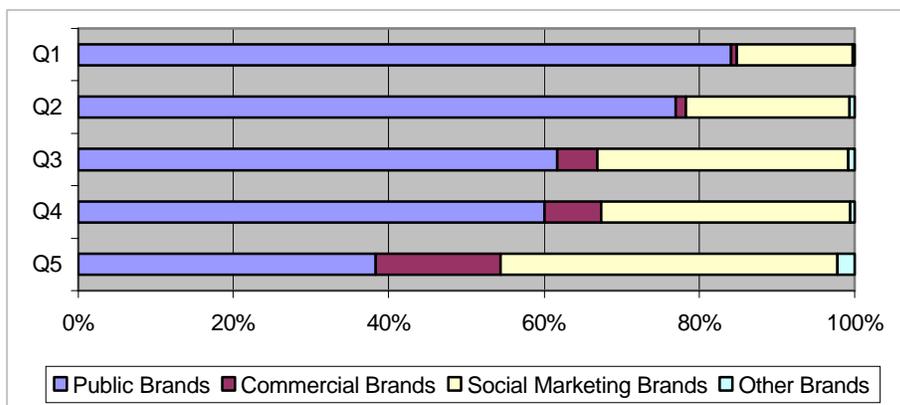
Overall, women in the poorest quintile consume 22.5 percent of all public brands, and this percentage remains more or less steady across the first four wealth quintiles. In contrast, women in the richest wealth quintile consume only 11 percent of all public brands. For commercial brands, almost half (48.2 percent) are consumed by women in the richest quintile. In contrast, only 2.2 percent women in the poorest quintile use commercial brands. See figure A-17.

Figure A-17.
Distribution of Oral Contraceptive Users According to Type of Brand Used, by Quintiles



Eighty-four percent of all women in the lowest SLI quintile using oral contraceptives obtain them from public sources, and 14.9 percent from social marketing sources. Among oral contraceptive users in the second quintile, 76.9 percent of women obtain oral contraceptives from public sources, followed by 21 percent women from social marketing sources. The corresponding numbers in the third quintile are 61.7 percent from public sources and 32.3 percent from social marketing sources; while in the fourth quintile, 60 percent women obtain oral contraceptives from public sources, followed by 32 percent from social marketing sources. Among women in the richest quintile, social marketing is the largest source (43.4 percent), followed by public sources (38.3 percent) and commercial sources (16.1 percent). See figure A-18.

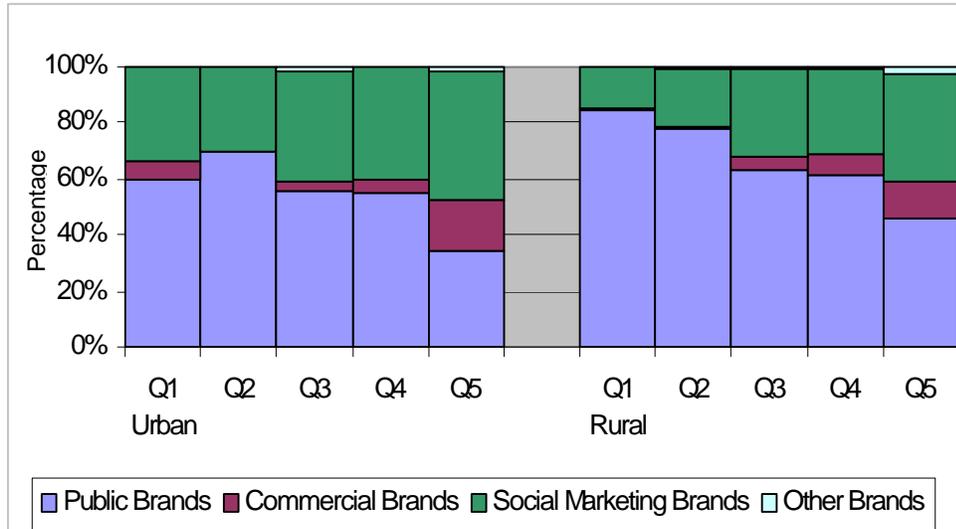
Figure A-18.
Distribution of Oral Contraceptives Users by Type of Brand According to Quintile



Overall, public sector use is higher in rural areas. In urban areas, 33 percent use social marketing oral contraceptive brand in quintile 1 compared to 14 percent in rural quintile 1. For quintile 5, 18 percent

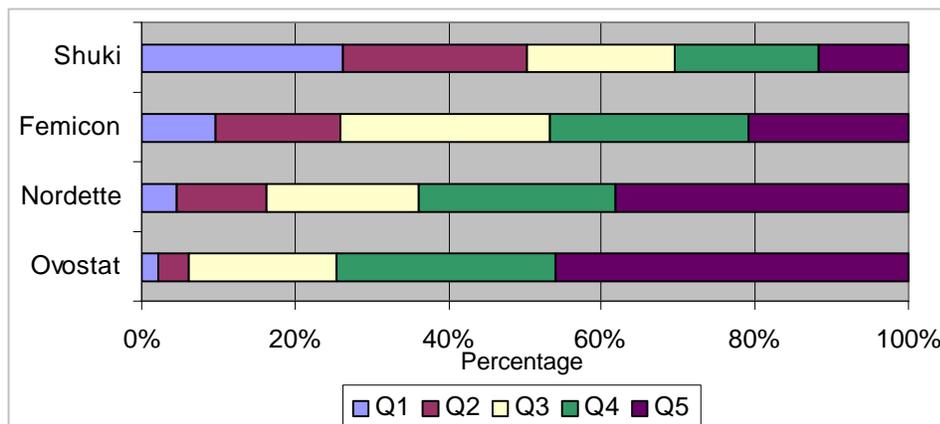
in urban areas and 13 percent in rural areas use commercial oral contraceptive brands. See figure A-19.

Figure A-19.
Distribution of Oral Contraceptives Users by Type of Brand, by Place or Residence, by Quintile



Shuki, a public sector product, is the most popular contraceptive pill brand used in Bangladesh, and is preferred by 63.5 percent of all women using pills for contraception. The second-most popular brand is SMC’s Femicon (14.5 percent), followed by SMC’s Nordette (11.8 percent), and the commercial brand Ovostat (4.4 percent). The remaining brands are significantly less popular. Slightly more than 22 percent of all currently married women using Shuki brand of oral contraceptives are from the lowest SLI quintile, compared to 23.9 percent from the second quintile, 21.3 percent from the third quintile, 21.2 percent from the fourth quintile, and only 10.9 percent from the richest SLI quintile. The other three brands are more popular with wealthier women. Less than 10 percent of all women using SMC’s Femicon are from the poorest quintile, compared to 26 percent from the fourth quintile, and 20.7 percent from the wealthier quintile. Likewise, only 4.5 percent of all women using Nordette brand and only 2 percent using Ovostat brand of oral contraceptives are from the lowest SLI quintiles, compared to 38.3 percent of all Nordette users and 45.9 percent of all Ovostat users from the richest quintile. See figure A-20.

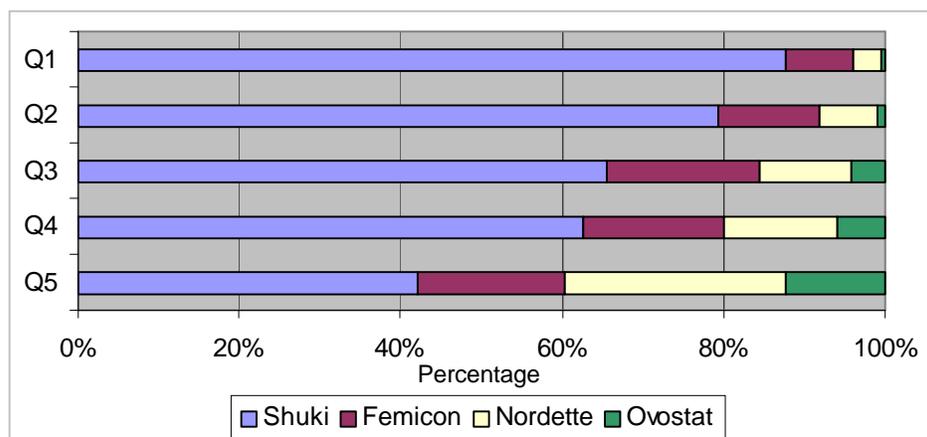
Figure A-20.
Distribution of Oral Contraceptive Users by Quintile, by the Four Leading Brands



The popularity of GOB's Shuki is highest among women in the lowest wealth quintile (87.6 percent) but declines progressively as wealth levels rise, and is used by only 42.1 percent of women using pills in the wealthiest quintile. However, SMC's Femicon and Nordette gain popularity with increasing wealth. Femicon is the preferred brand of pill among 8.5 percent of the poorest women, but rises to 17.5 percent and 18.2 percent among women in the fourth and fifth wealth quintiles respectively. The consumption of Nordette rises more dramatically, from 3.3 percent among women in the lowest wealth quintile to 27.4 percent among women in the highest wealth quintile. Another brand popular among the wealthier women is Ovostat, preferred by 12.2 percent of the richest women compared to only 0.5 percent of the poorest women. See figure A-21.

Figure A-21.

Distribution of Oral Contraceptive Users by the Four Leading Brands, by Quintiles



A little more than one-third of all users of public brands of oral contraceptives are from Rajshahi, followed by Dhaka (32 percent), Chittagong (13.4 percent), and Khulna (13.1 percent). Likewise, nearly one-third of all users of commercial brands of oral contraceptives are from Dhaka, followed by Rajshahi (23.5 percent), and Chittagong (24.3 percent). For social marketing brands, 28.9 percent of all users are from Dhaka, followed by Rajshahi (28.6 percent), and Chittagong (16.7 percent). See figures A-22 and A-23.

