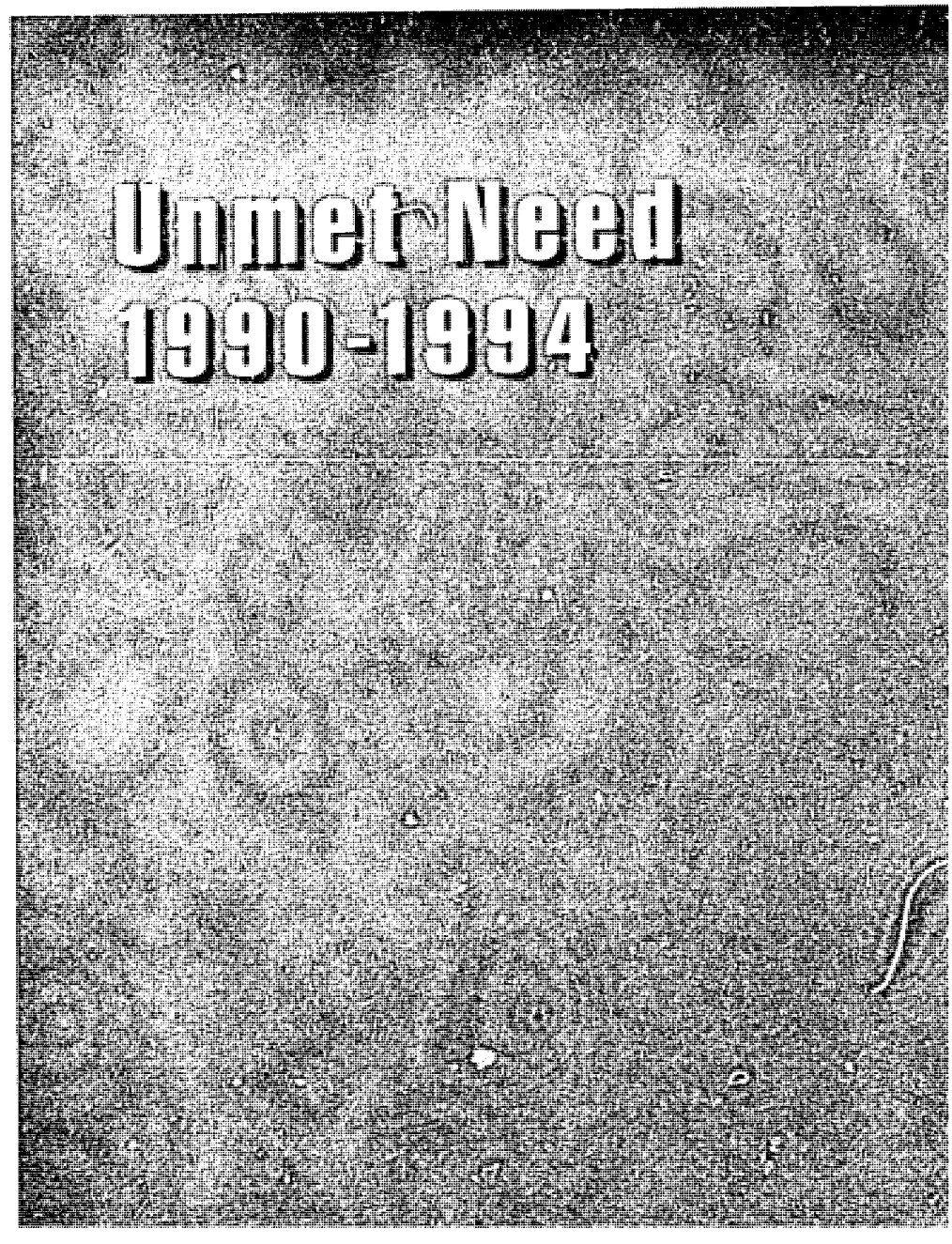
DHS COMPARATIVE STUDIES

16

Unmet Need 1990-1994



DHS

DEMOGRAPHIC AND HEALTH SURVEYS

The Demographic and Health Surveys (DHS) is a 13-year project to assist government and private agencies in developing countries to conduct national sample surveys on population and maternal and child health. Funded primarily by the United States Agency for International Development (USAID), DHS is administered by Macro International Inc. in Calverton, Maryland.

The main objectives of the DHS program are (1) to promote widespread dissemination and utilization of DHS data among policymakers, (2) to expand the international population and health database, (3) to advance survey methodology, and (4) to develop in participating countries the skills and resources necessary to conduct high-quality demographic and health surveys.

For information about the Demographic and Health Surveys program, write to DHS, Macro International Inc., 11785 Beltsville Drive, Suite 300, Calverton, MD 20705, U.S.A. (Telephone 301-572-0200; Telefax 301-572-0999).

Demographic and Health Surveys
Comparative Studies No. 16

Unmet Need: 1990-1994

CHARLES F. WESTOFF
AKINRINOLA BANKOLE

Macro International Inc.
Calverton, Maryland USA

June 1995

Recommended citation:

Westoff, Charles F. and Akinrinola Bankole. 1995. *Unmet Need: 1990-1994*. DHS Comparative Studies No. 16. Calverton, Maryland: Macro International Inc.

Charles F. Westoff is Professor of Demography and Sociology, Office of Population Research, Princeton University; Akinrinola Bankole is Research Staff, Office of Population Research, Princeton University.

Contents

Tables

Figures

Preface

One of the most significant contributions of the DHS program is the creation of an internationally comparable body of data on the demographic and health characteristics of populations in developing countries. The *DHS Comparative Studies* series and the *DHS Analytical Reports* series examine these data across countries in a comparative framework, focusing on specific topics.

The objectives of DHS comparative research are: to describe similarities and differences between countries and regions, to highlight subgroups with specific needs, to provide information for policy formulation at the international level, and to examine individual country results in an international context. While *Comparative Studies* are primarily descriptive, *Analytical Reports* utilizes a more analytical approach.

The comparative analysis of DHS data is carried out primarily by staff at the DHS headquarters in Calverton, Maryland. The topics covered are selected by staff in conjunction with the DHS Scientific Advisory Committee and USAID.

The *Comparative Studies* are based on a variable number of data sets reflecting the number of countries for which data were available at the time the report was prepared. Each report provides detailed tables and graphs for countries in four regions: sub-Saharan Africa, the Near East and North Africa, Asia, and Latin America and the Caribbean. Survey-related issues such as questionnaire comparability, survey procedures, data quality, and methodological approaches are addressed in each report, as necessary. Where appropriate, data from previous DHS surveys are used to evaluate trends over time.

Comparative Studies published under the current phase of the DHS program (DHS-III) are, in some cases, updates and expansions of reports published earlier in the series. Other reports, however, will cover new topics that reflect the expanded substantive scope of the DHS program.

It is anticipated that the availability of comparable information for a large number of developing countries will have long-term usefulness for analysts and policymakers in the fields of international population and health.

Martin Vaessen
Project Director

Acknowledgments

The authors wish to thank Mickey Marckwardt and Shea Rutstein of DHS for their helpful review of this manuscript. Many other colleagues have contributed to the research along the way, notably Martin Vaessen of DHS, John Bongaarts of The Population Council and Steven Sinding of the Rockefeller Foundation. The authors also wish to acknowledge both the Andrew Mellon Foundation and the Rockefeller Foundation for their partial support of some of the work done at Princeton.

1 Introduction

The assessment of unmet need and the total demand for family planning is of fundamental importance both for family planning program purposes (Ross, 1994) and for population policy (Sinding et al., 1994). For programs, it provides an estimate of the magnitude and characteristics of the additional market for contraception; population policy interests are served by estimating the impact on fertility that would result if that additional need were met.

In the first comparative Demographic and Health Surveys (DHS) report on this subject, Westoff and Ochoa (1991) estimated unmet need and demand for family planning for currently married women in 25 developing countries surveyed in the late 1980s. In the present report, the authors repeat that analysis for 27 countries (14 in sub-Saharan Africa) in which surveys were conducted between 1990 and 1994. In addition to the analysis for married women, the authors developed procedures to assess unmet need for never-married and formerly married women. These subpopulations are then aggregated for selected countries to obtain estimates of unmet need for all women regardless of marital status. For reasons of availability or quality of data for never-married women, these additional calculations are limited to sub-Saharan countries.

Also in this report, need is disaggregated into its various components, i.e., those requiring motivational or information or educational efforts, and the potential demographic significance of satisfying different amounts of unmet need is estimated. Eight of the surveys were conducted in the same countries as in DHS-I, thereby allowing trends in unmet need and demand in those countries over the past five years or so to be documented.

2 The Concept of Unmet Need

In the last few years, the concept of unmet need has encountered various criticisms. Dixon-Mueller and Germain (1992) hold that the concept is too restrictive—that it should also encompass the need for abortion and for better methods of contraception, that it should include men as well as women, and that it should measure the needs of unmarried as well as married women. Pritchett (1994) questions the potential demographic importance of the phenomenon. Various commentators have criticized the term itself, arguing that "potential demand" would be preferable or that "unmet need" has a patronizing quality (Pritchett, 1994).

The concept and the measurement of unmet need are separate, but obviously related, subjects. The concept is the motivation of women who are not currently using birth control to regulate their fertility but, at the same time, express a desire to postpone the next birth or to avoid any further childbearing. This motivation may be very weak or it may be strong; it can include women who are not very sexually active or who do not intend to use any method at all for whatever reason. On the other hand, it can also include women who are ready to use contraception but who are currently pregnant or amenorrheic or who are ignorant of methods or concerned about side effects of a particular method. Many additional, possible subtleties include concern about the husband's attitudes toward contraception or, in the case of young single women, the unpredictability of exposure to the risk of pregnancy.

The implication of all of this complexity is that the measures developed from answers to a few questions in an interview must necessarily be very crude. There is no information on the strength or intensity of the "unmet need"; no knowledge of whether intentions to use contraception will be implemented or not. The only such inference that can be drawn is that the motivation to avoid further childbearing is probably stronger than the wish to control the timing of the next birth. All that is really known, in effect, is that the women classified as having an unmet need for family planning have indicated some desire to control their fertility, either by postponing the next birth or by avoiding additional childbearing but, for various reasons, are not using contraception.

Women classified as having an unmet need constitute the unrealized component of the total demand for family planning. The other part of that demand consists of women currently practicing contraception. In a certain sense, these two parts are the latent and manifest components of total demand. There probably are better terms than "unmet need" with which to describe the latent component of the concept, but the term has been used for at least a decade (Westoff and Pebley, 1981) and has become part of the technical language.

The concept of unmet need admits separation into spacing and limiting components. The former relates to fecund nonusers who want more children but who wish to postpone the next birth at least two more years. Women with an unmet need for limiting also are fecund and not using but say that they want no more children. The same dichotomy is made for women currently using contraception; consequently, total demand can be disaggregated accordingly.

Although unmet need is a current status measure, there is a typical cycle of change over the fertility transition. In the beginning, when large families are wanted, unmet need will be minimal, since there is little demand for family planning. As the transition develops and accelerates, unmet need can be expected to rise as the demand for family planning increases and outdistances available supply. Toward the end of the transition, unmet need will decline as contraception becomes readily available and acceptable and the small family norm is established.

3 The Measurement of Unmet Need

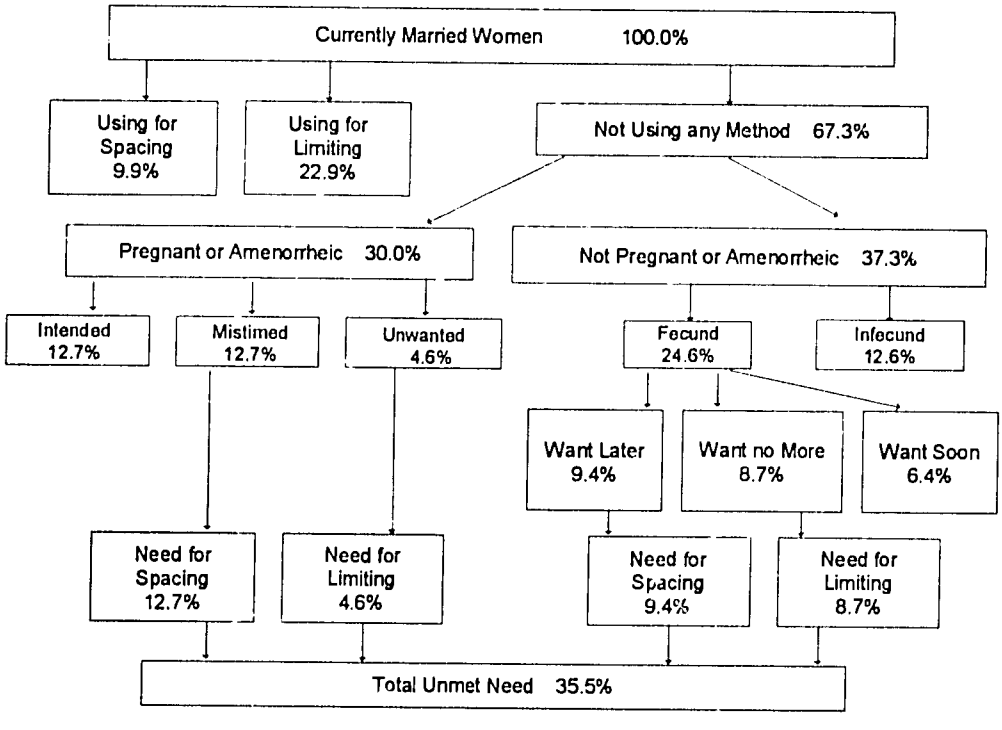
The procedures followed here to classify currently married women according to the need for family planning are essentially those used in the first DHS comparative report on unmet need (Westoff and Ochoa, 1991), but with some changes. For example, the definition of infecundity has been expanded to include women who replied to the reproductive intentions question that they were unable to get pregnant as well as women who reported that they did not intend to use contraception because they had reached menopause. The cutoff point for the last menstrual period has also been changed to six months ago rather than six weeks. Finally, an additional check to classify the need for limiting for pregnant and amenorrheic women was imposed; the pregnancy had to be reported as never wanted *and* the woman had to want no more children in the future.[1] These changes do not make much of a difference in the proportions classified as in need. However, to maintain comparability the new criteria have been applied when possible to those DHS-I countries for which trend analysis is conducted.[2]

The actual algorithm used for the classification of unmet need among married women (algorithms for unmarried women are described later) is illustrated in Figure 3.1 for Kenyan women in the 1993 survey. As in the earlier report, the distinction between pregnant or amenorrheic women and women who are fecund non-users but who are neither pregnant nor amenorrheic is retained. In the Kenya illustration, this latter category comprises 24.6 percent of married women and those pregnant or amenorrheic are 30.0 percent of the total. An additional 12.6 percent are classified as

[1] This change was necessary because of some ambiguity in the wording of the question used to determine planning status for currently pregnant women. Consequently, significant fractions of women reported the pregnancy as never wanted (especially in sub-Saharan Africa) but said that they wanted another child soon or later. These inconsistent cases were reassigned from the "need for limiting" to the "need for spacing" category.