Figure A-22.
Distribution of Oral Contraceptive Users by Region According to Type of Brand Used

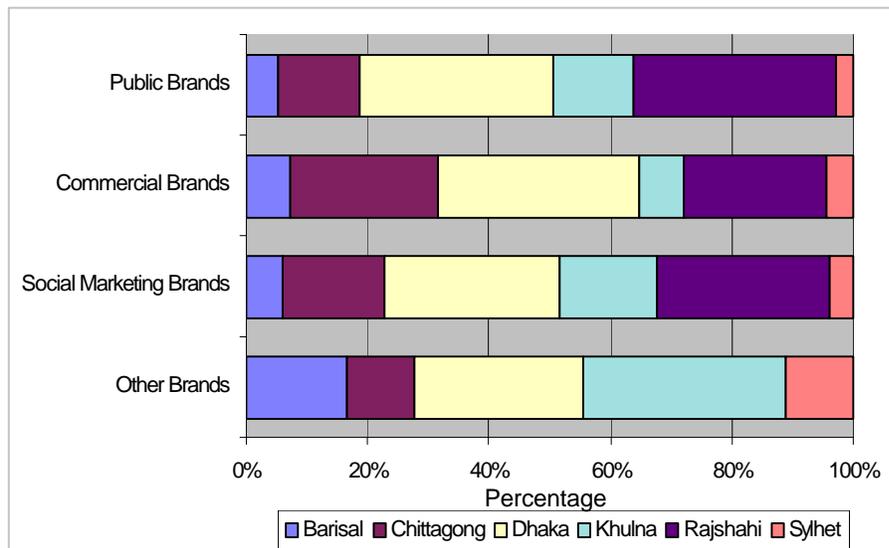
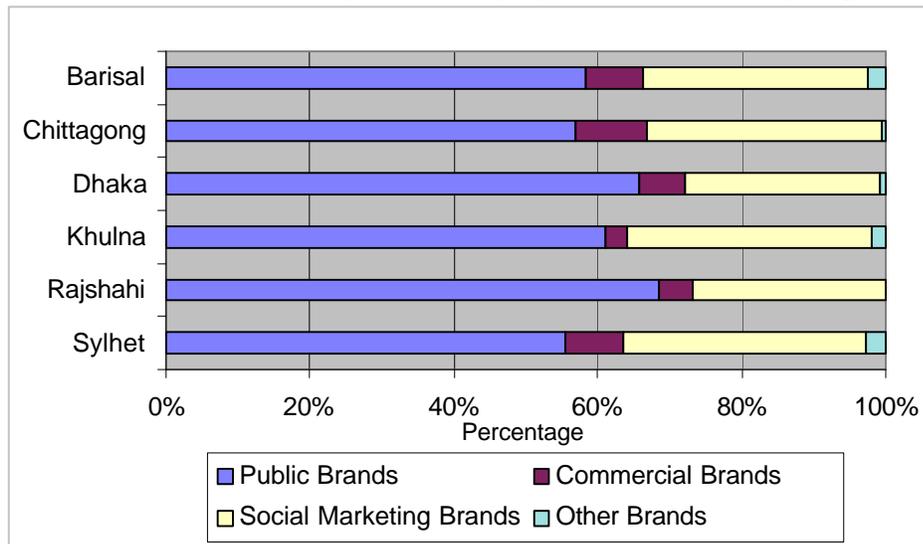


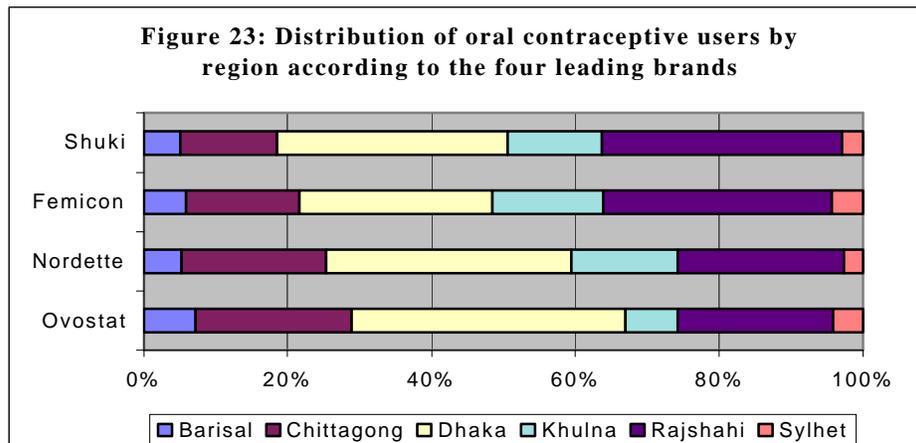
Figure A-23.
Distribution of Oral Contraceptive Users by Type of Brand Used, by Region



Among the regions, 33.4 percent of all women using Shuki brand of oral contraceptives are from Rajshahi, followed by 32.1 percent from Dhaka. Likewise, 31.8 percent of all women using Femicon brand of oral contraceptives are from Rajshahi, followed by 26.9 percent from Dhaka. Nordette and Ovostat are more popular in Dhaka, used by 34.1 percent and 38.1 percent of all women using oral contraceptives respectively, followed by 23.1 percent and 21.6 percent respectively in Rajshahi. See figure A-24.

Figure A-24.

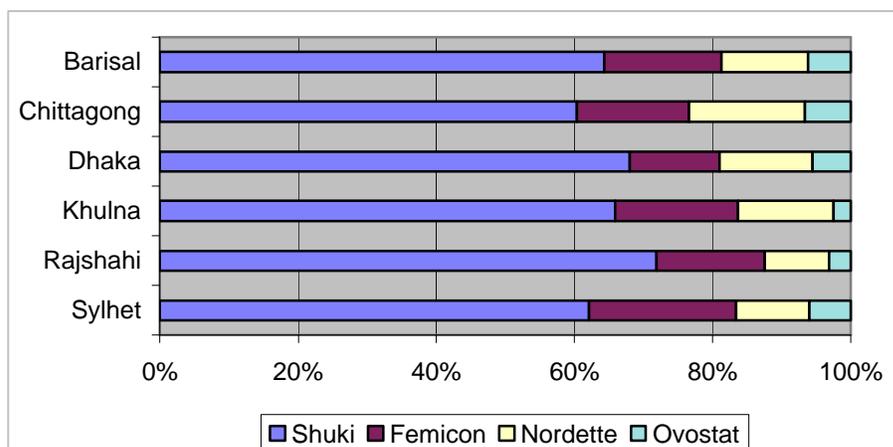
Distribution of Oral Contraceptive Users by Region by the Four Leading Brands



Shuki is the most commonly used brand in all the regions, used by between 60.3 percent of women using oral contraceptives in Chittagong to 71.9 percent in Rajshahi. The next most commonly used brand is Femicon, used by between 13 percent of women using oral contraceptives in Dhaka to 17.8 percent in Khulna. See figure A-25.

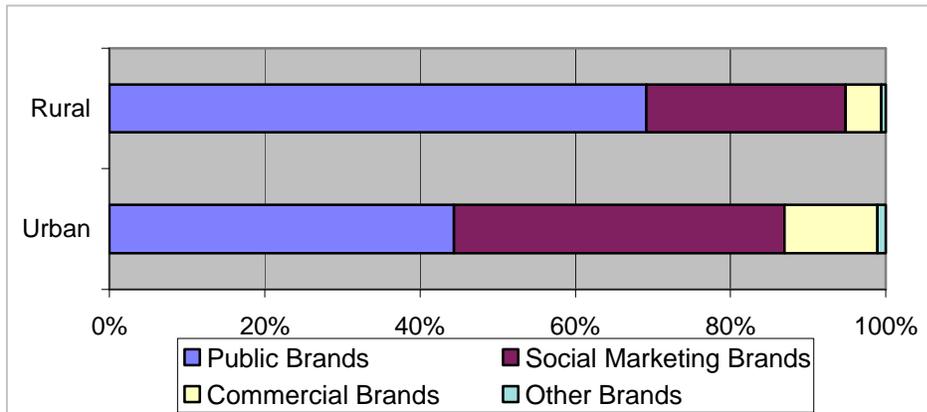
Figure A-25.

Distribution of Oral Contraceptive Users by the Four Leading Brands, by Regions



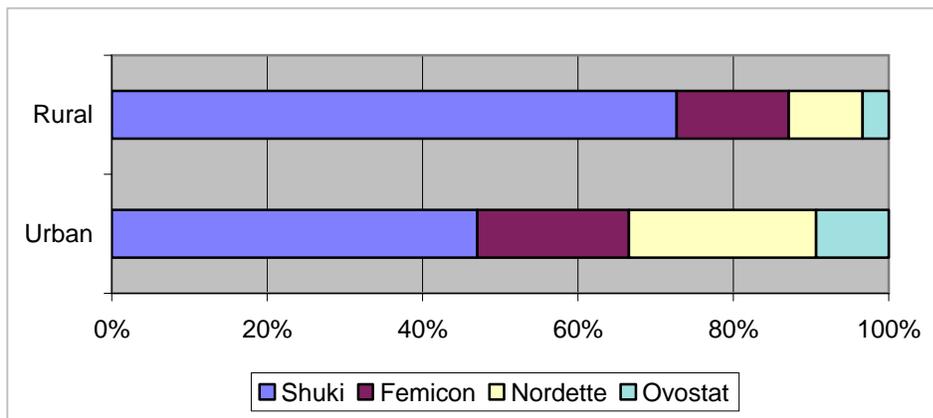
In rural areas, 69.1 percent of all women using oral contraceptives use public brands of oral contraceptives, followed by 25.7 percent who use social marketing brands, and 4.6 percent who use commercial brands. Comparative figures for urban areas are 44.3 percent public brands, 42.6 percent social marketing brands, and 12 percent commercial brands. See figure A-26.

Figure A-26.
Distribution of Oral Contraceptive Users by Type of Brand Used, by Place of Residence



In rural areas, 72.7 percent of all women using oral contraceptives use Shuki brand, followed by 14.4 percent who use Femicon, and 9.5 percent who use Nordette. Comparative figures for urban areas are 47 percent Shuki, 19.5 percent Femicon, and 24 percent Nordette. See figure A-27.

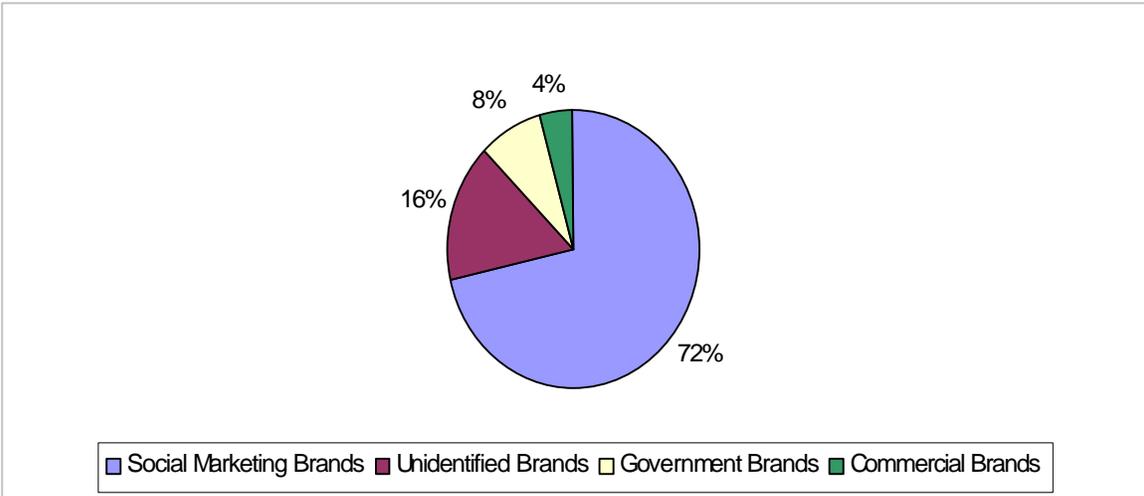
Figure A-27.
Distribution of Oral Contraceptive Users by the Four Leading Brands, According to Place of Residence



5.2 Condoms

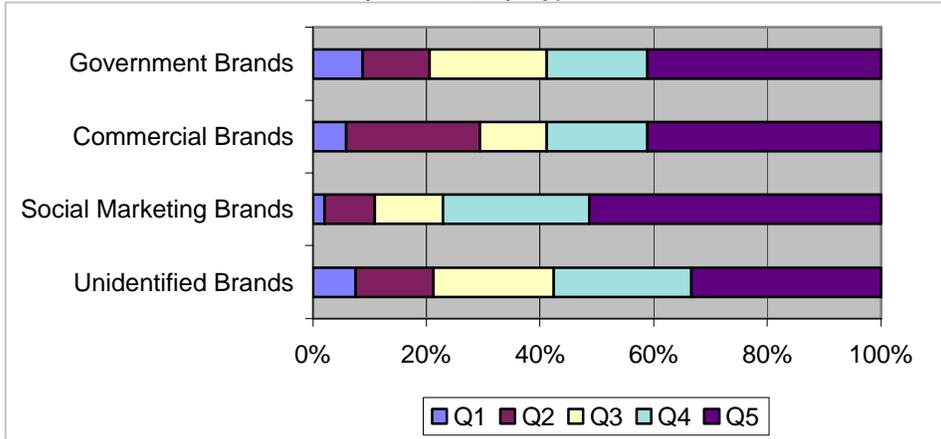
Overall, social marketing brands constitute 72 percent of the condom market. See figure A-28.

Figure A-28.
Distribution of Condoms Users by Type of Condom Brands Used



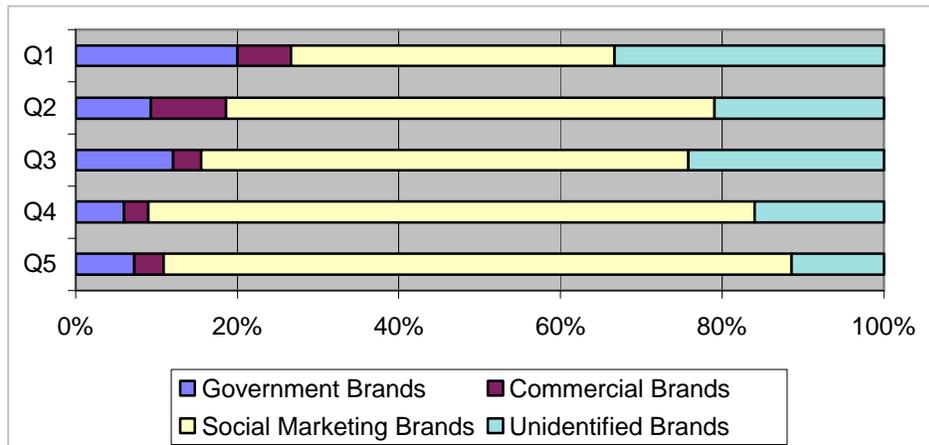
While all brands of condoms have a larger market among women in the richest two wealth quintiles relative to the poorer three quintiles, the social marketing brands are the most likely to be used by the rich. Of all social marketing brands, 51.4 percent are used by women in the richest wealth quintile followed by 25.7 percent in the fourth quintile, for a total of 77.1 percent in the top two quintiles. Women in the richest two quintiles use approximately 60 percent of government and commercial condom brands. See figure A-29.

Figure A-29.
Distribution of Condom Users by Quintile, by Type of Condom Brand Used



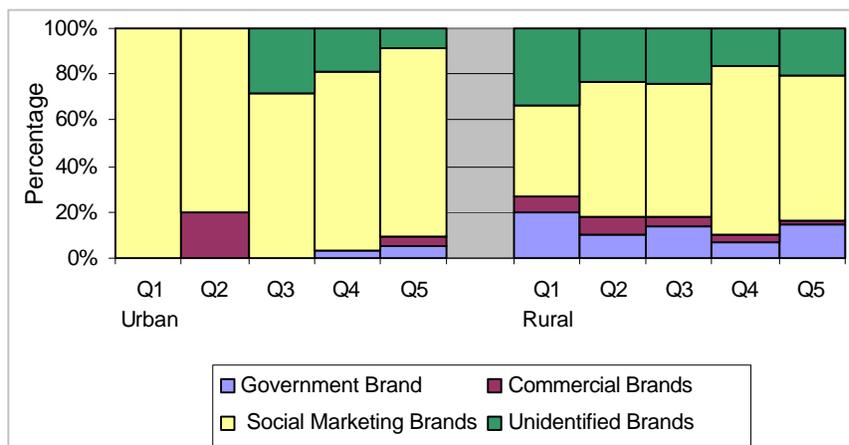
Overall, 77.7 percent of women in the richest SLI quintile using condoms use social marketing brands, followed by 11.4 percent who use unidentified brands, and 7.3 percent who use government brands. Social marketing brands are the most commonly used brand of condoms in other quintiles as well, though their popularity falls from 75 percent among women in the fourth quintile to a little over 60 percent in the third and second quintiles, and 40 percent in the poorest quintile. Among women in the poorest quintile, government brands are used by 20 percent, while one-third use unidentified brands. See figure A-30.

Figure A-30.
Distribution of Condoms Users by Type of Brand Used, by Quintiles

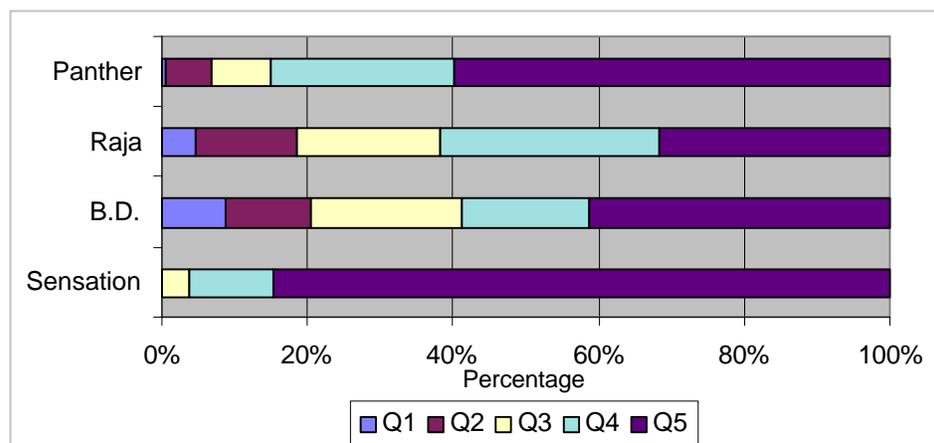


Social marketing brands dominate the market in both urban and rural areas. There are no public sector brand users in the first three quintiles in urban areas. In rural areas, public sector brands have a small presence across all quintiles. See figure A-31.

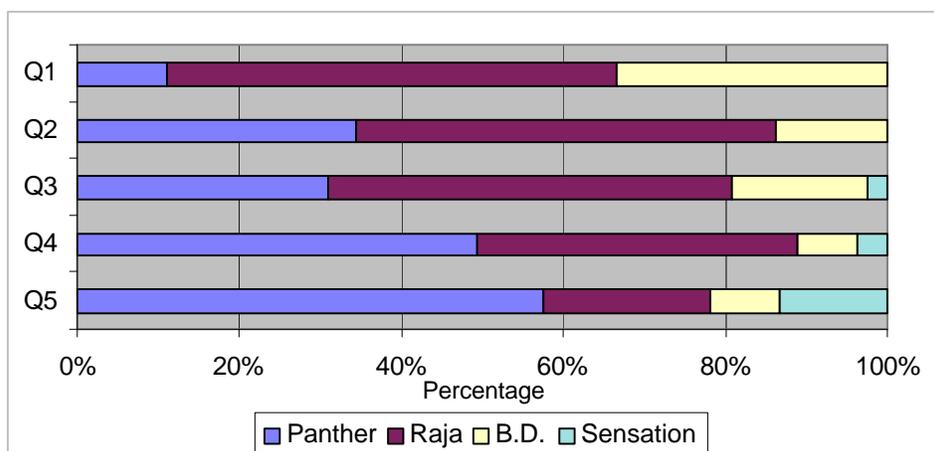
Figure A-31.
Distribution of Condom Users by Type of Brand by Place of Residence, by Quintiles



SMC's Panther is the most commonly used condom, preferred by 39 percent of all current users of condoms. SMC's Raja condoms are used by 26.2 percent of all condom users, followed by B.D. (8.1 percent), SMC's Sensation (6.4 percent), and Sultan (1.5 percent). Other lesser-used condom brands are Carex, Feeling, Majestic, Tahiti, Gent, and Durex. See figure A-32.