[2] It is evident from the history of the measurement of unmet need that it has been an evolving process subject to periodic refinements. Because of continuing modifications, the estimates in this report will not correspond exactly with those in the published DHS First Country Reports. Moreover, they will not agree precisely with the revised definitions in the Standard Recode Files for DHS-II (the total unmet need should be the same, but the spacing component should be higher and the limiting component lower). They should be very close, however.

Figure 3.1 Unmet need among currently married women: Kenya, 1993



infecund,[3] which is a lower bound on the estimate of that parameter.[4]

The unmet need for pregnant or amenorrheic women is determined primarily from the reported planning status of that pregnancy or birth in an effort to capture the woman's intention at the time of that conception. Depending on whether the pregnancy was reported as occurring before it was wanted (mistimed) or as having occurred when no more children at all were wanted (unwanted), these women are divided into a need for spacing or a need for limiting. As already noted, an additional check for the unwanted category is imposed, which reclassifies those who want more children into the "need for spacing" category.

Earlier work had regarded all pregnant and amenorrheic women as simply not exposed to the risk of pregnancy, but the problem with that procedure can be understood by imagining a population in which all women who did not use contraception[5] became pregnant unintentionally. It is unreasonable to conclude from this example that there would be no unmet need at all. In Kenya, 12.7 percent of married women who are pregnant or amenorrheic are classified as in need of spacing because of a mistimed pregnancy and 4.6 percent are classified as in need of limiting because of an unwanted pregnancy/birth.

Nonusers who are neither pregnant nor amenorrheic but who are classified as fecund are defined as having an unmet need for spacing if they say they want to wait at least two more years before the birth of the next child (9.4 percent of all Kenyan married women).[6] If they say they want no more children, they are then classified as having an unmet need for limiting (8.7 percent in Kenya). These two categories are then combined with the corresponding need categories for pregnant or amenorrheic women for the summary measures of unmet need. In the Kenya illustration, the total estimated unmet need is 35.5 percent for currently married women. This is a very high level, as will be seen in the next section.

[3] Women are classified as infecund if they are not using contraception, are neither pregnant nor amenorrheic, have been married at least five years, have not used any method in the last five years (or in African countries have never used any method) *and* have not had a birth in the past five years, *or* who have not menstruated in the last six months, *or* who stated that they could not have a baby in response to the question on reproductive intentions, *or* who gave menopause as the main reason that they did not intend to use any method. The remaining women in the sample are fecund users or nonusers.

[4] The algorithm for estimating infecundity for purposes of classifying unmet need first excludes contraceptive users and then pregnant or amenorrheic women, some of whom may be infecund.

[5] Pregnant or amenorrheic women whose pregnancy was the result of a contraceptive failure are not defined as in need of family planning because in fact they were users at the time of the conception. It may be that they are in need of a better method but that is a different concept. It should be noted, however, that although such women are not included in the unmet need category, they are included in the total demand. Estimates of these failure rates are not available for sub-Saharan countries where, because of low contraceptive prevalence, the relevant questions were not included in the questionnaire.

[6] Women who are undecided about whether they want another child are classified in the "need for spacing" category.

4 Estimates of Unmet Need and Demand, for Married Women

The various elements of the classification system depicted in Figure 3.1 are displayed in Table 4.1. With few exceptions, typically the largest category in sub-Saharan countries is pregnant or amenorrheic women whose pregnancy was intended. The main exceptions are Kenya and Namibia, where the proportions currently using contraception are considerably higher. Ghana and

Table 4.1 Components of the classification of unmet need

Percent distribution of currently married women by contraceptive use status, intention status of current pregnancy or last birth, reproductive intentions and fecundity, Demographic and Health Surveys, 1990-1994

Country	Year of survey	Percent using a method	Pregnant or amenorrheic					Fecund, not using					Number of women
			Spacing failure	Limiting failure	Intended	Mistimed	Unwanted[a]	Want child soon	Want child later	Want no more	Infecund	Total	
SUB-SAHARAN AFRICA													
Burkina Faso	1993	7.9	NA	NA	32.6	9.4	1.9	14.6	14.8	6.6	12.2	100.0	5326
Cameroon	1991	16.0	NA	NA	26.7	5.9	1.2	15.9	11.4	3.2	19.6	100.0	2868
Ghana	1993	20.3	NA	NA	19.7	11.7	2.4	7.7	12.1	6.8	19.2	100.0	3196
Kenya	1993	32.8	NA	NA	12.7	12.7	4.6	6.4	9.4	8.7	12.6	100.0	4629
Madagascar	1992	16.7	NA	NA	23.0	9.5	4.9	11.5	7.8	10.2	16.4	100.0	3736
Malawi	1992	13.0	NA	NA	23.2	13.5	3.0	9.9	12.9	6.2	18.2	100.0	3492
Namibia	1992	28.9	NA	NA	19.7	5.5	1.4	13.7	9.7	5.2	15.5	100.0	2259
Niger	1992	4.5	NA	NA	38.1	6.9	0.4	17.3	9.5	1.9	21.5	100.0	5561
Nigeria	1990	5.9	NA	NA	39.2	4.2	0.8	14.5	12.7	4.0	18.7	100.0	6680
Rwanda	1992	21.1	NA	NA	22.2	16.6	7.3	8.9	7.3	5.7	10.9	100.0	3785
Senegal	1992-93	7.5	NA	NA	29.3	11.3	1.7	14.9	11.3	4.9	19.0	100.0	4450
Sudan[b]	1989-90	8.7	NA	NA	33.6	8.5	0.9	15.7	9.5	6.5	16.5	100.0	5400
Tanzania	1991-92	10.4	NA	NA	29.7	8.5	2.1	14.8	10.7	6.0	17.6	100.0	6038
Zambia	1992	15.2	NA	NA	24.9	13.8	2.3	15.2	9.3	5.3	14.0	100.0	4457
NEAR EAST/NORTH AFRICA													
Egypt	1992	47.1	0.3	1.0	11.4	2.6	4.2	7.4	4.8	10.2	10.9	100.0	9153
Jordan	1990	40.0	1.7	1.2	15.4	5.5	2.0	5.2	4.6	9.8	14.5	100.0	6168
Morocco	1992	41.5	1.5	1.5	13.7	3.6	3.3	8.6	5.1	7.7	13.5	100.0	5118
Turkey	1993	62.6	1.0	0.8	6.5	1.4	2.1	5.3	2.3	5.4	12.7	100.0	6270
ASIA													
Bangladesh	1993-94	44.6	0.8	0.6	13.7	4.3	2.3	7.5	5.8	5.6	14.8	100.0	8980
Indonesia	1991	49.7	0.6	0.3	11.2	2.1	0.8	5.8	5.8	5.4	18.2	100.0	21109
Pakistan	1990-91	11.9	NA	NA	23.0	4.9	3.3	11.3	12.2	11.4	22.0	100.0	6364
Philippines	1993	40.0	1.7	0.6	9.5	5.4	2.9	4.3	7.2	10.4	17.9	100.0	8961
LATIN AMERICA/CARIBBEAN													
Bolivia	1994	45.3	2.7	2.4	9.0	3.9	7.2	2.3	2.3	10.5	14.5	100.0	5334
Colombia	1990	66.1	1.2	1.2	5.9	1.9	2.1	4.9	2.3	5.3	9.0	100.0	4449
Dominican Republic	1991	56.4	0.9	0.5	7.2	4.4	2.5	7.7	4.5	5.8	10.0	100.0	4083
Paraguay	1990	48.4	2.6	0.4	12.6	3.2	0.9	7.8	4.9	6.2	13.1	100.0	3574
Peru	1991-92	59.0	2.8	3.6	6.8	2.5	4.9	1.9	1.8	6.5	10.1	100.0	8741

Note: Totals may not add to 100.0 due to rounding.
NA = Not applicable
[a] Confined to women who also report that they want no more children.
[b] Distribution of intentions for pregnant women estimated from the distribution for amenorrheic women. Only northern Sudan was represented in the survey but it is classified here with the sub-Saharan countries.

Rwanda show about the same proportions in the two categories. Among the countries outside of this region, current users far outweigh all other categories except in Pakistan, which has a pattern similar to that in sub-Saharan Africa.

The total demand for family planning (Table 4.2 and Figure 4.1) is composed primarily of unmet need in sub-Saharan Africa and in Pakistan, whereas contraceptive practice is the main component of demand elsewhere. This difference is reflected in the "demand satisfied" statistic (current use divided by the sum of use and unmet need).[7] Excluding Pakistan, this figure reaches an average of 74 percent outside of sub-Saharan Africa compared with an average of 32 percent within that region (see Figure 4.2). There is a dramatic difference in the percent of demand satisfied in Bangladesh (72 percent) compared with that in Pakistan (27 percent), reflecting the difference in program effort in the two countries. The program effort in Bangladesh probably has influenced reproductive preferences as well as the use of contraception.

[7] For countries in which contraceptive failures are estimated, the demand is calculated by dividing the sum of women using a method or having failed with a method by the sum of those women plus those with an unmet need.

Table 4.2 Demand and unmet need

Demand for family planning and its components among currently married women, Demographic and Health Surveys, 1990-1994

Country	Demand for contraception[a]			Unmet need[b]			Current use			Percentage of demand satisfied[c]		
	Total	Spacing	Limiting	Total	Spacing	Limiting	Total	Spacing	Limiting	Total	Spacing	Limiting
SUB-SAHARAN AFRICA												
Burkina Faso	40.6	29.5	11.0	32.6	24.1	8.5	7.9	5.4	2.5	19.5	18.3	22.7
Cameroon	37.7	28.3	9.4	21.7	17.3	4.4	16.0	11.0	5.0	42.4	38.9	53.2
Ghana	53.3	34.3	19.0	33.0	23.8	9.2	20.3	10.5	9.8	38.0	30.6	51.6
Kenya	68.3	32.1	36.2	35.5	22.2	13.3	32.7	9.9	22.9	47.9	30.8	63.3
Madagascar	49.1	23.7	25.4	32.5	17.3	15.1	16.7	6.4	10.3	34.0	27.0	40.5
Malawi	48.6	33.7	14.9	35.6	26.4	9.2	13.0	7.3	5.7	26.7	21.7	38.3
Namibia	50.7	26.4	24.3	21.8	15.2	6.6	28.9	11.2	17.7	57.0	42.4	72.8
Niger	23.1	20.2	3.0	18.7	16.4	2.3	4.5	3.8	0.7	19.5	18.8	23.3
Nigeria	27.5	20.3	7.3	21.6	16.9	4.8	5.9	3.4	2.5	21.4	16.7	34.2
Rwanda	58.0	34.3	23.6	36.9	24.0	12.9	21.1	10.3	10.7	36.4	30.0	45.3
Senegal	36.7	26.9	9.7	29.3	22.6	6.6	7.4	4.3	3.1	20.2	16.0	32.0
Sudan (Northern)	34.1	23.0	11.0	25.5	18.0	7.4	8.7	5.0	3.6	25.5	21.7	32.7
Tanzania	37.7	25.1	12.6	27.3	19.2	8.1	10.4	5.9	4.5	27.6	23.5	35.7
Zambia	45.9	32.1	13.8	30.7	23.1	7.6	15.2	9.0	6.2	33.1	28.0	44.9
NEAR EAST/NORTH AFRICA												
Egypt	70.3	15.5	54.8	21.9	7.4	14.5	47.1	7.8	39.3	68.8	52.2	73.5
Jordan	64.7	23.4	41.5	21.8	10.1	11.8	40.0	11.6	28.5	66.3	56.8	71.6
Morocco	64.2	24.3	39.9	19.7	8.7	11.0	41.5	14.1	27.4	69.3	64.2	72.4
Turkey	75.5	16.8	58.8	11.2	3.7	7.5	62.6	12.1	50.5	85.3	78.0	87.2
ASIA												
Bangladesh	64.0	21.9	42.0	18.0	10.1	7.9	44.6	11.3	33.5	71.9	55.2	81.2
Indonesia	64.7	27.2	37.5	14.1	7.9	6.2	49.7	18.7	31.0	78.2	71.0	83.5
Pakistan	43.6	19.0	24.5	31.7	17.0	14.7	11.9	2.1	9.8	27.3	11.0	40.0
Philippines	68.2	23.3	44.8	25.9	12.6	13.3	40.0	9.0	30.9	62.0	45.9	70.3
LATIN AMERICA/CARIBBEAN												
Bolivia	73.9	19.6	54.3	23.5	6.1	17.4	45.3	10.9	34.5	68.2	69.0	68.0
Colombia	80.1	25.2	54.9	11.6	4.2	7.4	66.1	19.8	46.3	85.5	83.3	86.5
Dominican Republic	74.9	20.6	54.3	17.1	8.8	8.3	56.4	10.9	45.5	77.2	57.3	84.7
Paraguay	66.5	34.3	32.2	15.2	8.1	7.1	48.4	23.7	24.7	77.3	76.7	77.9
Peru	81.1	21.0	60.1	15.7	4.3	11.4	59.0	13.9	45.1	80.6	79.5	81.0

[a] Demand is the sum of unmet need and current use and contraceptive failure (where this latter information is available).
[b] Unmet need is the sum of pregnant or amenorrheic women who reported that pregnancy was mistimed or unwanted and fecund nonusers who want to postpone or avoid further childbearing.
[c] Calculated by dividing current use (plus contraceptive failure where available) by demand.