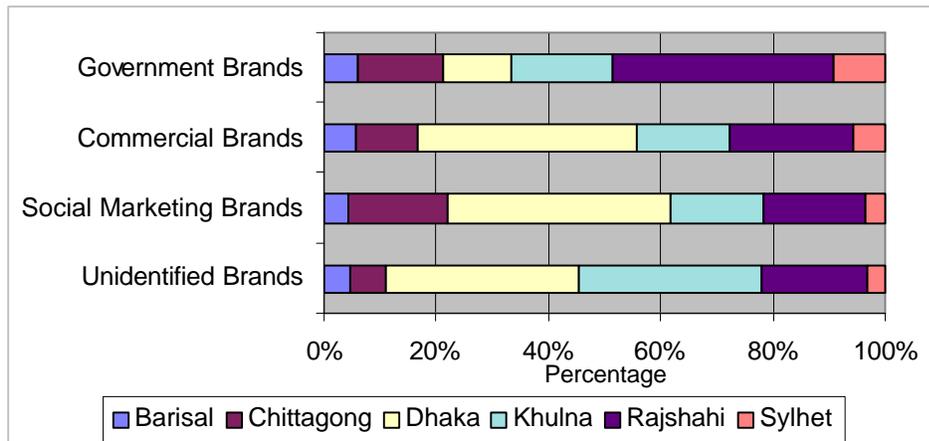
Figure A-32.*Distribution of Condom Users by Quintile, by the Four Leading Brands*

Sixty percent of all Panther brand condoms are used by women in the richest wealth quintile, followed by 25 percent by women in the fourth quintile. The Raja brand of condoms have an almost equal share of the women in the top two wealth quintiles (almost 30 percent), followed by 20 percent among women in the middle wealth quintile. The B.D. brand of condoms is also used mostly by women in the richest wealth quintile (41 percent), followed by the fourth quintile (17.6 percent), and the middle quintile (20 percent). Sensation brand of condoms are used predominantly by women in the highest income quintile (84 percent) and the fourth quintile (12 percent). See figure A-33.

Figure A-33.*Distribution of Condom Users by the Four Leading Brands, by Quintile*

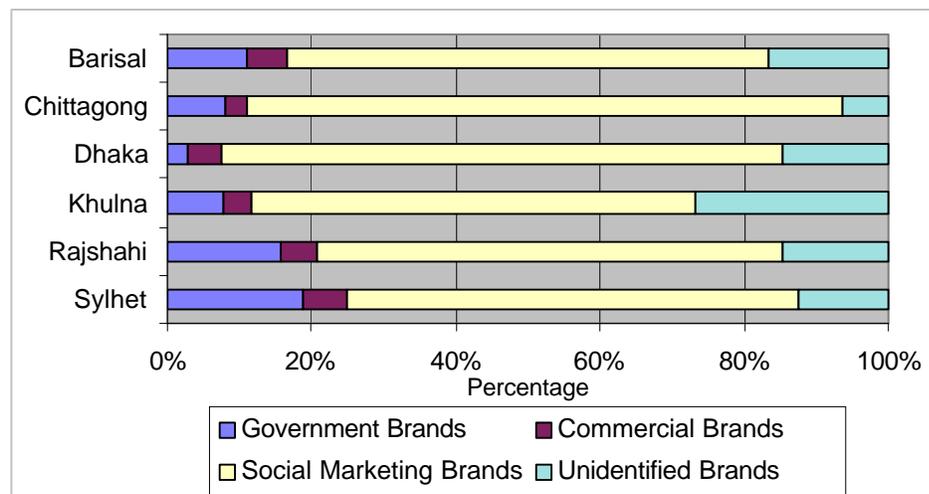
Women in Dhaka are the largest users of condoms, accounting for 36.5 percent of all condom users, followed by Rajshahi (19.8 percent), Khulna (19.4 percent), and Chittagong (15.4 percent). Sylhet and Barisal have the lowest number of women using condoms (4.4 percent each). Almost 40 percent of all government brands of condoms are used by women in Rajshahi, followed by 18.2 percent in Khulna and 15.2 percent in Chittagong. For commercial brands, 38.9 percent are used in Dhaka, followed by 22.2 percent in Rajshahi, and 16.7 percent in Khulna. Most social marketing brands are also used in Dhaka (39.9 percent), followed by Rajshahi (18.2 percent) and Chittagong (17.9 percent). See figure A-34.

Figure A-34.
Distribution of Condom Users by Region According to Type of Brand Used



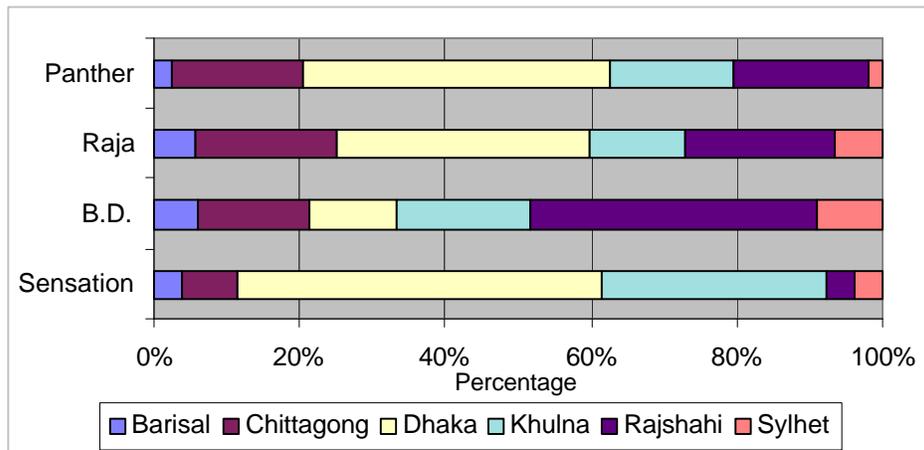
The most preferred brand of condoms in all the six regions are the social marketing brands, followed by government brands in Sylhet, Rajshahi, and Chattagong, and by unidentified brands in Barisal, Dhaka, and Khulna. See figure A-35.

Figure A-35.
Distribution of Condom Users by Type of Brand Used, by Region



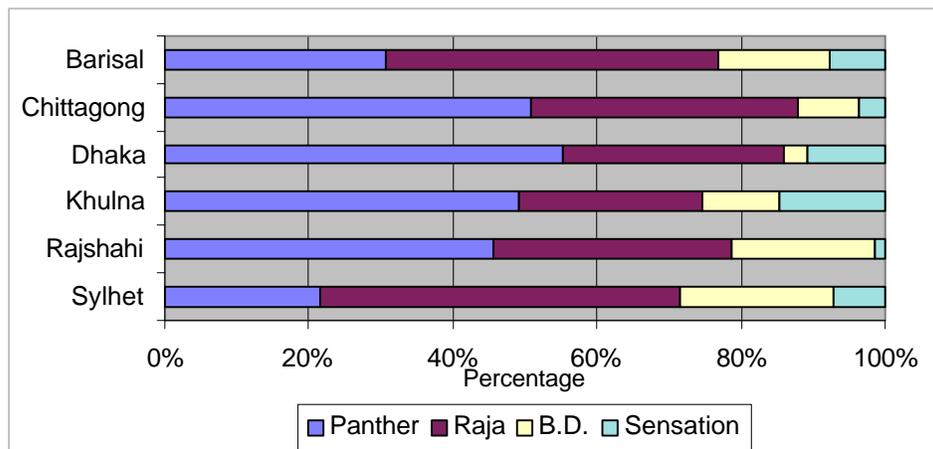
Panther brand of condoms has the largest market in Dhaka (41.9 percent), followed by Chittagong (18.1 percent) and Khulna (16.9 percent). Likewise, Raja brand of condoms also has the largest market in Dhaka (34.6 percent), followed by Rajshahi (20.6 percent), and Chittagong (19.6 percent). But, the B.D. brand has the largest market in Rajshahi (39.4 percent), followed by Khulna (18.2 percent). Sensation condoms are almost entirely used by women in Dhaka (50 percent) and Khulna (30.7 percent). See figure A-36.

Figure A-36.
Distribution of Condom Users of the Four Leading Brands by Region



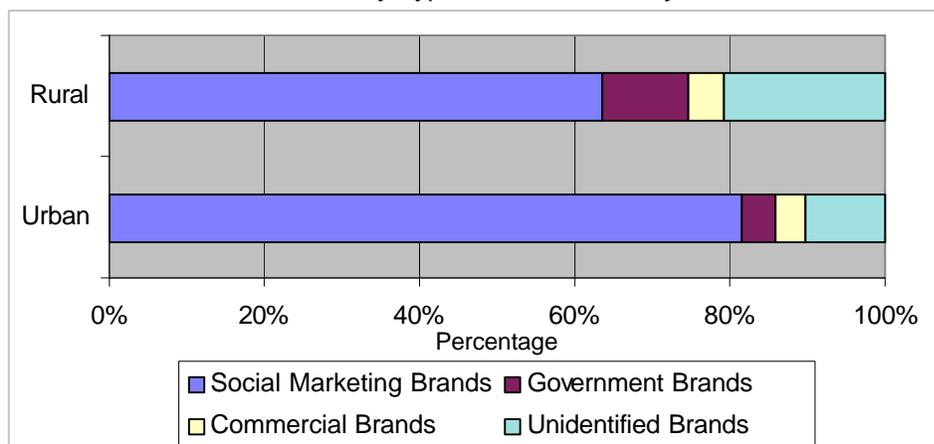
The majority of women using condoms in Chittagong, Dhaka, Khulna, and Rajshahi use the Panther brand of condoms, followed by the Raja brand. Conversely, the majority of women using condoms in Barisal and Sylhet use the Raja brand of condoms, followed by the Panther brand. See figure A-37.

Figure A-37.
Distribution of Condom Users by the Four Leading Brands, by Regions



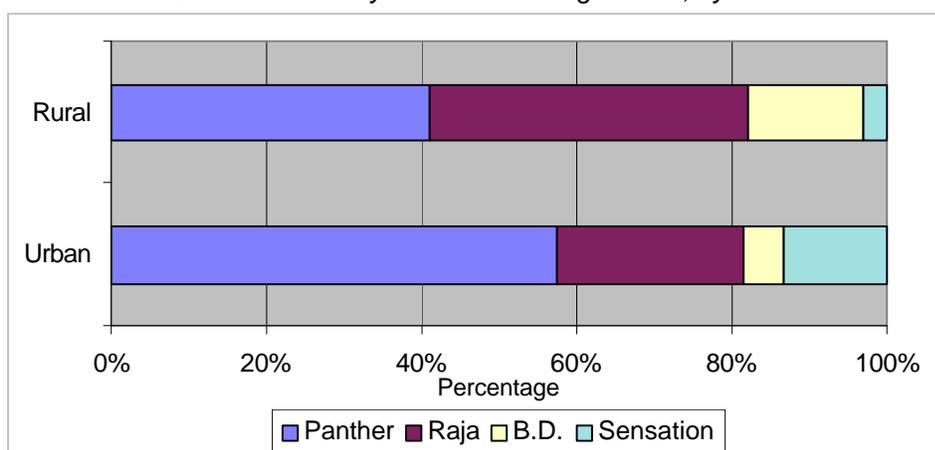
Social marketing brands of condoms are the most popular in both urban and rural areas, used by 81.4 percent and 63.6 percent of women using condoms, respectively. See figure A-38.

Figure A-38.
Distribution of Condom Users by Type of Brand Used, by Place of Residence



Most women in urban areas using condoms use the Panther brand, followed by Raja, Sensation, and B.D., in that order. In rural areas, however, equal numbers of women use the Panther and Raja brands, followed by B.D. and Sensation brands, in that order. See figure A-39.

Figure A-39.
Distribution of Condom Users by the Four Leading Brands, by Place of Residence



6. Unmet Need

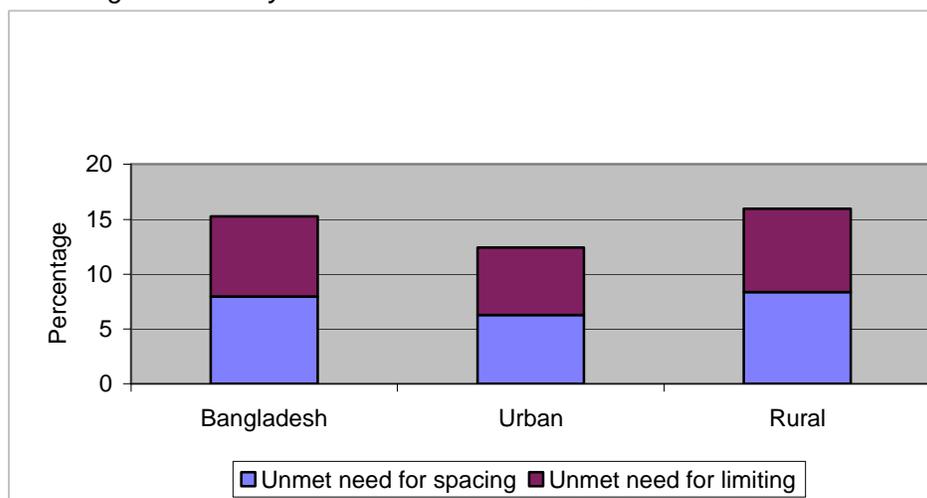
According to the DHS, unmet need for family planning is a sum total of unmet need for spacing and unmet need for limiting. Unmet need for spacing includes pregnant women whose pregnancy was mistimed, amenorrheic women whose last birth was mistimed, and women who are neither pregnant nor amenorrheic and who are not using any method of family planning but say they want to wait two or more years before their next birth. Also included in this category are women who are unsure whether they want another child or who want another child but are unsure when to have their next birth.

Unmet need for limiting refers to pregnant women whose pregnancy was unwanted, amenorrheic women whose last child was unwanted, and women who are neither pregnant nor amenorrheic and who are not using any method of family planning but want no more children.

For the country as a whole, 15.3 percent of all currently married women have an unmet need to space or an unmet need to limit. Of all currently married women, 12.4 percent who live in urban areas have an unmet need to space or an unmet need to limit; the comparable figure for rural areas is 16 percent. See figure A-40.

Figure A-40.

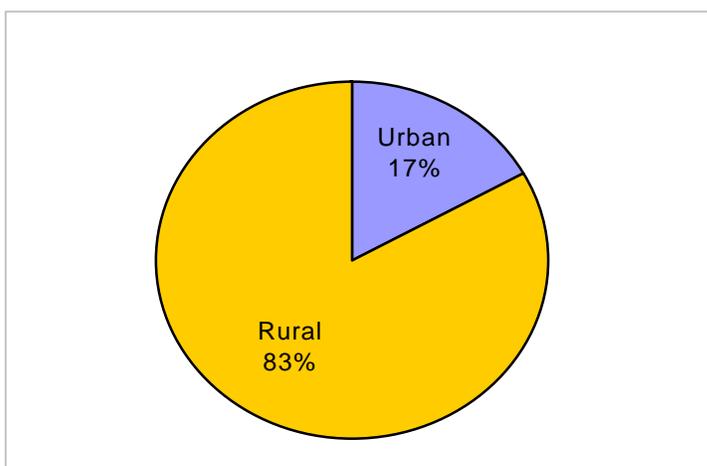
Percentage of Currently Married Women with an Unmet Need



As more than 80 percent of Bangladesh's population reside in rural areas, the same pattern is seen in the distribution of married women of reproductive age (MWRA) with unmet need for family planning. See figure A-41.

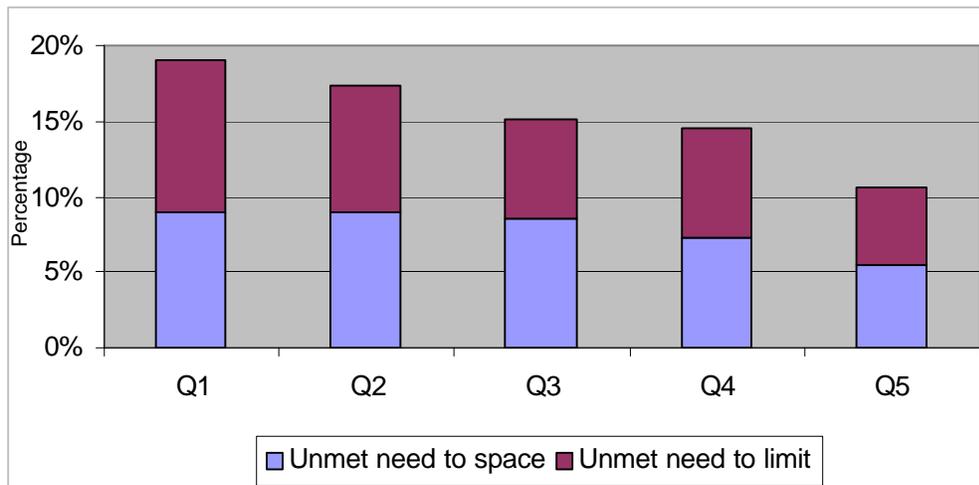
Figure A-41.

Distribution of Women With an Unmet Need, by Residence



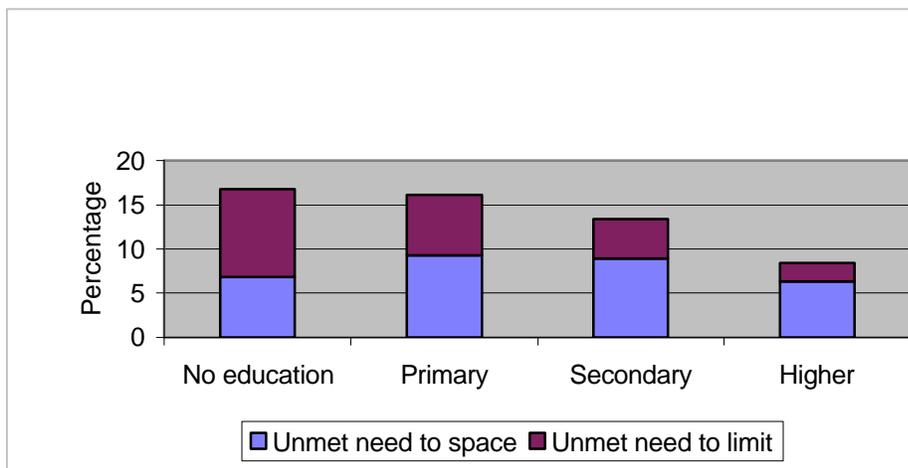
Most women with an unmet need are in the lower income quintiles. Among the poorest one-fifth of all women, 40.2 percent have an unmet need to space or limit. This figure declines progressively with wealth, so that only 16.7 percent of women among the richest one-fifth have an unmet need to space or limit. See figure A-42.

Figure A-42.
Unmet Need by Wealth Quintile



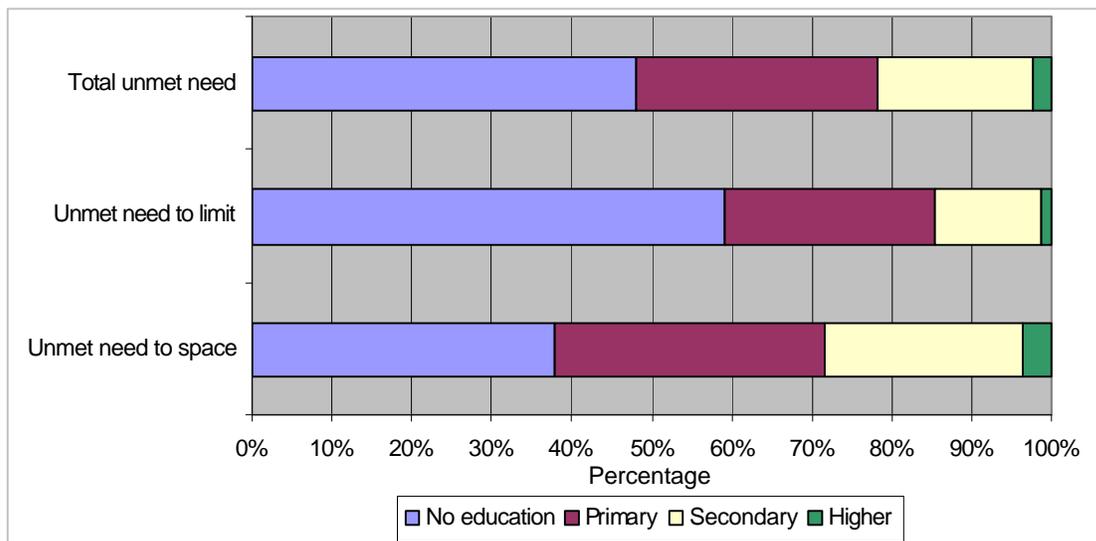
Among women with no education, 6.8 percent have an unmet need to space while 10 percent have an unmet need to limit. Among women with primary education, however, 9.3 percent of women have an unmet need to space while 6.8 percent have an unmet need to limit. These numbers fall progressively with increasing education, so that 13.4 percent of all currently married women have an unmet need to space or limit, while 8.4 percent of women with higher education have an unmet need to space or limit. See figure A-43.