Figure 4.1 Total demand for family planning: Unmet need and current use of contraception, Demographic and Health Surveys, 1990-1994

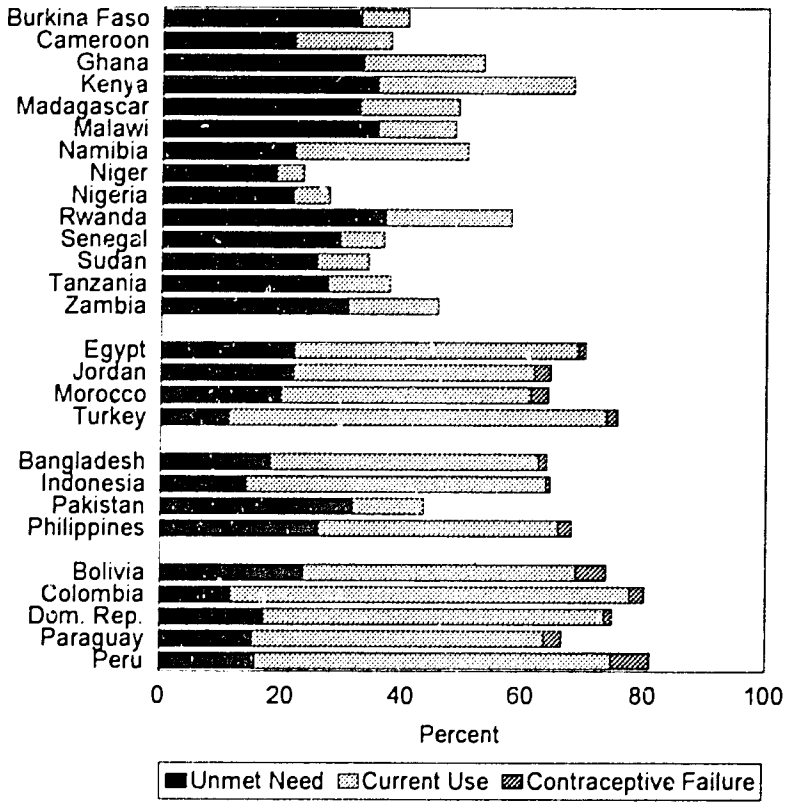
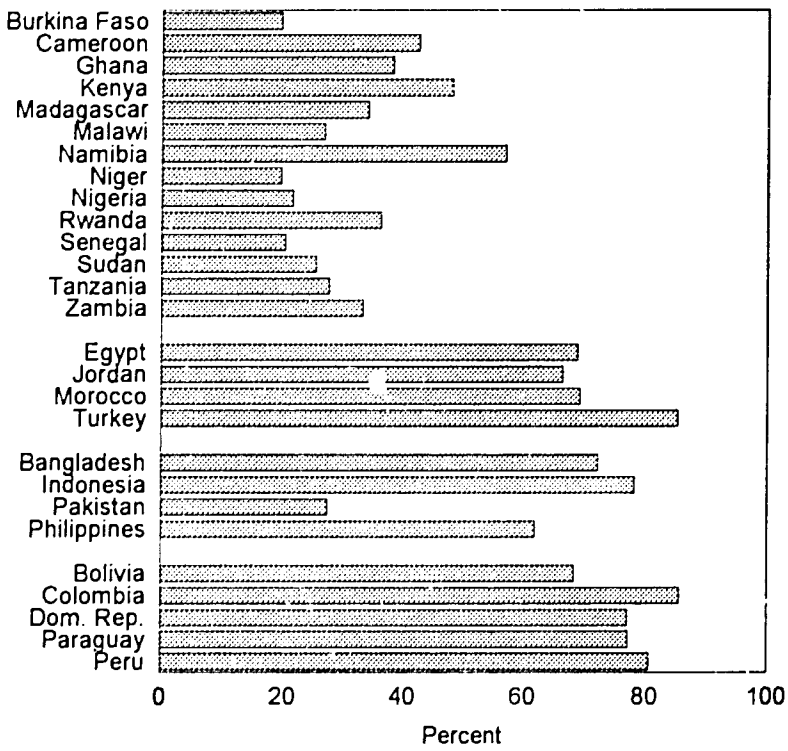


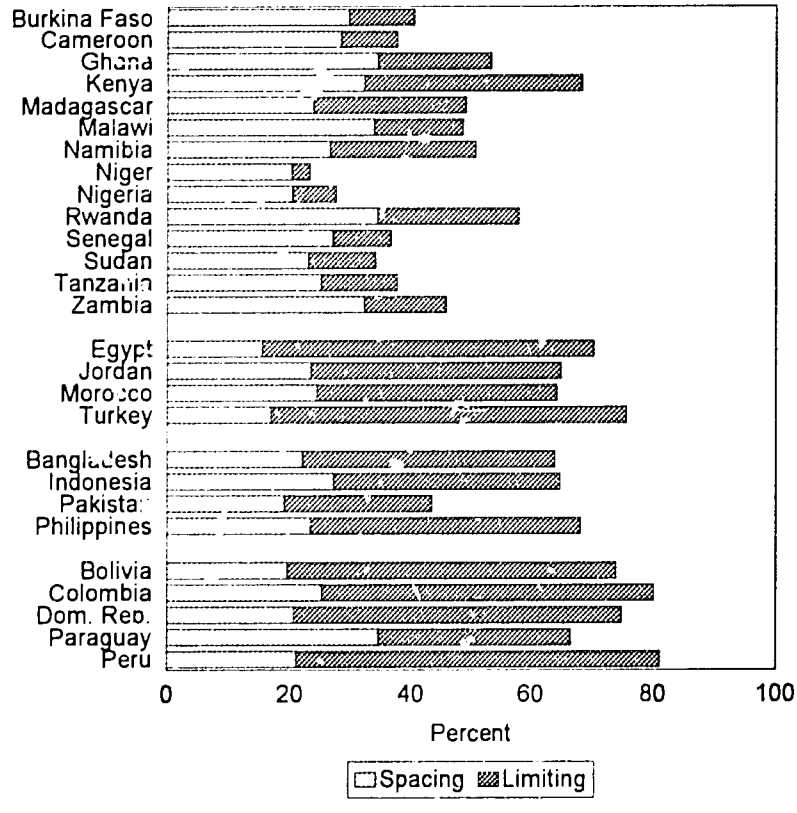
Figure 4.2 Percent of total demand satisfied, Demographic and Health Surveys, 1990-1994



An average of 29 percent of married women in sub-Saharan Africa are classified as having an unmet need for family planning, and in Bolivia, Pakistan and the Philippines, unmet need is at a similar level. In the remaining 10 countries the unmet need is far lower (an average of 17 percent). The high level of need in sub-Saharan Africa results entirely from the spacing component.

The well-known emphasis on birth spacing in sub-Saharan Africa is reflected consistently in all of the countries in the region (Figure 4.3). Among current users, however, there are numerous exceptions to this pattern: use for limiting predominates in Kenya, Madagascar and Namibia and is about the same as use for spacing in Rwanda. In all of the countries in the other regions of the world, use for limiting exceeds use for spacing whereas the two components are more evenly distributed in the unmet need category (Table 4.2). With only one exception—Bolivia—the percentage of demand for limiting that is satisfied is greater than the satisfaction of demand for spacing.

Figure 4.3 Total demand for family planning: Spacing and limiting births, Demographic and Health Surveys, 1990-1994



5 Covariates of Unmet Need

5.1 AGE

There is little overall relationship between current age and total unmet need (Table 5.1) because of the offsetting negative and positive associations between age and the need for spacing (which declines with age, Table 5.2) and the need for limiting (which increases with age, Table 5.3). The need for spacing begins to decline after age 30, whereas the need for limiting peaks at ages 35-44.

5.2 NUMBER OF CHILDREN

The pattern of association with the number of living children is similar. The proportion with a need for limiting is mostly under 10 percent up to women with four or more children where it rises sharply, while the need for spacing declines after three children. Although there is some evidence of an unmet need for spacing among women with no children, the need begins mainly after the birth of the first child. Bolivia and Peru are the only apparent exceptions where the highest proportion (13 and 14 percent, respectively) appears before the first child.

Table 5.1 Total unmet need by age and number of children

Total unmet need for family planning among currently married women by age and number of children, Demographic and Health Surveys, 1990-1994

	Age							Number of children				
Country	15-19	20-24	25-29	30-34	35-39	40-44	45-49	0	1	2	3	4+
SUB-SAHARAN AFRICA												
Burkina Faso	29.1	29.9	33.2	31.9	36.4	41.0	28.0	14.8	27.6	30.2	34.4	40.6
Cameroon	21.1	25.3	20.6	22.8	27.9	15.2	10.2	9.3	17.8	23.4	17.9	28.3
Ghana	46.9	40.4	35.2	34.5	29.8	29.4	12.1	14.2	32.5	34.6	33.2	36.1
Kenya	41.9	40.2	39.6	35.0	38.9	26.9	14.0	15.9	35.8	37.0	36.1	37.5
Madagascar	24.2	31.4	32.7	32.8	40.6	35.2	20.4	5.2	20.4	26.9	32.0	42.0
Malawi	33.0	34.7	37.3	38.9	37.2	35.0	28.3	21.9	29.1	33.7	38.6	43.2
Namibia	31.9	22.5	24.6	23.1	20.1	20.6	15.3	15.7	17.9	22.1	21.8	24.4
Niger	17.4	18.9	22.6	18.2	19.1	17.4	9.9	10.2	14.7	18.8	18.1	24.1
Nigeria	24.1	21.4	20.5	22.5	25.7	21.1	14.5	12.3	18.8	19.5	18.1	25.7
Rwanda	29.6	28.2	41.5	41.1	43.7	35.3	22.4	7.5	27.7	36.2	40.8	41.5
Senegal	28.0	30.0	27.5	33.2	33.6	27.8	17.5	11.8	22.5	24.5	27.3	37.0
Sudan (Northern)	21.5	24.7	28.5	27.1	29.3	21.9	13.0	8.0	19.2	25.9	27.3	29.1
Tanzania	20.3	27.0	31.5	29.9	29.6	26.9	18.1	8.3	18.4	26.7	29.3	32.8
Zambia	27.8	29.2	30.8	31.3	36.1	32.3	26.8	15.1	23.7	27.5	31.2	38.7
NEAR EAST/NORTH AFRICA												
Egypt	24.1	23.8	23.5	21.1	23.5	20.6	15.1	7.3	23.4	21.7	21.4	24.8
Jordan	17.2	18.7	24.1	23.0	23.8	22.7	19.1	2.2	23.0	18.7	22.6	25.1
Morocco	16.6	20.4	20.4	19.2	21.1	22.9	13.9	7.9	13.4	14.7	17.0	26.3
Turkey	20.2	16.3	10.5	10.3	9.2	10.7	5.3	9.3	12.8	7.7	10.1	15.6
ASIA												
Bangladesh	22.7	21.5	18.7	18.3	16.3	8.9	5.3	15.0	20.5	17.6	18.1	18.1
Indonesia	18.5	15.8	14.3	16.0	14.8	12.4	6.1	9.8	13.3	12.8	14.8	16.7
Pakistan	33.6	30.7	34.9	33.4	38.5	28.8	14.1	15.5	30.2	29.5	32.2	37.0
Philippines	31.1	35.2	32.3	27.9	23.5	21.2	8.4	11.8	28.8	26.3	21.7	28.7
LATIN AMERICA/CARIBBEAN												
Bolivia	30.6	25.3	25.8	24.1	27.0	21.1	9.4	14.3	19.3	19.8	21.2	29.5
Colombia	22.8	21.4	12.8	10.6	8.0	6.2	5.4	8.8	12.2	11.0	10.3	12.6
Dominican Republic	36.6	27.3	19.7	13.4	11.3	6.9	4.8	16.4	22.3	18.1	11.5	18.1
Paraguay	19.5	19.5	15.8	16.3	14.1	12.1	10.9	4.5	11.9	12.7	12.0	21.7
Peru	32.7	24.0	17.6	13.5	13.6	12.6	7.0	16.0	13.5	13.6	13.9	18.9

Table 5.2 Unmet need for spacing by age and number of children

Unmet need for spacing among currently married women by age and number of children, Demographic and Health Surveys, 1990-1994

Country	Age							Number of children				
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	0	1	2	3	4+
SUB-SAHARAN AFRICA												
Burkina Faso	28.8	29.1	30.6	25.5	19.0	13.0	4.4	14.8	26.9	2..6	30.5	21.7
Cameroon	21.1	24.4	17.7	18.2	14.7	7.7	4.6	9.3	17.7	22.5	15.3	18.7
Ghana	45.6	37.1	30.2	22.8	16.1	9.8	3.6	14.2	31.2	29.4	25.6	18.7
Kenya	40.8	35.8	29.2	19.4	12.0	5.2	2.8	15.3	33.6	31.9	27.4	16.0
Madagascar	23.6	26.8	22.5	15.4	10.7	8.3	2.3	5.0	18.5	22.6	25.2	16.0
Malawi	31.6	32.8	30.9	27.5	21.6	17.2	8.8	21.0	27.2	29.9	33.0	23.8
Namibia	24.2	18.6	20.4	17.6	12.5	11.1	4.4	13.8	14.2	17.0	17.1	14.2
Niger	17.3	18.6	22.0	16.1	14.7	8.9	4.0	10.1	14.2	18.4	17.2	18.7
Nigeria	23.8	20.4	17.5	17.3	17.3	10.9	5.5	11.9	18.6	17.0	16.9	17.3
Rwanda	28.1	26.1	35.4	28.4	21.2	10.2	2.6	7.4	26.6	33.8	34.1	21.0
Senegal	27.1	29.6	25.7	28.2	21.0	10.6	4.1	11.3	21.8	23.6	25.5	24.0
Sudan (Northern)	20.4	22.8	24.4	19.2	14.9	9.2	2.9	7.6	18.2	22.3	21.5	16.8
Tanzania	19.2	25.7	26.9	21.7	13.3	7.3	3.4	7.3	18.1	24.9	26.4	17.8
Zambia	27.4	28.7	27.2	24.1	18.4	10.9	6.7	14.9	22.5	26.0	28.3	22.8
NEAR EAST/NORTH AFRICA												
Egypt	22.3	17.1	10.7	4.2	3.8	1.1	0.4	6.7	20.9	10.9	6.0	2.7
Jordan	15.7	14.7	14.4	10.8	7.8	4.2	0.6	2.0	20.6	14.3	14.7	8.2
Morocco	16.2	17.0	12.9	8.4	5.6	3.1	1.3	7.3	12.7	11.2	11.1	6.5
Turkey	17.6	9.7	4.0	1.6	0.7	0.3	0.0	8.9	10.0	2.3	..7	0.9
ASIA												
Bangladesh	21.9	15.9	9.9	4.7	2.5	0.3	0.5	14.8	19.5	10.5	8.4	3.7
Indonesia	18.0	14.4	10.1	7.4	4.8	1.9	0.5	9.4	12.2	8.0	6.7	4.9
Pakistan	32.3	25.8	22.3	15.4	12.9	5.8	2.5	14.7	29.1	23.1	19.5	11.9
Philippines	27.4	28.3	19.9	12.7	6.6	2.6	0.5	11.4	25.1	18.0	9.3	7.2
LATIN AMERICA/CARIBBEAN												
Bolivia	16.8	12.6	8.7	5.2	2.6	1.2	0.2	12.9	10.6	7.8	5.0	3.0
Colombia	19.3	12.6	4.0	2.6	0.8	0.2	0.1	8.2	9.3	4.1	1.9	1.0
Dominican Republic	28.6	18.4	9.8	6.2	1.4	0.2	0.0	15.6	17.0	12.5	4.7	2.4
Paraguay	15.8	14.6	11.9	8.6	4.7	1.7	0.7	4.1	10.9	9.3	7.2	7.4
Peru	21.0	11.8	5.3	2.6	0.9	0.5	0.2	14.3	8.4	5.3	2.5	1.4

Table 5.3 Unmet need for limiting by age and number of children

Unmet need for limiting among currently married women by age and number of children, Demographic and Health Surveys, 1990-1994

Country	Age							Number of children				
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	0	1	2	3	4+
SUB-SAHARAN AFRICA												
Burkina Faso	0.3	0.8	2.6	6.4	17.3	28.0	23.6	0.0	0.7	1.7	3.9	18.9
Cameroon	0.0	0.9	2.9	4.5	13.2	7.4	5.5	0.0	0.1	0.9	2.7	9.6
Ghana	1.2	3.3	5.0	11.7	13.7	19.6	8.6	0.0	1.2	5.3	7.6	17.4
Kenya	1.1	4.4	10.5	15.6	26.9	21.7	11.2	0.6	2.2	5.1	8.7	21.6
Madagascar	0.6	4.6	10.2	17.4	29.9	26.9	18.2	0.2	1.9	4.3	6.8	26.0
Malawi	1.4	1.9	6.4	11.4	15.6	17.8	19.4	0.8	1.9	3.8	5.6	19.4
Namibia	7.8	4.0	4.2	5.4	7.6	9.4	10.8	1.8	3.7	5.1	4.7	10.2
Niger	0.1	0.3	0.6	2.1	4.4	8.5	6.0	0.1	0.5	0.4	0.9	5.4
Nigeria	0.3	1.1	3.0	5.2	8.4	10.2	9.0	0.3	0.2	2.5	1.2	8.4
Rwanda	1.5	2.1	6.1	12.7	22.5	25.0	19.8	0.1	1.1	2.4	6.7	20.5
Senegal	1.0	0.4	1.9	4.9	12.6	17.1	13.4	0.5	0.8	0.9	1.8	13.0
Sudan (Northern)	1.1	1.9	4.2	7.9	14.4	12.7	10.1	0.3	1.0	3.4	5.8	12.2
Tanzania	1.2	1.3	4.6	8.2	[illegible]3	19.6	14.7	1.0	0.3	1.7	2.9	15.0
Zambia	0.4	0.4	3.6	7.2	17.8	21.4	20.1	0.2	1.2	1.5	2.9	15.9
NEAR EAST/NORTH AFRICA												
Egypt	1.9	6.8	12 8	16.8	19.7	19.4	14.7	0.7	2.5	10.7	15.4	22.1
Jordan	1.5	4.0	9.6	12.2	16.0	18.4	18.6	0.[illegible]	2.4	4.4	7.9	16.9
Morocco	0.4	3.4	7.5	10.8	15.5	19.8	12.7	0.7	0.7	3.5	6.8	19.8
Turkey	2.6	6.6	6.4	8.7	8.5	10.4	5.3	0.4	2.8	5.4	8.4	14.7
ASIA												
Bangladesh	0.8	5.6	8.8	13.5	13.8	8.6	4.7	0.2	1.0	7.1	9.8	14.4
Indonesia	0.5	1.4	4.5	8.6	10.0	10.5	5.6	0.5	1.0	4.8	8.1	11.8
Pakistan	1.3	4.9	12.6	18.0	25.6	23.1	11.6	0.7	1.1	6.4	12.7	25.2
Philippines	3.7	6.9	12.3	15.2	16.9	18.6	7.9	0.4	3.7	8.4	12.4	21.5
LATIN AMERICA/CARIBBEAN												
Bolivia	13.9	12.7	17.1	18.9	24.4	19.9	9.2	1.4	8.7	12.0	16.2	26.5
Colombia	3.6	8.7	8.7	8.0	7.3	6.1	5.3	0.6	2.9	7.7	8.4	11.5
Dominican Republic	8.0	8.9	9.9	7.2	9.8	6.7	4.8	0.9	5.3	5.6	6.8	15.7
Paraguay	3.8	4.9	3.9	7.6	9.4	10.4	10.2	0.4	1.1	3.5	4.9	14.3
Peru	11.6	12.1	12.3	10.9	12.6	12.1	6.8	1.7	5.0	8.3	11.4	17.5

5.3 USE OF CONTRACEPTION

The question here is whether the likelihood of being in need of family planning is related to prior experience with contraception. To some extent, the answer depends upon the level of contraceptive prevalence in the population. In most low prevalence countries, which are concentrated largely in sub-Saharan Africa, there is little difference in the proportions classified in need by whether or not the women had ever used contraception (Table 5.4). In countries with high prevalence rates, prior use of a method makes a big difference in the determination of unmet need. In Latin American countries, women who had never used a method are several times more likely to be in need than women with some contraceptive experience. A similar pattern is evident for the higher prevalence Asian countries. One implication of these differences is that the program focus in the high prevalence areas might be most efficiently directed toward the never users. Since most of the women in need in the low prevalence countries have never used a method (see Table 6.1), such a focus seems appropriate.

5.4 RESIDENCE

As observed in the earlier comparative report, unmet need outside of sub-Saharan Africa is higher in rural than in urban areas except in Pakistan where there is little difference (Table 5.4). In sub-Saharan Africa, on the other hand, there is a mixture; no consistent pattern exists and there is very little difference in unmet need between rural and urban areas.

5.5 EDUCATION

Three general observations can be made about the association between women's education and unmet need (Table 5.4): (1) in

the countries outside of sub-Saharan Africa, unmet need declines with increasing level of schooling; (2) within sub-Saharan Africa, the highest proportion with unmet need typically is among women with primary school education; and (3) in most countries, the general magnitude of the association is quite low. The pattern within sub-Saharan Africa probably relates to literacy and awareness of the possibility of regulating fertility. The need for limiting in that region follows the negative association in other countries (not shown).

Table 5.4 Unmet need by residence and education

Total unmet need for family planning among currently married women by contraceptive use, residence and education, Demographic and Health Surveys, 1990-1994

	Use of contraception		Residence		Level of education		
Country	Never used	Ever used	Urban	Rural	None	Primary	Secondary+
SUB-SAHARAN AFRICA							
Burkina Faso	23.6	39.1	33.8	32.4	32.7	35.9	25.3
Cameroon	19.3	25.4	23.7	20.5	18.7	27.0	20.1
Ghana	34.7	31.0	30.5	34.2	30.8	36.6	33.9
Kenya	46.7	26.4	24.8	37.4	35.1	39.1	26.5
Madagascar	37.0	21.0	25.5	33.9	27.8	38.1	23.8
Malawi	35.5	35.8	U	U	35.0	37.0	26.3
Namibia	25.3	18.7	17.9	24.3	23.5	23.1	20.0
Niger	18.6	19.5	22.5	18.0	18.0	28.2	23.0
Nigeria	21.6	22.0	22.1	21.5	20.1	26.4	21.8
Rwanda	42.6	30.3	30.8	37.2	40.3	34.8	26.4
Senegal	29.6	27.6	33.4	27.3	28.5	34.3	31.2
Sudan (Northern)	20.6	26.0	28.8	23.8	22.2	30.9	29.9
Tanzania	27.3	27.5	30.6	26.4	25.7	28.9	20.0
Zambia	30.3	31.1	31.8	29.7	29.4	32.3	26.1
NEAR EAST/NORTH AFRICA							
Egypt	34.8	15.5	18.2	25.1	26.0	21.0	13.9
Jordan	30.0	17.5	19.9	27.4	27.1	23.3	19.0
Morocco	29.7	14.6	12.4	25.3	22.7	10.6	9.1
Turkey	29.2	6.8	8.9	15.3	20.2	8.8	5.1
ASIA							
Bangladesh	26.6	13.6	15.0	18.4	18.1	18.7	16.8
Indonesia	23.2	10.1	11.8	15.1	15.7	14.7	11.2
Pakistan	32.9	27.3	32.5	31.4	32.0	32.6	29.6
Philippines	42.0	15.8	23.4	28.7	33.2	29.2	23.3
LATIN AMERICA/CARIBBEAN							
Bolivia	49.1	10.1	17.6	32.2	33.3	28.2	14.8
Colombia	34.7	7.9	9.0	15.0	18.5	13.8	8.5
Dominican Republic	34.5	11.7	13.7	22.9	29.6	18.8	11.7
Paraguay	28.7	8.7	10.5	20.6	20.3	18.1	7.8
Peru	51.1	8.4	11.4	25.5	28.9	19.6	10.9

U = Unknown (not available)

6 Composition of Need

6.1 USE OF CONTRACEPTION, EXPOSURE AND INTENTION TO USE

The spacing-limiting mix among women with an unmet need has already been noted. This difference in composition is shown more systematically in Table 6.1 and Figure 6.1. In the sub-Saharan populations, spacing need predominates, whereas in the other regions the two kinds of need are either more balanced or the need for limiting is paramount (Near East/North Africa and several countries in Latin America).

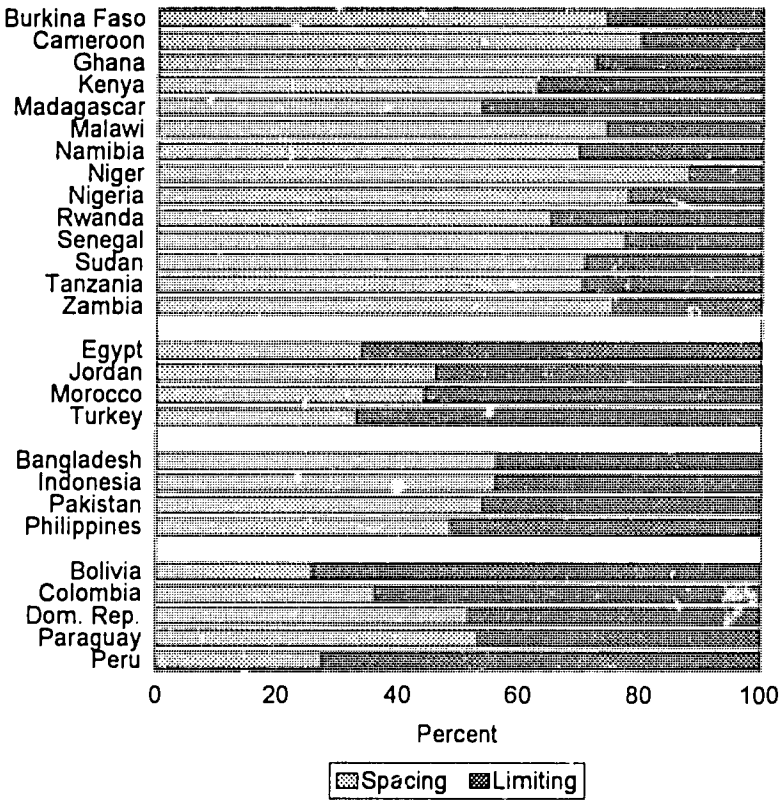
Table 6.1 Composition of unmet need

Composition of total unmet need among currently married women by type of need, use of contraception, exposure status, and intention to use, Demographic and Health Surveys, 1990-1994