Figure A-43.
Percentage of Women with an Unmet Need, by Education



For women with no education, 59 percent of MWRA have an unmet need to limit and 38 percent have an unmet need to space. In the higher education group, 3.5 percent of MWRA have an unmet need to space, and 1.2 percent have an unmet need to limit. See figure A-44.

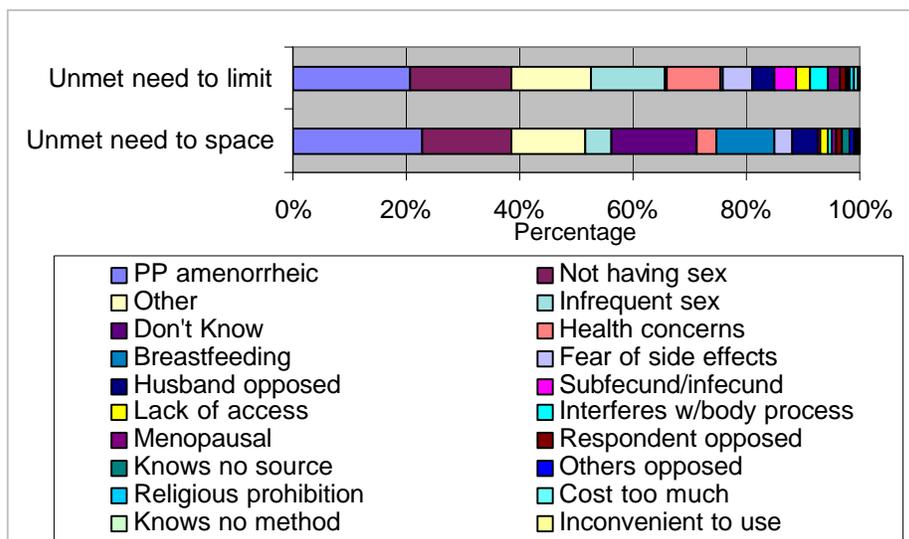
Figure A-44.
Percentage of Women with an Unmet Need, by Education



7. Reasons for Non-Use

Non-users are defined as currently married women of reproductive age who are not using any method of family planning. Post-partum amenorrhea was the main reason for not using contraceptives among women with an unmet need to space (22.8 percent) and unmet need to limit (20.8 percent). Not having sex was the second most important reason for not using contraceptives among women with an unmet need to space (15.9 percent) or limit (17.8 percent). Among women with an unmet need to space, 12.8 percent mentioned *other* reasons for not using contraceptives, while among women with an unmet need to limit, 13.8 percent of women mentioned *other*. Infrequent sex, breastfeeding (among women with an unmet need to space), fear of side effects, and opposition from their husband were some of the other important reasons for not using contraceptives among women with an unmet need to space or limit. See figure A-45.

Figure A-45.
Reasons for Not Using Contraceptives Among Women With an Unmet Need



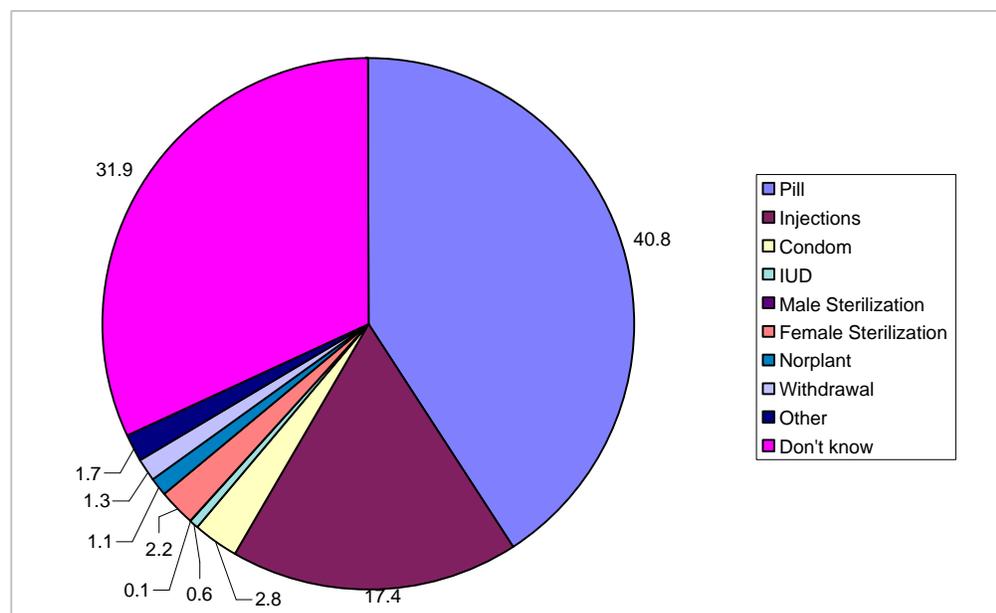
8. Intent to Use

Fully 71.3 percent of all non-users intend to use some method of contraception in the future, while the remaining 28.7 percent of current non-users do not intend to use any form of contraception in the near future. Reasons for non-use included concerns that it interfered with normal body processes, to inconvenience in use to religious prohibition, to opposition from husband. Most respondents not indicating use of any form of contraception in the future indicated that they had no need for it, either because they were menopausal (27.3 percent) or because they believed that they were infecund (14.1 percent), or because they did not have sex (5.6 percent). Infrequent sex was mentioned by 9.7 percent of the respondents, followed by a fatalistic attitude toward the consequences of having unprotected sex, mentioned by 8.7 percent of the respondents. Opposition from husband was a reason why 4.8 percent women would not use contraceptives in the future, while 4.2 percent women themselves opposed contraception in any way. Religious prohibition was a limiting factor for 4 percent of currently married women. Other reasons cited for future non-use included health concerns (3.1 percent), fear of side effects (2.4 percent), and worries that the use of contraception interfered with normal body processes (1.9 percent).

The pill is the preferred method of contraception among 40.8 percent of current non-users who intend to use some form of contraception in the future (equivalent to about 60 percent of non-users who intend to use some form of contraception and know which method they would use). The second most preferred method is injections, which are favored by 17 percent of potential users (or 25.6 percent of potential users who know which method they will use). Other methods of contraception—condoms, female sterilization, withdrawal, NORPLANT, IUDs, and male sterilization—are significantly less preferred, and collectively constitute the preferences of the remaining 10 percent of current non-users intending to use some form of contraception in the future. Almost one-third of the current non-users who intend to use some form of contraception do not know which method they will use in the future. See figure A-46.

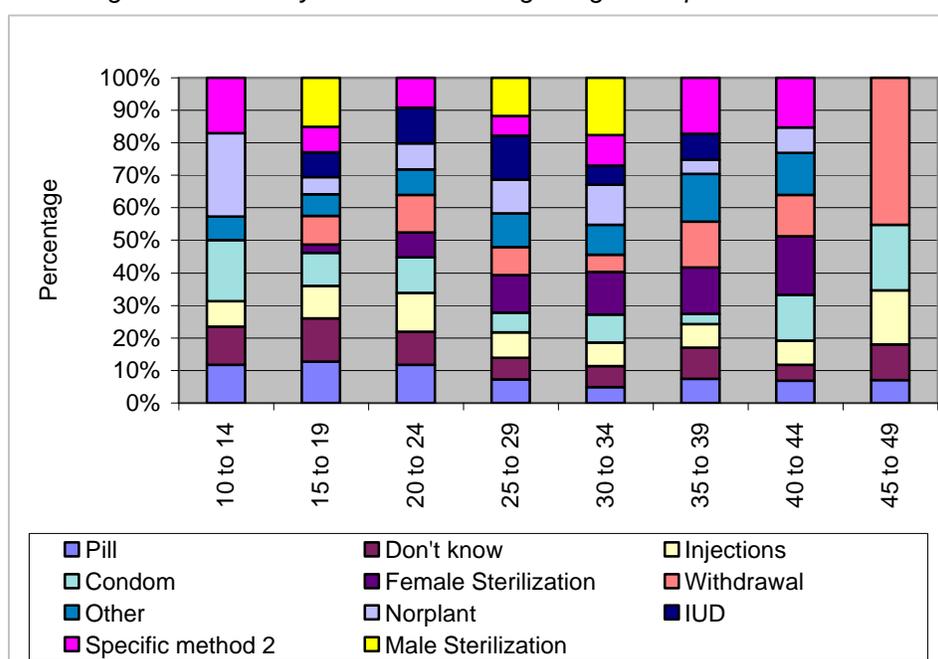
Figure A-46.

Percentage of Current Non-Users Intending to Use a Particular Form of Contraception in the Future



Overall, 28.1 percent of the current non-users intending to use contraceptives in the future are in the 20–24 years age group, followed by 26.4 percent in the 15–19 years age group, 21 percent in the 25–29 years age group, and 11.9 percent in the 30–34 years age group. The pill is the preferred method of contraception among 44.2 percent in the 10–14 age group, 43.5 percent in the 15–19 age group, 43.6 percent in the 20–24 age group, 40.1 percent in the 25–29 age group, 31.5 percent in the 30–34 age group, 40 percent in the 40–44 age group, and 27.8 percent in the 45–49 age group. Injections and condoms are the next most preferred methods of contraception. However, 36 percent of current non-users intending to use some form of contraception in the future in the 15–19 age group do not know which method they would use. Likewise, 29 percent of intending users in the 20–24 years and 25–29 years age groups, 33.1 percent in the 30–34 years age group, 36.8 percent in the 35–39 years age group, 22.3 percent in the 40–44 years age group, and 33.3 percent in the 45–49 years age group do not know which method of contraception they will use. See figure A-47.

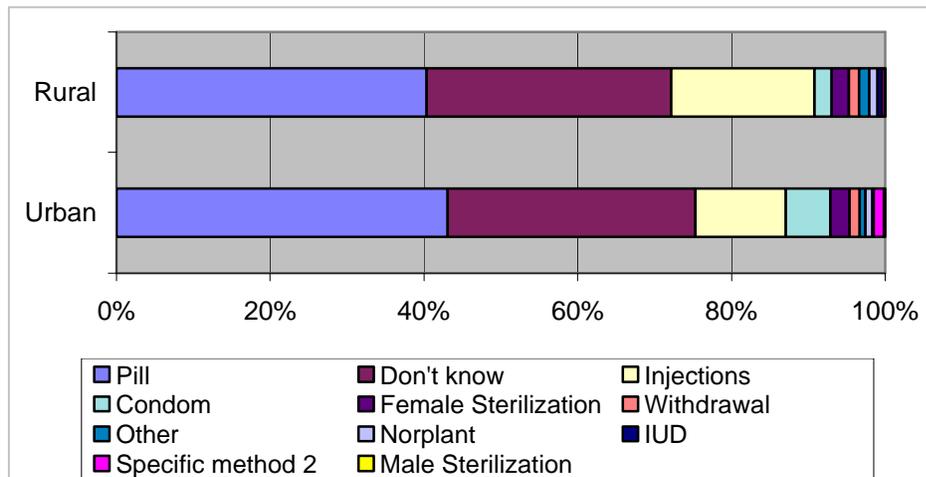
Figure A-47.
Percentage Distribution by Method According to Age Group



Dhaka (followed by Chittagong and Rajshahi) has the largest proportion of current non-users intending to use some form of contraception in the future but do not know which method they will use. Most of the current non-users intending to use pills and condoms as the form of contraceptive in the near future live in Dhaka and Rajshahi regions. Most women preferring female sterilization as the intended method of contraception live in Dhaka, Rajshahi, and Chittagong. Male sterilization is the stated preference predominantly among women in Rajshahi and to a smaller extent in Chittagong.

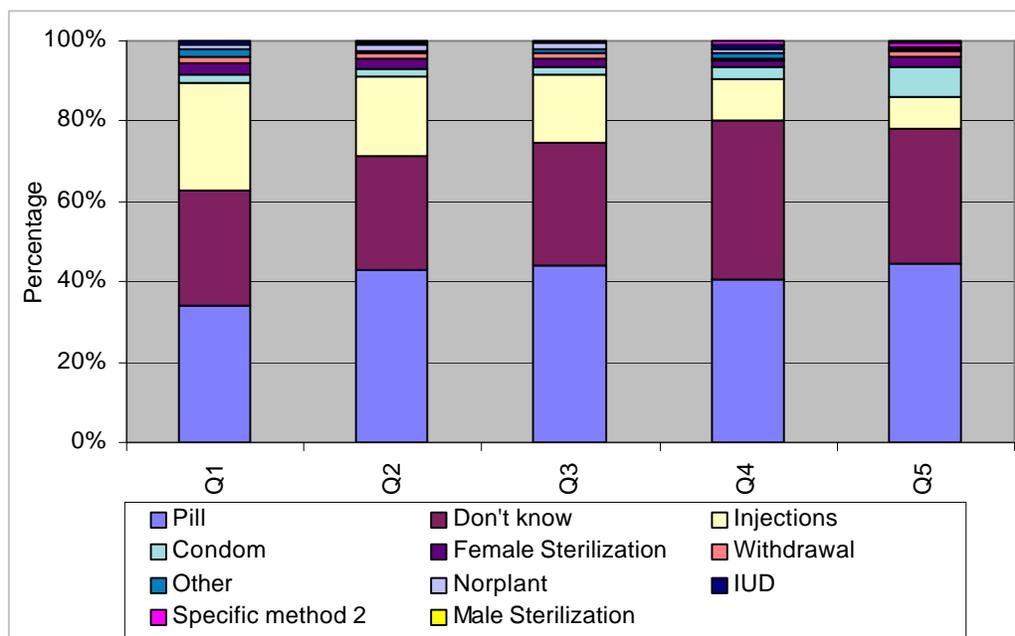
The pill is the preferred method of contraception in urban and rural areas (43 percent and 40.4 percent respectively), followed by injections (11.8 percent and 18.6 percent in urban and rural areas respectively), and condoms (5.8 percent and 2.2 percent in urban and rural areas respectively). However, 32.2 percent women in urban areas and 31.8 percent women in rural areas intending to use some form of contraception in future do not know which method to use. See figure A-48.

Figure A-48.
Intended Method Mix by Region



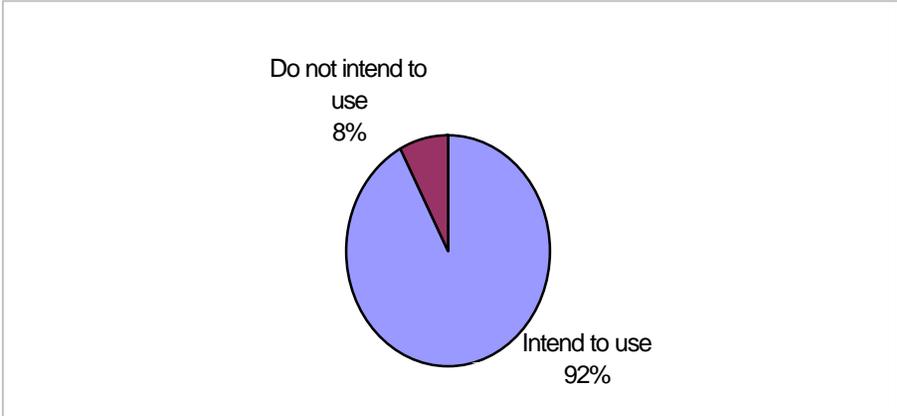
The percentage of non-users intending to use contraceptives in the future varies from 68.1 percent in the highest wealth quintile to 73.5 percent in the fourth highest quintile. The contraceptive pill is preferred by more than one-third of all current non-users across all income quintiles. Injections are preferred most by current non-users in the lower quintiles but are becoming progressively less preferred as wealth increases. Wealthier women have a greater preference for condoms than others, while more current non-users in the fourth quintile are unsure of the method of contraception than in any other quintile. See figure A-49.

Figure A-49.
Intended Method Mix by Quintile



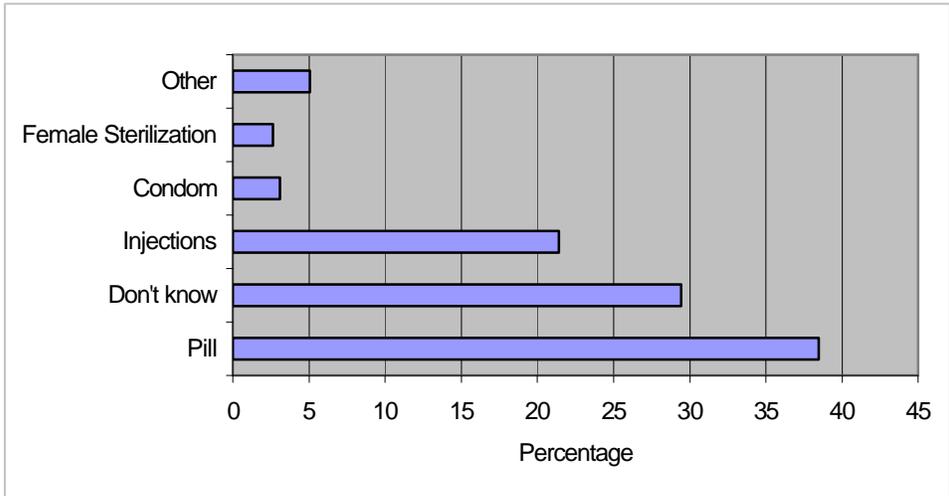
Among MWRA with unmet need, 92 percent intend to use contraception in the future. See figure A-50.

Figure A-50.
Percentage of Married Women with an Unmet to Space Intending to Use Some Method of Contraception in the Future



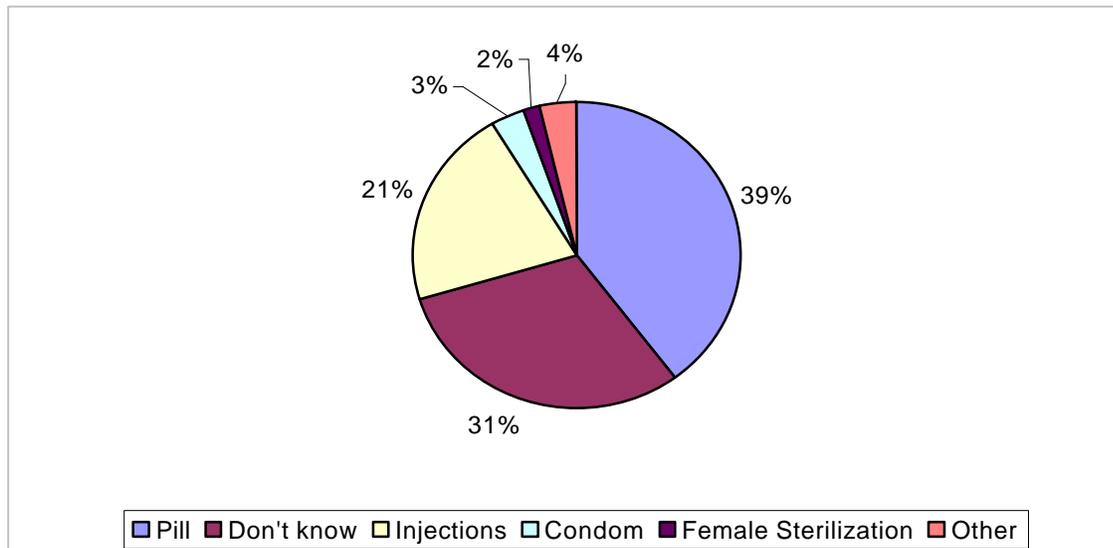
The pill is the most popular method among MWRA with unmet need intending to use a method in the future. Of those intending to use contraception, 29 percent don't know which method they will use. See figure A-51.