Country	Need		Use of contraception		Exposure status			Intend to use		
						Not pregnant or amenorrheic			No[a]	
	For spacing	For limiting	Never used	Ever used	Pregnant or amenorrheic	Sexually active	Sexually inactive	Yes	Sexually active	Sexually inactive
SUB-SAHARAN AFRICA										
Burkina Faso	74.0	26.0	56.6	43.4	34.6	27.8	37.6	36.0	21.3	42.6
Cameroon	79.8	20.2	53.0	47.0	32.9	38.9	28.2	45.1	33.7	21.2
Ghana	72.2	27.8	57.5	42.5	42.6	29.2	28.2	69.5	15.1	15.4
Kenya	62.5	37.5	58.9	41.1	48.9	37.3	13.8	72.1	8.4	19.5
Madagascar	53.4	46.6	81.6	18.4	44.6	49.4	6.0	64.5	28.6	6.9
Malawi	74.1	25.9	59.2	40.8	46.4	53.6		71.5	28.5	
Namibia	69.4	30.6	55.7	44.3	31.7	56.3	12.0	46.5	42.1	11.4
Niger	87.9	12.1	88.1	11.8	39.4	47.2	13.4	39.7	45.2	15.1
Nigeria	77.9	22.1	86.1	13.9	23.0	50.1	26.9	37.9	41.8	20.3
Rwanda	65.0	35.0	65.3	34.7	64.8	31.8	3.5	78.1	19.0	2.9
Senegal	77.3	22.7	83.9	16.0	44.5	38.6	16.8	49.7	33.5	16.8
Sudan (Northern)	70.6	29.4	70.0	30.0	37.4	38.9	23.7	31.5	42.1	26.4
Tanzania	70.2	29.8	74.2	25.8	38.7	45.3	15.9	47.0	37.1	15.8
Zambia	75.3	24.7	50.2	49.8	52.5	37.6	9.9	67.7	23.6	8.7
NEAR EAST/NORTH AFRICA										
Egypt	33.9	66.1	52.6	47.4	31.3	68.7		45.1	54.9	
Jordan	46.1	53.9	47.8	52.2	26.0	74.0		45.1	54.9	
Morocco	44.2	55.8	50.9	49.1	35.0	47.8	17.2	55.2	34.6	10.2
Turkey	33.0	67.0	51.4	48.6	31.0	69.0		63.0	37.0	
ASIA										
Bangladesh	56.1	43.9	50.6	49.4	21.7	69.3	9.0	78.5	16.4	5.1
Indonesia	56.0	44.0	50.3	49.7	20.9	64.6	14.4	43.7	45.5	10.8
Pakistan	53.7	46.3	82.2	17.8	25.9	74.1		25.9	74.1	
Philippines	48.6	51.4	62.9	37.1	32.0	53.3	14.8	40.5	47.4	12.1
LATIN AMERICA/CARIBBEAN										
Bolivia	25.9	74.0	71.8	28.2	47.0	38.3	14.7	54.5	29.5	16.0
Colombia	36.2	63.8	41.8	58.2	34.3	50.9	14.8	73.5	20.3	6.1
Dominican Republic	51.5	48.5	43.3	56.7	40.3	45.8	13.8	71.3	24.4	4.3
Paraguay	53.2	46.7	61.2	38.7	27.0	66.8	6.2	47.4	47.8	4.8
Peru	27.4	72.6	55.6	44.4	47.5	36.9	15.6	73.7	19.5	6.7

[a] Includes women who do not know their intention.

Figure 6.1 Spacing and limiting composition of unmet need, Demographic and Health Surveys 1990-1994



In sub-Saharan Africa, most of the women in need have never used any method of contraception, which is true of women in general in most of these countries. The same is the case for Pakistan and the Philippines as well as for Bolivia and Paraguay. In the remaining countries, prior experience with contraception balances about evenly with no experience.

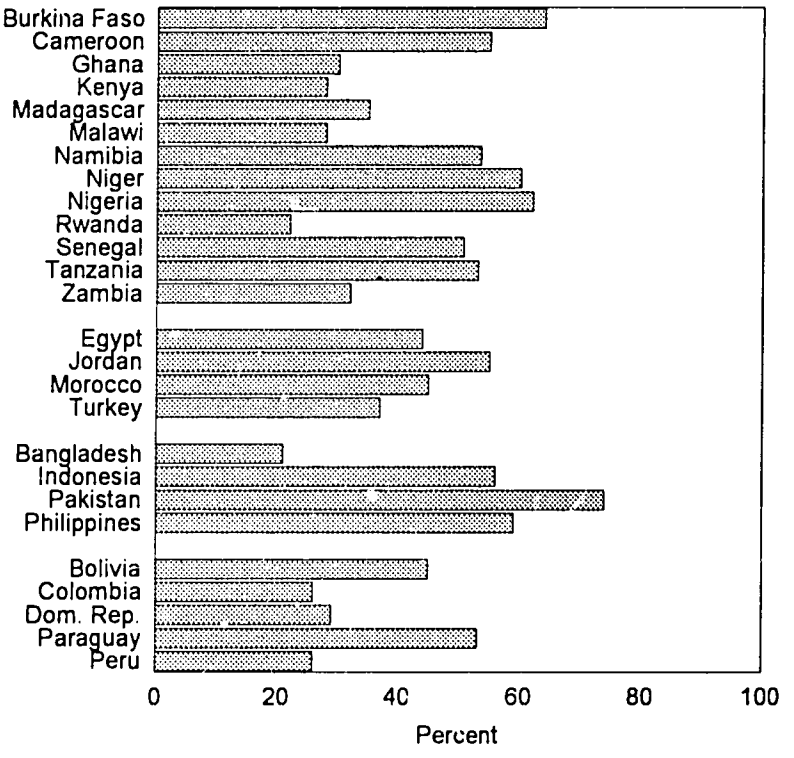
A substantial fraction of women in need, ranging roughly from a quarter to over a half, are pregnant or amenorrheic. Among the women in need who are in neither status, most are sexually active (reported sex in the past month) although there are some African countries where significant proportions are not active (Burkina Faso, Cameroon, Ghana, Nigeria and the Sudan). This is relevant to expectations about future use, which is documented in the last panel of Table 6.1.

On average, 55 percent of women in need say that they intend to use a method of contraception. Most of the complement of 45 percent say that they do not intend to use; this includes a minority who are undecided. The percentages in need who do not intend to use range widely across the different countries, from a low of 21 percent in Bangladesh to a high of 74 percent in Pakistan (Figure 6.2) Considering the cultural similarites of these two countries, this is a striking contrast. It reflects the intensive family planning program in Bangladesh and is one index of the lack of program effort in Pakistan. Part of this negative response is due to sexual inactivity but most of it to other reasons described in the next section. This large proportion of women in need who are disinclined to use a method has implications both for expectations about reducing the estimated levels of unmet need (the implied demand) and the consequent reduction of fertility. This subject is explored in a later section of this report.

6.2 REASONS FOR NOT INTENDING TO USE ANY METHOD

All women who were not currently using contraception who stated that they did not intend to use any method in the future were asked, "What is the main reason you do not intend to use a method?" The interviewer had the responsibility for selecting the one precoded response that corresponded most closely with the woman's answer. The distribution of these responses for women in need is presented in detail in Table 6.2. Although this is a superficial approach that does not capture the complexity of multiple

Figure 6.2 Percent of women in need who do not intend to use contraception, Demographic and Health Surveys, 1990-1994



Note: Includes women who do not know their intention.

Table 6.2 Main reason for not intending to use contraception

Main reasons for not intending to use a method among currently married women with an unmet need, Demographic and Health Surveys, 1990-1994

Country	Percent not intending to use[a]	Percent total	Wants children	Lack of knowledge	Partner opposed	Costs too much	Side effects	Health concerns	Hard to get	Religion	Opposed to family planning	Fatalistic	Others opposed	Infrequent sex	Difficult to get pregnant	Inconvenient	Other reason	Don't know
SUB-SAHARAN AFRICA																		
Burkina Faso	64.0	100.0	28.4	23.1	3.2	1.4	2.5	1.8	2.1	3.6	1.7	2.1	0.4	10.1	7.3	1.3	1.3	9.6
Cameroon	54.9	100.0	53.6	4.9	2.0	1.8	4.5	1.6	4.5	2.7	1.4	7.3	0.0	0.9	6.3	0.7	1.0	7.8
Ghana	30.5	100.0	21.4	19.9	1.5	0.4	15.1	4.8	0.7	4.8	3.7	3.3	0.4	5.5	9.6	2.6	1.5	4.8
Kenya	27.9	100.0	13.5	5.6	6.5	0.0	22.2	9.3	0.6	9.5	7.1	1.0	0.6	2.6	13.1	2.5	3.5	2.3
Madagascar	35.5	100.0	31.2	29.8	2.2	2.6	3.6	4.3	0.8	1.4	2.2	1.4	1.2	1.5	5.2	7.1	3.3	1.9
Malawi	28.5	100.0	28.2	13.6	4.6	1.3	6.9	7.7	0.0	0.0	1.9	6.2	0.6	1.2	18.2	1.3	2.3	5.9
Namibia	48.4	100.0	44.1	16.7	2.0	0.0	3.1	7.1	0.9	2.4	3.7	0.5	0.0	0.5	6.2	0.0	3.8	9.0
Niger	60.3	100.0	40.5	24.0	3.2	2.1	0.5	1.7	2.4	2.3	0.2	3.1	0.5	1.8	10.1	4.2	2.0	1.3
Nigeria	62.1	100.0	41.5	15.5	2.5	0.9	5.2	1.6	1.4	13.8	4.6	5.7	0.5	1.9	0.1	1.0	1.6	2.2
Rwanda	21.9	100.0	21.5	4.8	4.5	0.4	17.1	8.3	0.0	5.1	0.4	8.2	0.9	5.0	11.1	2.9	7.5	2.0
Senegal	50.3	100.0	34.0	12.5	3.9	0.2	3.9	2.8	0.4	12.3	4.3	11.6	0.9	1.3	4.3	2.2	1.3	4.1
Sudan (Northern)	68.5	b																
Tanzania	53.0	100.0	26.9	12.8	7.4	0.1	9.0	1.7	4.2	0.5	12.4	6.0	0.1	3.2	7.1	2.4	1.9	4.4
Zambia	32.3	100.0	21.3	15.3	9.3	0.7	8.1	2.1	1.6	1.9	4.4	1.8	0.3	1.2	21.0	3.5	3.9	3.7
NEAR EAST/NORTH AFRICA																		
Egypt	43.8	100.0	12.0	0.3	6.3	0.2	5.3	15.5	0.0	1.4	0.8	12.7	0.1	13.0	25.3	0.5	3.5	2.4
Jordan	54.9	100.0	11.2	2.0	8.0	0.2	7.4	11.5	0.0	6.8	1.1	9.1	0.2	2.6	27.1	1.5	6.1	5.1
Morocco	44.8	100.0	23.9	6.3	11.7	0.7	18.5	18.0	0.2	4.1	0.7	0.7	0.2	8.0	3.9	0.5	2.2	0.0
Turkey	37.0	100.0	14.0	4.3	4.9	0.4	5.0	3.1	1.1	6.9	0.4	5.4	0.0	12.5	32.6	1.6	3.7	4.0
ASIA																		
Bangladesh	21.5	100.0	7.3	2.5	15.2	0.0	7.3	10.0	0.0	17.5	0.0	7.6	1.1	8.0	14.3	0.0	4.8	4.3
Indonesia	56.3	100.0	21.3	9.2	11.3	1.9	6.6	15.4	0.6	0.5	3.6	3.2	2.1	4.7	11.5	1.1	1.6	5.4
Pakistan	74.1	100.0	30.3	11.5	11.3	0.9	5.6	2.3	0.5	18.1	1.7	3.3	0.1	1.4	7.1	0.3	2.4	3.0
Philippines	59.5	100.0	10.6	8.1	0.0	0.8	32.8	14.6	0.8	5.4	4.3	0.7	0.0	0.0	17.6	2.5	1.4	0.4
LATIN AMERICA/CARIBBEAN																		
Bolivia	45.5	100.0	2.6	34.2	3.3	1.7	8.6	18.4	2.0	6.3	4.5	0.0	0.0	6.0	4.9	0.6	2.4	4.5
Colombia	26.5	b																
Dominican Rep.	28.7	100.0	24.4	5.9	4.9	2.1	4.4	16.5	0.3	4.1	5.7	2.7	0.0	1.5	13.1	0.0	10.4	4.0
Paraguay	52.6	b																
Peru	26.2	100.0	2.2	16.6	6.2	2.3	5.3	15.5	0.6	1.6	0.8	5.2	0.8	8.0	13.4	0.8	15.7	4.7

[a] Includes women who do not know their intention
[b] Answer categories not fully comparable with other countries

reasons, it presumably gives some indication of the nature of the attitude. It is important to keep in mind that these reasons apply only to women in need who do not intend to use a method, a group that typically is a small fraction of all married women.

The first reason, which includes the largest numbers of women for most of the countries, is that they want children. This is a particularly frustrating response because it is ostensibly inconsistent with the basis of the unmet need classification, which includes nonusers who say either that they want to postpone the next birth or that they want no more children. In the subsequent summary tables, this response is referred to as ambivalence about future childbearing. It is significant that most of this response is among women classified with an unmet need for spacing (compare Table 6.3 with Table 6.4) for whom the ambivalence is about the timing of the next child.

Table 6.3 Reasons women with an unmet need for spacing do not intend to use

Main reason that currently married women with unmet need for spacing do not intend to use a method, Demographic and Health Surveys, 1990-1994

Country	Percent who do not intend to use[a]	Total	Reason for not intending to use						
			Ambivalent	Uninformed	Opposed	Unavailable, inconvenient	Side effects	Not exposed	Other, Don't know
SUB-SAHARAN AFRICA									
Burkina Faso	63.4	100.0	38.4	25.9	12.2	3.8	2.8	4.9	12.0
Cameroon	59.6	100.0	59.1	4.3	11.3	7.2	5.1	5.1	7.8
Ghana	31.5	100.0	28.0	24.5	14.5	4.0	14.0	9.0	6.0
Kenya	26.0	100.0	21.9	15.4	28.0	3.6	14.8	11.8	4.4
Madagascar	39.7	100.0	49.8	29.8	6.5	7.1	2.0	2.6	2.3
Malawi	27.1	100.0	40.5	17.8	15.5	1.7	4.6	11.2	8.6
Namibia	49.1	100.0	57.6	14.9	9.0	0.0	2.8	5.3	10.3
Niger	59.1	100.0	44.8	24.9	7.8	7.8	0.4	10.3	4.0
Nigeria	66.0	100.0	44.6	15.7	27.5	3.2	4.6	1.1	3.2
Rwanda	20.3	100.0	33.4	11.7	20.7	0.9	14.1	13.8	5.4
Senegal	50.6	100.0	41.6	12.0	31.0	2.9	3.4	4.2	4.9
Sudan (Northern)	67.9	b							
Tanzania	53.0	100.0	32.7	12.8	26.5	5.6	6.2	8.4	7.8
Zambia	32.1	100.0	29.4	19.1	15.6	5.5	8.9	14.4	7.1
NEAR EAST/NORTH AFRICA									
Egypt	43.5	100.0	38.7	6.3	28.9	1.5	6.0	15.0	3.6
Jordan	40.4	100.0	26.7	13.6	31.6	1.1	7.8	12.7	6.5
Morocco	44.4	100.0	48.5	16.2	16.8	0.6	10.4	6.4	1.2
Turkey	27.2	100.0	52.5	7.4	9.9	4.8	2.9	14.9	7.8
ASIA									
Bangladesh	18.5	100.0	14.3	12.4	54.8	0.0	3.7	7.4	7.3
Indonesia	53.3	100.0	39.9	17.3	22.8	3.1	4.7	5.7	6.4
Pakistan	82.1	100.0	46.9	10.6	31.8	0.4	1.6	4.0	4.5
Philippines	55.7	100.0	20.7	22.3	11.5	3.0	31.5	9.1	1.8
LATIN AMERICA/CARIBBEAN									
Bolivia	42.1	100.0	9.5	39.5	29.6	1.7	7.3	6.7	5.7
Colombia	21.9	b							
Dominican Republic	23.1	100.0	58.9	7.9	4.3	0.0	4.3	10.2	14.4
Paraguay	45.5	b							
Peru	23.6	100.0	12.1	49.8	16.6	1.0	3.1	3.6	13.7

[a] Includes women who do not know their intention
[b] Answer categories not fully comparable with other countries

Table 6.4 Reasons women with an unmet need for limiting do not intend to use

Main reason that currently married women with unmet need for limiting do not intend to use a method, Demographic and Health Surveys, 1990-1994

Country	Percent who do not intend to use[a]	Total	Reason for not intending to use						
			Ambivalent	Uninformed	Opposed	Unavailable, inconvenient	Side effects	Not exposed	Other, Don't know
SUB-SAHARAN AFRICA									
Burkina Faso	65.5	100.0	4.5	22.6	8.3	7.6	1.8	47.1	8.0
Cameroon	36.2	100.0	20.2	19.3	25.8	5.8	1.2	13.6	14.1
Ghana	27.9	100.0	2.8	25.3	11.3	2.8	18.3	32.4	7.0
Kenya	31.3	100.0	4.7	14.4	21.2	2.7	30.0	19.8	7.2
Madagascar	30.8	100.0	5.4	40.4	11.1	15.3	6.0	12.6	9.3
Malawi	32.5	100.0	2.4	28.7	8.6	4.5	11.8	36.6	7.4
Namibia	46.9	100.0	11.9	44.9	7.7	3.2	3.8	9.8	18.9
Niger	68.7	100.0	21.1	29.6	16.1	12.6	0.6	19.5	0.6
Nigeria	47.4	100.0	25.5	24.7	25.5	4.2	8.4	6.6	5.1
Rwanda	24.9	100.0	4.0	15.2	16.9	7.0	21.6	19.6	15.6
Senegal	49.1	100.0	9.4	26.0	39.4	2.4	5.5	10.2	7.1
Sudan (Northern)	69.7	b							
Tanzania	53.1	100.0	14.7	17.9	26.0	9.0	14.8	14.2	3.5
Zambia	38.1	100.0	2.3	13.6	22.6	6.5	6.2	40.2	8.5
NEAR EAST/NORTH AFRICA									
Egypt	44.0	100.0	1.0	20.8	19.1	0.5	5.3	51.3	2.2
Jordan	66.8	100.0	5.4	14.6	24.9	2.2	7.9	39.9	5.0
Morocco	45.1	100.0	5.9	30.4	18.1	2.1	24.5	16.0	2.9
Turkey	41.8	100.0	2.7	7.5	19.9	2.6	5.6	53.9	7.7
ASIA									
Bangladesh	25.3	100.0	0.7	12.6	28.9	0.0	10.6	36.3	10.8
Indonesia	60.2	100.0	3.4	31.7	18.9	4.1	8.5	26.4	6.9
Pakistan	64.7	100.0	5.1	18.8	38.8	3.7	11.7	15.3	6.7
Philippines	63.2	100.0	2.6	23.2	9.6	4.9	33.9	24.3	1.5
LATIN AMERICA/CARIBBEAN									
Bolivia	46.7	100.0	0.6	56.3	4.8	5.1	9.0	12.0	7.2
Colombia	29.1	b							
Dominican Republic	35.6	100.0	4.9	30.5	24.9	3.7	4.5	17.1	14.4
Paraguay	60.8	b							
Peru	29.1	100.0	0.7	38.0	16.3	5.3	7.5	11.4	20.8

[a] Includes women who do not know their intention
[b] Answer categories not fully comparable with other countries

The second most common response is "lack of knowledge." This is an important response in most of the sub-Saharan countries and in a few countries outside of that region, such as Bolivia and most interestingly Peru, which has a comparatively high prevalence rate (the rhythm method is the most commonly used). Lack of knowledge about methods is an obstacle to use that is much more easily overcome than attitudes related to religion or other forms of opposition. More general concerns about the health implications of contraception appear in several countries (Bangladesh, the Dominican Republic, Egypt, Indonesia, Jordan, Morocco, Peru, and Philippines). Concerns about health are not an important reason in the sub-Saharan countries.

The side effects of contraceptive practice is an important reason for not intending to use a method in a few countries (Kenya, Morocco, the Philippines and Rwanda) but such a concern will only appear in countries with some contraceptive experience. It is not clear whether women who offer this reason actually experienced side effects or are apprehensive about the possibility.

Religious opposition to use appears in Bangladesh and Pakistan but not in Egypt or Indonesia or in the Catholic countries of Latin America or in the Philippines. Opposition from partners appears mainly in Bangladesh, Indonesia, Morocco, and Pakistan but is negligible elsewhere

Another reason that has some frequency of response in several countries is "difficult to get pregnant." Women classified as infecund have already been excluded from the unmet need category; thus, this is an additional type of subfecundity not captured by our behavioral criteria of infecundity (see footnote 3).

The remaining reasons are not individually important. This is particularly significant for what is commonly referred to as "supply" reasons, such as availability, cost or inconvenience (which may have other meanings as well). Both cost and "hard to get" show extremely low frequencies in Table 6.2.[8]

These various reasons for not intending to use a method are grouped and presented by the need for spacing and the need for limiting separately (Tables 6.3 and 6.4). As noted earlier, ambivalence about childbearing is concentrated among women with a spacing need, which indicates that it is mainly uncertainty about the timing of childbearing rather than about whether to have another child.

Lack of information about both methods and general health matters is concentrated among women with a need for limiting although it is far from insignificant among those with a spacing need. This difference may have a generational explanation since more older women are in the need for limiting category.

Opposition to contraception, into which religious reasons, fatalistic responses, and other sources of opposition are grouped, shows similar frequencies among women with a spacing and those with a limiting need. These reasons are quite important for many countries.

Unavailability and inconvenience and cost are slightly more prominent among women with a limiting need than with a spacing need. However, they are of minor importance as a reason not to intend to use.

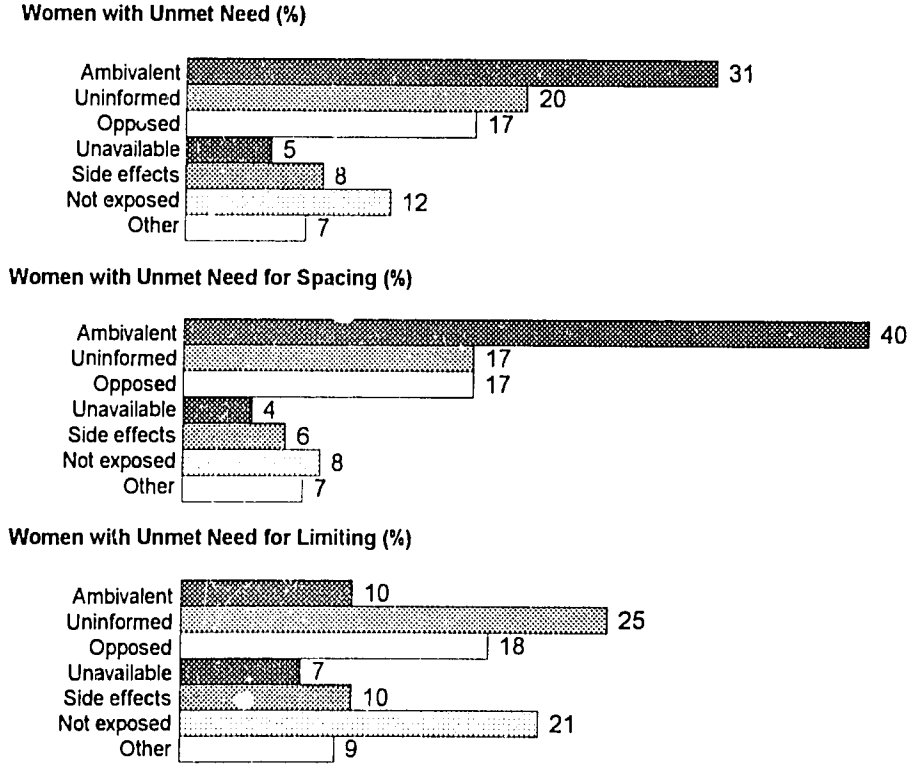
Side effects as the main reason women do not intend to use any method is important only in a few countries and only among women with a need for limiting.

The last category, "not exposed to risk," which includes infrequent sex and difficulty conceiving, is particularly important among the (older) women with a need for limiting. For a few countries, the proportion not intending to use because they believe they are not sufficiently exposed to the risk of pregnancy reaches a third to a half of the reasons offered for not intending to use. This reason seems particularly relevant to assessing the impact of unmet need on fertility because it implies that significant fractions of women classified in need do not feel that need and therefore it exaggerates the potential demographic impact of satisfying unmet need.

These grouped reasons are further summarized in Figure 6.3 for the 13 sub-Saharan countries by averaging the percentages in each category in Table 6.2. The other regions are not sufficiently represented to support this summary treatment.

[8] The same finding was reported in an analysis of the reasons for nonuse in the DHS-I surveys (Bongaarts and Bruce, 1995).

Figure 6.3 Reasons why women in need do not intend to use contraception, by type of need, for an average of 13 sub-Saharan countries, Demographic and Health Surveys, 1990-1993



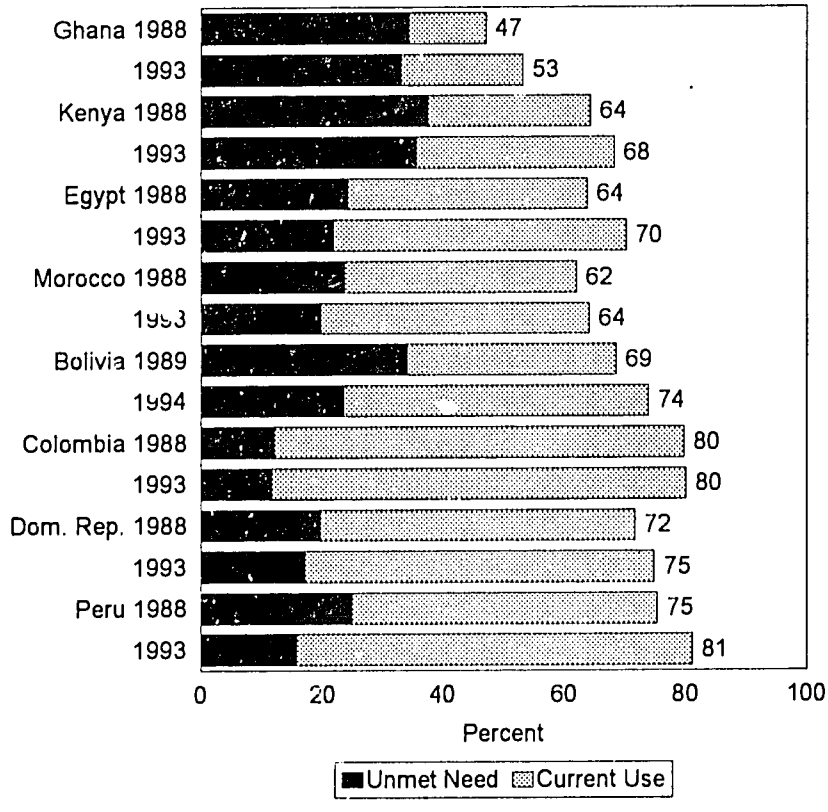
7 Trends in Unmet Need for Married Women

Unmet need has declined in all of the eight[9] countries that have conducted two surveys in the DHS program (Figure 7.1). In two of these countries, Bolivia and Peru, the decline has been considerable over the five years since the previous survey.

Change in unmet need is a function of changes in contraceptive prevalence and the desire to regulate fertility. In countries such as Peru where the proportions wishing to control fertility have already reached a high level, the trend in unmet need will be downward because of the increase in contraceptive practice. In many sub-Saharan countries, where the increase in the desire to regulate fertility is low but may be growing more rapidly than the use of contraception, unmet need may increase temporarily. This was the case for Ghana and Kenya between the early and the late 1980s but, as shown in Figure 7.1, this lag has been closed in the last five years. Total demand for family planning has increased slightly for all of these countries except Colombia, where it has remained the same.

[9] Indonesia was also included at both times but the whole country was not represented in the DHS-I sample.