Figure A-51.
Intended Method Mix Among Women with an Unmet Need



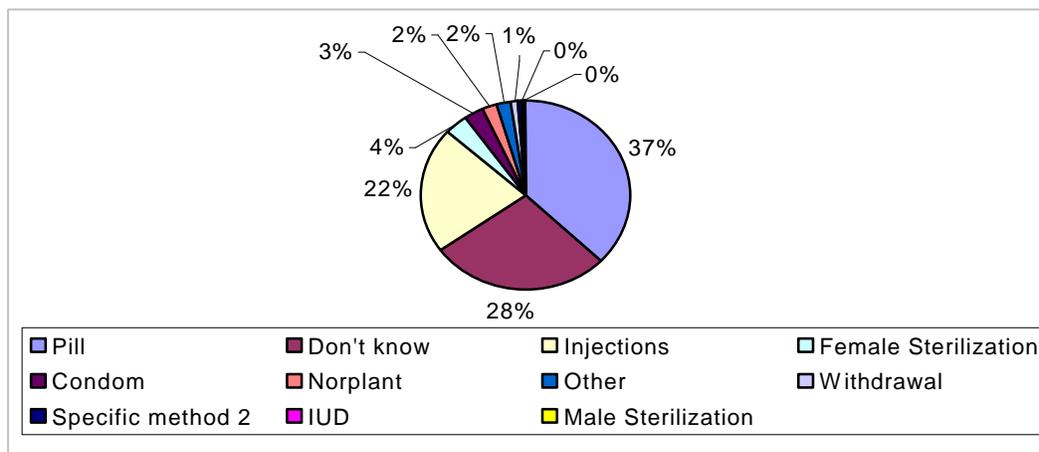
Among MWRA with an unmet need to space, 40 percent intend to use oral contraceptives. Thirty-one percent don't know which method they would use. Twenty-one percent intend to use injectables. See figure A-52.

Figure A-52.
Intended Method Mix Among Women with an Unmet Need to Space



Among MWRA with an unmet need to limit, 37 percent intend to use oral contraceptives. Twenty-eight percent don't know what they would use. Twenty-eight percent intend to use injectables. See figure A-53.

Figure A-53.
Intended Method Mix Among Women with an Unmet Need to Limit



Reference

- Agha, S. 1998. *Is Low Income a Constraint to Contraceptive Use Among the Pakistani Poor?* Population Services International Working Paper No. 15. Cairo: Population Services International.
- Barkat, A., P. B. Chakma, and M.A. Mannan. 1995. *Operations research on family planning: NGO sustainability efforts in Bangladesh*. Dhaka: University Research Corporation, Bangladesh.
- Barkat-e-Khuda, A. Barkat, J. Helali, P. Miller, and J. Haaga. 1994. *Population policy in Bangladesh: a review of the ten priority areas*. Dhaka: University Research Corporation, Bangladesh.
- Barkat-e-Khuda. 27–28 August 1991. *Sustainability of family planning NGOs in Bangladesh: a new challenge*. Paper presented at the Pathfinder Workshop on Sustainability of Family Planning NGOs. Bangladesh: University Research Corporation, Comilla.
- Chao, D. July 17, 2003. *Willingness-to-pay, User Fees and Cost Recovery*. Presented at workshop on NSDP Partner NGOs Pricing and Cost Recovery Strategy. Dhaka.
- Ciszewski, R. L., and P. D. Harvey. 1995. “Contraceptive Price Changes: The Impact on Sales in Bangladesh.” *International Family Planning Perspective* 21:150–154.
- De Vargas, T. April 2–4, 1998. *Estimating Consumer Response to Price Changes in Family Planning and Reproductive Health Services*. Chicago: Annual Meeting of the Population Association of America.
- Donald, M., and P. D. Harvey. 1992. *The Impact of Price Reductions on Condom Sales in Haiti*. Findings, No.1. Washington, D.C.: DKT Reports.
- El-Zanaty, F. H., A. A. Hassan, and A. Way. 1993. *Egypt Demographic and Health Survey 1992*. Cairo: National Population Council and Calverton, Md.: Macro International.
- El-Zanaty, F. H., E. M. Hussein, G. A. Shawky, A. Way, and S. Kishor. 1996. *Egypt Demographic and Health Survey 1995*. Cairo: National Population Council and Calverton, Md.: Macro International.
- Ensor, Tim, and Subrata Routh. 2000. “Unofficial Fees at Public Facilities.” Bangladesh: Health Economics Unit, Ministry of Health and Family Welfare (MOHFW), Government of Bangladesh (GOB).
- Foreit, K. G., and R. James Foreit. September 2001. *Willingness to Pay Surveys: a User’s Manual*. N.p.: The Futures Group International, POLICY Project, and the Population Council, FRONTIERS.
- Gwatkin, Davidson R., Kiersten Johnson, Adam Wagstaff, and Shea Rutstein. May 1, 2000. *Socio-economic differences in Health, Nutrition and Population in Bangladesh*. Washington D.C.: The World Bank. HNP/Poverty Thematic Group.
- Harvey, P. D. 1994. “The Impact of Condom Prices on Sales in Social Marketing Programs” *Studies in Family Planning* 1994.
- Haws, J., L. Bakamjian, T. Williams, and K. J. Lassner. 1992. “Impact of Sustainability Policies on Sterilization Services in Latin America.” *Studies in Family Planning* 23(2), 85–96.
- Hudgins, Tony. 2002. *A Consequence of Success: The Issue of Contraceptive Security in Bangladesh*. Arlington, Va.: JSI/DELIVER, for the U.S. Agency for International Development.

- Kawaine, N., M. A. Amin, L. Guinness, J. R. Killingsworth, and Y. Hedrick-wong. N.d. *A Public Expenditure Review of the Health and Population Sectors*. Research Paper No. 9. Bangladesh: Health Economics Unit, Ministry of Health and Family Welfare.
- Khan, M. M., N. Zhu, and J. C. Ling. 1997. *Designing a Health Insurance Programme for Rural Bangladesh: Lessons from the Cooperative Medical System of Taicang Country, China*. vol. xxv, March–June 1997, no. 1 and 2. Bangladesh: The Bangladesh Development Studies.
- Khan, M. M., S. Ahmed, A. E. Protik, K. K. Saha, D. Ali, N. Sohel, B. C. Dhar, and Z. Quayyum. 2001. *Cost of Providing Services and Willingness and Ability to Pay for ESP Services in RSDP Areas of Bangladesh*. Dhaka, Bangladesh: Public Health Service Division, International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR, B).
- Khan, M. M., Z. Qyayyum, S. Ahmed, N. Sohel, and B. C. Dhar. 2000. *Health Seeking Behavior, Willingness and Ability to Pay for Selected Health Services in Urban Family Health Partnership (UFHP) Areas of Bangladesh*. Dhaka, Bangladesh: . Health Economics Programmes, Public Health Sciences Division. International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR, B).
- Levin, A., B. Caldwell, and Barkat-e-Khuda. 1997. *Demand for Family Planning Services in Rural Bangladesh: Effect of Cash Prices and Access*. Working paper 130. Dhaka: MCH-FP Extension Project (Rural), International Centre for Diarrhoeal Disease Research, Bangladesh International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR, B).
- Lewis, M. 1986. “Do contraceptive prices affect demand?” *Stud Fam Plann.* 17:126–35.
- Ministry of Health and Family Welfare (MOHFW), Government of Bangladesh (GOB). December 2002. *Conceptual Framework for Health, Nutrition and Population Sector Program. July 2003–June 2006*. Bangladesh: Planning Wing, MOHFW, GOB.
- NIPORT-Mitra Associates and ORC Macro. 2001. *Bangladesh Demographic and Health Survey, 1999–2000*. Calverton, Md.: ORC Macro.
- Oliver, R. 1995. *Contraceptive Use in Ghana: The Role of Service Availability, Quality and Price*. World Bank Working Paper No. 111. Washington, D.C.: World Bank.
- Pathfinder International. 1995. *Experience on pricing and fee for services in Pathfinder supported NGOs in Bangladesh*. Dhaka: Pathfinder International.
- Ross, J. A., and E. Frankenberg. 1993. *Findings from Two Decades of Family Planning Research*. New York: The Population Council.
- Routh, S., A. A. Thwin, T. T. Kane, and A. H. Baqui. 2000. “User-fees for Family-Planning Methods: An Analysis of Payment Behaviour among Urban Contraceptors in Bangladesh.” *J Health POPUL NUTR*, Sep. 18 (2): 69–78.
- Schuler, S. R., L. M. Bates, and K. Islam. 2002a. “Paying for reproductive health services in Bangladesh: intersections between cost, quality and culture.” *Health Policy and Planning.* 17(3): 273–280.
- Schuler, S. R., L. Bates, and M. K. Islam. 2002b. “Reconciling Cost Recovery with Health Equity Concerns in a Context of Gender Inequality and Poverty: Findings from a New Family Health Initiative in Bangladesh.” *International Family Planning Perspective.* vol. 28.
- Schwartz, B., J. S. Akin, D. K. Guilkey, and V. Paqueo. 1986. *The effect of contraceptive prices on the choice of contraceptive method: a three-country comparison*. Chapel Hill: University of North Carolina at Chapel Hill, and Washington, D. C.: World Bank.

Sine, J. 2002. *How Much is Enough? Estimating Requirements for Subsidized Contraceptives: Results from a Ten-Country Analysis*. Technical Paper Series. Washington, D.C.: Commercial Market Strategies Technical Series No. 4.

World Bank. 2003. *World Development Report 2002*. Washington, D.C.: World Bank.