Figure 7.1 Trends in unmet need, use of contraception and total demand from the late 1980s to the early 1990s, Demographic and Health Surveys, 1988-1994



8 Unmet Need, Never-married Women

Perhaps the most frequently heard criticism of the unmet need measure is that it has been confined largely to married women.[10] This is an important limitation especially with the increasing interest in the needs of adolescents (Meekers, 1994). In response to this general concern, the authors have developed estimates for both never-married and formerly married women. Because of the data limitations of surveys outside of sub-Saharan Africa (the exclusion of samples of never-married women, the omission of questions on sexual activity, or concerns about the quality of such data[11]), only the countries in this region are included for this analysis. In order to increase the coverage, those sub-Saharan countries from DHS-I not included in more recent surveys have also been added. Malawi and the Sud . n are not represented because questions on sexual activity were not included in those surveys.

8.1 MEASUREMENT

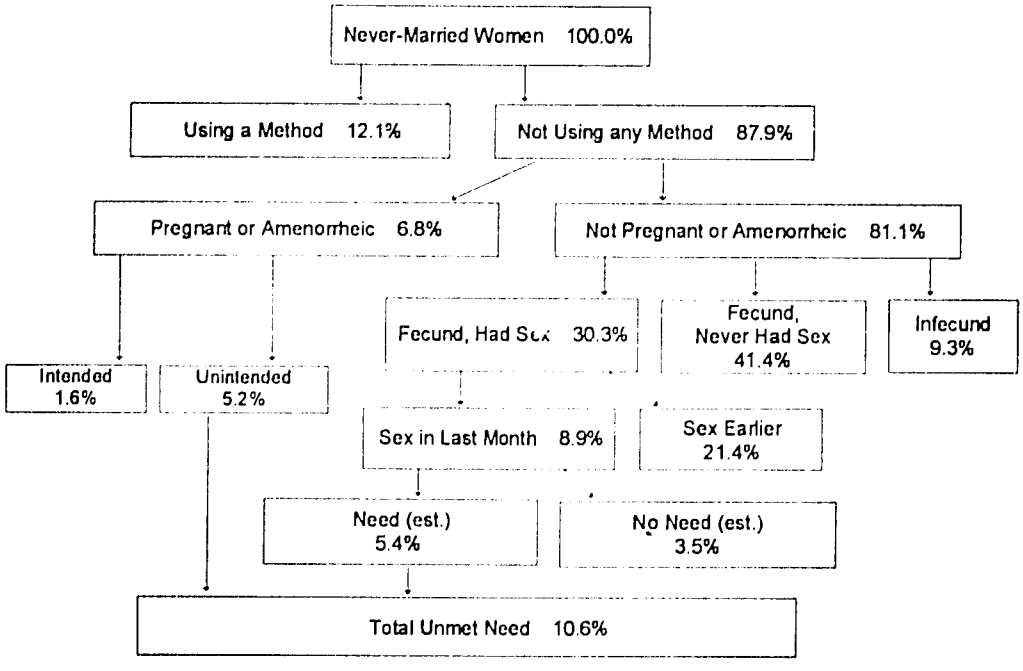
The measure of unmet need developed for never-married women has some similarities with that for married women (see Figure 8.1) However, since the question on reproductive intentions was not asked of unmarried women, spacing need cannot be differentiated from limiting need. Given the age composition of never-married women, it is safe to assume that most never-married women will want children eventually. The main difference is that for currently married women sexual activity is assumed and thus exposure to the risk of pregnancy for those who are fecund. This assumption is obviously inappropriate for never-married women,[12] many of whom have never had sex. Therefore, it is necessary to rely on the woman's report of the last time she had sex-

[10] Estimates of unmet need for adolescent women in sub-Saharan Africa were prepared for and published by the Population Reference Bureau (Population Reference Bureau, 1992: 20).

[11] Concern about the quality of reports of sexual activity by never-married women relates primarily to Latin American countries where the prevalence appears much too low.

[12] It is inappropriate for some married women as well, but this is to some extent taken into account in the reasons for not intending to use.

Figure 8.1 Unmet need among never-married women: Kenya, 1993



ual intercourse if she reports ever having had sex. For the algorithm in Figure 8.1, never-married women who are neither pregnant nor amenorrheic are divided into those who are fecund with sexual experience, those who are fecund but have never had sex, and those considered infecund (mostly women who have not yet reached menarche). Women with sexual experience are then subdivided into those who reported having had sex in the past month and those who last had sex more than one month ago. This cutoff is admittedly arbitrary but it is consistent with the concept of a current status measure. To minimize this arbitrariness, a second estimate of unmet need that regards never-married women as exposed to risk who *ever* had sex is also presented.

One question in the DHS-I questionnaire permitted classifying women by their attitude toward the possibility of becoming pregnant in the near future. However, this question was not included in the DHS-II questionnaire. It is known from the DHS-I tabulations that an average of almost 50 percent of not pregnant, sexually active, unmarried nonusers across African countries said they would be happy or indifferent if they became pregnant in the next few weeks. It is difficult to evaluate the validity of such an attitude since it is based on a hypothetical question, but the distributions correspond roughly with the percentages of never-married women who recently had a baby who reported that it was intended. Anthropological literature also supports the proposition that the demonstration of fertility is regarded in some societies as relevant to marriageability (Orubuloye, 1987; Schapera, 1933). In any event, it seems completely inappropriate to assume that all sexually active never-married women are anxious to avoid pregnancy. For the DHS-I African countries, the direct question described above was used; for the DHS-II countries, one relies on the proportion of pregnancies to currently pregnant or amenorrheic women which they report as intended in contrast to mistimed or never wanted. Because of small samples of such women in some countries, regional averages of 32 percent for West Africa and 40 percent for East and Southern Africa are relied on.

8.2 ESTIMATES OF UNMET NEED AND DEMAND

The first item of interest is the types of exposure for never-married women (Table 8.1) and the proportions who report having had sex. Since this category consists of the current users, the pregnant or amenorrheic women, and those in neither category, it is more efficient in Table 8.1 to examine the proportion who never had sex.[13] The range in this percentage extends from a low of 12.7 percent in Botswana (where marriage is very late) to a high of 84.3 percent in Burundi. Sexually active women not using any method are most at risk. In this category, eight African countries exceed 10 percent and five countries have fewer than 5 percent. The overall average is just under 10 percent. An additional average of 13 percent are in this risk category but reported the most recent sex as more than a month earlier.

The summary estimates of unmet need and demand are shown in Table 8.2 and Figure 8.2. As noted earlier, two measures of need are shown which differ in whether the reported sexual experience is restricted to the past month or includes women who ever had sex. Women in Botswana and Namibia, where marriage is late, show the highest proportions in need by the current status (sex in last month) measure. Zambia is close behind. With the more liberal definition (ever had sex), half of the countries show unmet need estimates exceeding 20 percent. The corresponding averages across countries are 9 percent and 17 percent for the two definitions, respectively. The demand for family planning is highest in Botswana, Cameroon and Togo where the proportions using contraception are the highest.[14] Cameroon and Togo show the highest and Zambia the lowest percentage of demand satisfied.

Because of the keen interest in the needs of adolescents, this same table of need and demand is shown separately for never-married teenagers and for those age 20-24 (Table 8.3). Because of higher rates of sexual activity among the older women, the unmet need percentages tend to be higher than for adolescents although this is offset to some extent by higher proportions using among the 20- to 24-year-olds. The average unmet need for teenagers is 8 percent and is 12 percent for women age 20-24.[15]

[13] This excludes some women classified as infecund, but since they are mostly very young girls who have not yet experienced menarche, the effect is small.

[14] Contraceptive use is high in Cameroon and in Togo partly because of the inclusion of prolonged abstinence. If not included, the estimate of contraceptive prevalence would be 30.0 percent in Cameroon and 26.4 percent in Togo.

[15] Mali is excluded from this calculation because there is no demand evident.

Table 8.1 Exposure status: Never-married women

Percent distribution of never-married women by exposure status, Demographic and Health Surveys, 1987-1993

Country	Year of survey	Percent total	Using a method	Not using any method: Pregnant or amenorrheic[a]: Intended	Unintended	Not pregnant or amenorrheic: Infecund	Fecund: Never had sex	Sex more than one month ago	Had sex within last month	Number of women
SUB-SAHARAN AFRICA										
Botswana	1988	100.0[c]	27.3	5.5	10.9	3.6	12.7	20.4	17.8	2312
Burkina Faso	1993	100.0	5.8	0.6	1.8	25.5	52.7	7.4	6.1	855
Burundi	1987	100.0	0.6	0.2	1.4	10.7	84.3	2.5	0.2	1046
Cameroon	1991	100.0	33.9	2.0	4.1	7.8	33.8	10.4	8.0	720
Ghana	1993	100.0	16.3	0.3	2.2	8.8	33.1	24.1	15.1	875
Kenya	1993	100.0	12.1	1.6	5.2	9.3	41.4	21.4	8.9	2280
Liberia	1986	100.0	12.5	10.6	7.3	9.6[b]	16.1	18.8	25.1	1123
Madagascar	1992	100.0	8.9	6.4	4.4	9.1	42.2	13.7	15.3	1679
Mali	1987	100.0	0.8	0.0	0.4	29.7	63.4	3.3	2.4	142
Namibia	1992	100.0	18.7	6.6	7.9	7.5	30.0	15.3	14.1	2783
Niger	1992	100.0	2.8	0.6	1.7	30.4	60.0	3.3	1.4	682
Nigeria	1990	100.0	15.2	0.9	0.9	7.9	51.3	10.8	13.1	1513
Rwanda	1992	100.0	1.7	0.7	2.4	14.5	73.7	5.7	1.3	2100
Senegal	1992-93	100.0	4.3	1.0	4.1	9.3	71.7	7.7	2.0	1578
Tanzania	1991-92	100.0	5.9	5.3	4.0	15.9	40.9	12.8	15.3	2261
Togo	1988	100.0	30.3	1.2	2.9	9.7	29.2	18.7	8.0	739
Uganda	1988-89	100.0	5.3	4.1	3.9	12.9	43.0	21.7	9.0	921
Zambia	1992	100.0	3.4	3.9	5.7	7.4	40.9	23.6	15.1	1791
Zimbabwe	1988	100.0	7.0	1.5	1.6	6.2	67.6	11.1	5.1	1133

[a] Distribution of planning status for currently pregnant women is based on the distribution for amenorrheic women for Botswana, Burundi, Liberia, Mali, Togo, and Uganda. Estimate for Zimbabwe is based on the average figure for the region.
[b] Estimate in Liberia based on the average figure for the region as derived from the distribution for the other countries.
[c] Includes contraceptive failure (1.8%) among pregnant or amenorrheic women.

Table 8.2 Demand and unmet need: Never-married women

Unmet need and the demand for contraception among never-married women, Demographic and Health Surveys, 1987-1993

Country	Demand for contra-ception	Current use	Unmet need[a]	Percentage of demand satisfied	Unmet need[b]
SUB-SAHARAN AFRICA					
Botswana	47.3[c]	27.3	18.2	61.5	27.4
Burkina Faso	11.8	5.8	6.0	49.1	11.1
Burundi	2.1	0.6	1.5	28.6	1.9
Cameroon	43.4	33.9	9.5	78.1	16.5
Ghana	28.7	16.3	12.4	56.8	28.8
Kenya	22.7	12.1	10.6	53.3	23.4
Liberia	26.1	12.4	13.7	47.5	23.0
Madagascar	22.5	8.9	13.6	39.5	21.8
Mali	2.4	0.8	1.6	33.3	3.2
Namibia	35.1	18.7	16.4	53.3	25.6
Niger	5.4	2.8	2.6	52.0	4.8
Nigeria	24.9	15.2	9.7	61.0	17.1
Rwanda	4.8	1.7	3.1	35.4	6.6
Senegal	9.7	4.3	5.4	44.3	10.6
Tanzania	19.1	5.9	13.2	30.9	20.8
Togo	38.6	30.3	8.3	78.5	21.0
Uganda	13.9	5.3	8.6	38.1	22.0
Zambia	18.2	3.4	14.8	18.7	28.9
Zimbabwe	10.8	7.0	3.8	64.8	10.4

[a] Estimated for fecund women who had sex within the last month or pregnant or amenorrheic women whose pregnancy was mistimed or unwanted.
[b] Expanded to include fecund women who ever had sex or who are pregnant or amenorrheic and whose pregnancy was mistimed or unwanted.
[c] Includes contraceptive failure among pregnant or amenorrheic women.

Figure 8.2 Total demand for family planning among never-married women in sub-Saharan countries, Demographic and Health Surveys, 1987-1993

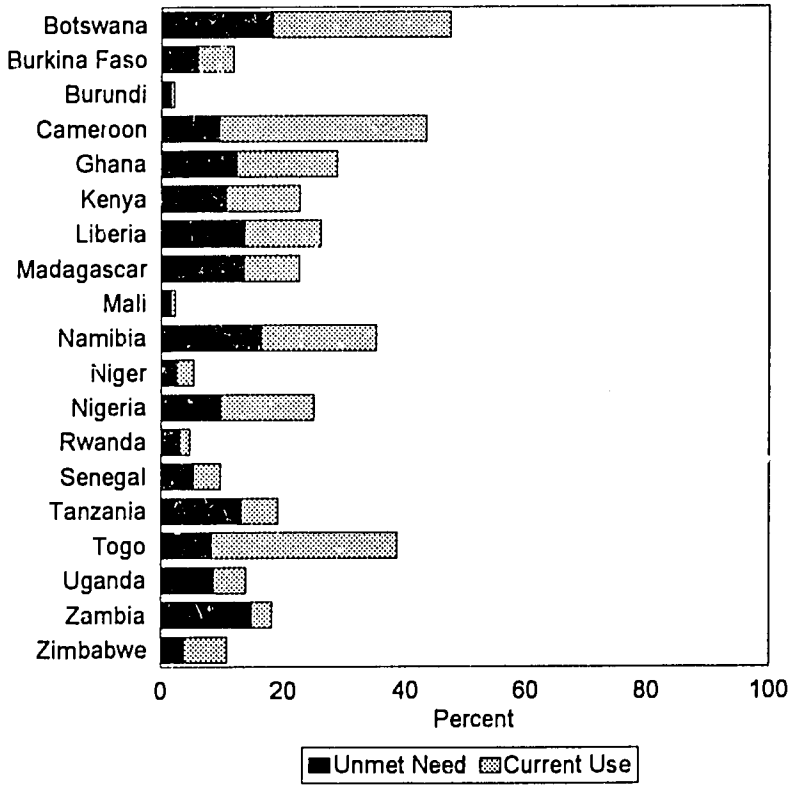


Table 8.3 Demand and unmet need by age groups: Never-married women

Unmet need and the demand for contraception among never-married women 15-19 and 20-24, Demographic and Health Surveys, 1987-1993

Country	Demand for contra-ception	Current use	Unmet need[1]	Percentage of demand satisfied	Unmet need[2]
NEVER-MARRIED WOMEN 15-19 YEARS					
Botswana	36.6	14.5	21.2	42.3	34.2
Burkina Faso	9.2	3.6	5.6	39.1	9.3
Burundi	0.7	0.2	0.5	28.6	0.6
Cameroon	34.7	27.0	7.7	77.8	12.9
Ghana	22.7	11.1	11.6	48.9	24.9
Kenya	14.3	5.0	9.3	35.0	19.2
Liberia	19.7	7.0	12.7	35.5	23.0
Madagascar	17.7	5.6	12.1	31.6	16.7
Mali	2.7	0.9	1.8	33.3	2.2
Namibia	23.1	9.9	13.2	42.9	17.7
Niger	3.1	1.4	1.7	45.2	2.7
Nigeria	16.6	8.8	7.8	53.0	11.0
Rwanda	2.1	0.6	1.5	28.6	3.0
Senegal	4.7	1.4	3.3	29.8	5.0
Tanzania	14.3	2.8	11.5	19.6	16.6
Togo	31.8	23.3	8.5	73.3	19.1
Uganda	10.6	3.0	7.6	28.3	20.0
Zambia	15.6	1.6	14.0	10.2	25.3
Zimbabwe	6.6	3.4	3.2	51.5	7.5
NEVER-MARRIED WOMEN 20-24 YEARS					
Botswana	55.1	33.5	18.0	67.3	25.8
Burkina Faso	31.9	21.6	10.3	67.7	24.5
Burundi	4.2	0.9	3.3	21.4	4.4
Cameroon	67.7	57.1	10.6	84.3	19.8
Ghana	43.4	29.0	14.4	66.8	37.5
Kenya	33.0	19.8	13.2	60.0	31.4
Liberia	39.7	26.2	13.5	66.0	21.3
Madagascar	30.4	13.0	17.4	42.8	29.1
Mali	*	*	*	*	*
Namibia	41.8	22.8	19.0	54.5	31.5
Niger	14.6	8.5	6.1	58.2	12.9
Nigeria	37.3	24.2	13.1	64.9	27.9
Rwanda	7.2	2.3	4.9	31.9	9.9
Senegal	15.2	7.0	8.2	46.0	18.4
Tanzania	26.7	10.6	16.1	39.7	29.5
Togo	53.0	46.2	6.8	87.2	25.1
Uganda	25.2	12.1	13.1	48.0	32.0
Zambia	25.7	6.8	18.9	26.5	42.9
Zimbabwe	21.2	13.4	7.8	63.2	20.6

* Less than twenty cases

[1] Estimated for fecund women who had sex within the last month or pregnant or amenorrheic women whose pregnancy was mistimed or unwanted.

[2] Expanded to include fecund women who ever had sex or who are pregnant or amenorrheic and whose pregnancy was mistimed or unwanted.

8.3 COVARIATES OF CONTRACEPTIVE USE

Special interest attaches to the characteristics of never-married women who use contraception. Both residence and education are consistently related to contraceptive use in this population as well as for married women. Use is higher in urban than in rural areas in all the 19 African countries observed here and use rises consistently with education (except in Zimbabwe).

Also included is a measure of exposure to mass media, which is based on whether the women regularly listen to radio, watch television or read magazines or newspapers (Table 8.4). The index shown here, which ranges from a score of 0 to 3, is the simple summation of whether they are exposed to these media. The assumption is that this index is a crude measure of exposure to modern ideas that might encourage fertility regulation. The association with contraceptive use is pronounced and consistent: for all countries except Mali there is a monotonic increase in use with media exposure. Considering how crude a measure this is (it reflects nothing about the content of the exposure) the association is impressive. Of course a multivariate analysis would be necessary to determine whether the association is a function of urban residence and/or education, but some additional tabulations (not shown) indicate a persistent effect.

Table 8.4 Use by residence, education and media exposure: Never-married women

Percent using any method for never-married women by urban-rural residence, education and exposure to mass media, Demographic and Health Surveys, 1987-1993

Country	Residence		Level of education			Media exposure			
	Urban	Rural	None	Primary	Secondary+	0	1	2	3
SUB-SAHARAN AFRICA									
Botswana	36.6	23.5	17.0	24.7	36.1	17.0	30.2	-	-
Burkina Faso	9.0	3.8	2.3	3.8	17.6	2.4	6.2	9.4	12.4
Burundi	9.6	0.2	0.0	1.6	8.3	0.1	1.6	-	-
Cameroon	41.5	25.2	2.0	16.7	47.9	16.6	28.6	48.6	-
Ghana	17.7	14.7	7.3	9.6	18.8	7.2	12.7	18.2	31.0
Kenya	18.3	10.3	10.5	8.6	18.8	10.1	11.0	11.7	18.3
Liberia	16.9	5.9	0.0	4.5	28.7	3.9	15.6	-	-
Madagascar	16.8	3.8	2.2	3.3	18.2	3.6	9.8	14.1	24.1
Mali	2.4	0.0	0.6	1.4	0.0	0.8	0.8	-	-
Namibia	35.9	8.4	11.4	13.3	26.4	6.2	12.3	18.8	37.6
Niger	6.1	1.0	1.2	5.4	6.5	1.0	2.5	4.3	6.9
Nigeria	21.9	10.6	2.7	8.4	21.5	6.4	8.9	23.9	-
Rwanda	4.6	1.5	1.6	1.5	2.9	NA	-	-	-
Senegal	5.6	2.1	1.9	4.8	8.4	0.9	2.7	4.1	8.7
Tanzania	8.9	4.5	3.6	5.2	12.6	2.7	6.3	8.4	12.7
Togo	36.3	23.0	13.3	30.1	47.3	24.3	40.5	-	-
Uganda	12.1	3.8	1.4	2.9	15.3	3.1	8.7	-	-
Zambia	3.5	3.1	0.0	2.3	5.6	1.7	3.4	2.6	5.8
Zimbabwe	9.9	5.0	10.5	5.3	8.0	4.6	5.1	10.2	-

NA = Not available
- = All three media exposure questions not included

9 Formerly Married Women

Although the currently married and never-married women constitute by far the largest groups in the population, the formerly married, including divorced, separated and widowed, may also be exposed to the risk of unintended pregnancy. This marital status category was not included in the DHS-I comparative study of unmet need.

Because of some of the same limitations that restricted the analysis of never-married women to sub-Saharan Africa, particularly the inclusion of questions on sexual activity as well as doubts about the quality of the sexual activity data, the analysis for the formerly married has also been confined to the same African countries.

9.1 MEASUREMENT

The measurement of unmet need for the formerly married women (Figure 9.1) is similar to that for never-married women. The basic difference is that for formerly married women, there is no assumption that a certain fraction are indifferent to the risk of pregnancy or, stated differently, it is assumed that all formerly married women are more or less motivated to avoid pregnancy in their present status. The fact that some formerly married women are pregnant or amenorrheic and report that the pregnancy was intended is less revealing than for never-married women because some of those women were married at the time of the conception.

9.2 ESTIMATES OF UNMET NEED AND DEMAND

A considerable fraction of formerly married women are indeed pregnant or amenorrheic, ranging from about 10 to 25 percent. In most but not all of the African countries included, that pregnancy or birth was reported as intended (Table 9.1). Because of the generally older ages of these women, the proportions infecund are higher than for currently married women. The percentage using contraception tends to be lower among the formerly married than among the currently married, but there are numerous exceptions.

Figure 9.1 Unmet need among formerly married women: Kenya, 1993

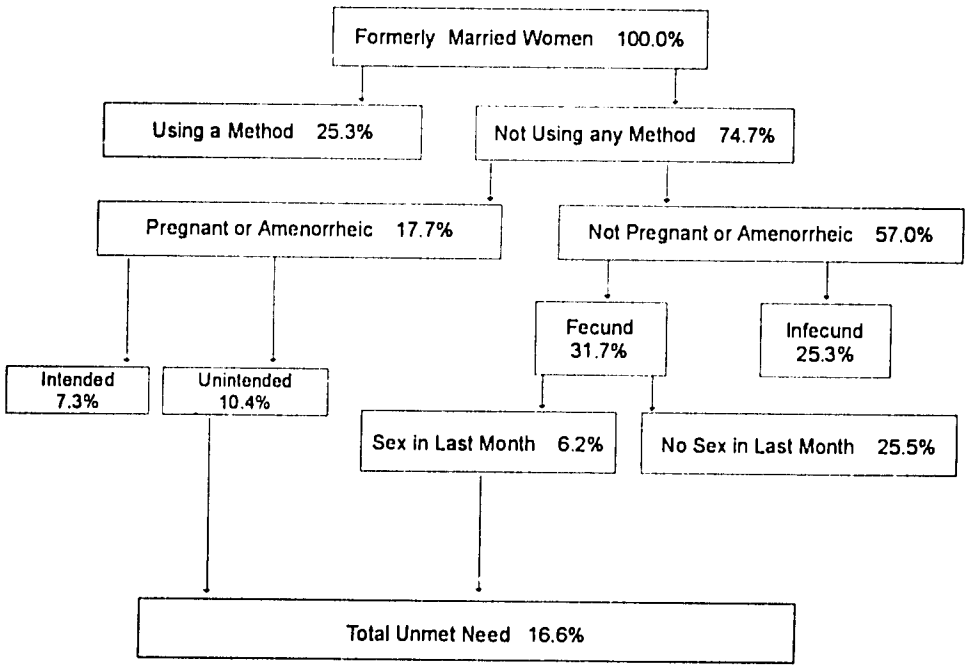


Table 9.1 Exposure status: Formerly married women

Percent of formerly married women by exposure status, Demographic and Health Surveys, 1987-1993

Country	Percent total	Using a method	Not using any method: Pregnant or amenorrheic[a]: Intended	Not using any method: Pregnant or amenorrheic[a]: Unintended	Not using any method: Not pregnant or amenorrheic: Infecund	Not using any method: Not pregnant or amenorrheic: Fecund, sexually inactive	Not using any method: Not pregnant or amenorrheic: Fecund, sexually active	Number of women
SUB-SAHARAN AFRICA								
Botswana	100.0[b]	29.5	5.0	7.6	31.2	14.4	10.9	349
Burkina Faso	100.0	10.0	17.0	4.6	26.6	35.0	6.8	173
Burundi	100.0	5.8	15.9	9.0	38.8	29.5	1.0	255
Cameroon	100.0	20.9	12.1	2.9	28.8	21.3	14.0	283
Ghana	100.0	14.4	4.7	5.2	35.7	29.0	11.0	465
Kenya	100.0	25.3	7.3	10.4	25.3	25.5	6.2	631
Liberia	100.0	12.5	13.4	10.4	23.1	17.9	22.8	577
Madagascar	100.0	7.1	16.9	9.9	29.9	22.1	14.1	845
Mali	100.0	6.8	13.3	1.7	42.0	33.1	3.1	109
Namibia	100.0	23.5	10.8	5.3	26.6	21.7	12.1	379
Niger	100.0	6.8	12.8	7.2	36.3	34.4	2.5	261
Nigeria	100.0	4.8	14.2	4.0	42.7	23.3	10.9	388
Rwanda	100.0	10.0	14.1	10.7	32.8	28.9	3.5	665
Senegal	100.0	15.6	8.2	7.8	34.4	31.6	2.5	282
Tanzania	100.0	11.9	16.1	7.9	28.3	19.8	16.0	939
Togo	100.0	32.3	5.8	3.2	18.0	37.1	3.6	167
Uganda	100.0	9.0	14.5	9.7	30.5	26.3	10.0	629
Zambia	100.0	9.8	10.4	8.9	25.8	31.5	13.6	811
Zimbabwe	100.0	31.5	5.5	3.7	21.6	26.6	11.1	425

[a] The distribution of planning status for currently pregnant women is based on the distribution for amenorrheic women for Botswana, Burundi, Liberia, Mali, Togo and Uganda. The estimate for Zimbabwe is based on the average figure for the region.
[b] Includes contraceptive failure (1.3%) among pregnant or amenorrheic women.

The formerly married at high risk of unintended pregnancy are those fecund women who are sexually active and not using any method. An average of about 9 percent of formerly married women fall into this category. This group, plus those pregnant or amenorrheic women whose pregnancy was unintended, constitute the unmet need category for formerly married women (Table 9.2).[16] The percentages currently using a method and the proportions classified as having an unmet need are about the same on average, i.e., 15 and 16 percent, respectively (Figure 9.2). The percentage of demand satisfied ranges from a quarter to two-thirds.

The formerly married category includes two very different subgroups: the widowed who tend to be older and younger women whose marriages were dissolved by divorce or separation. The basic estimates of unmet need and demand for two, broad, age groups are shown in Table 9.3. The demand for family planning is significantly higher for the younger than for the older women because both use and unmet need are greater and infecundity is lower. Almost without exception, formerly married women in cities are more likely to use contraception than those in rural areas. Use rises sharply with education and is also directly and strongly associated with exposure to the mass media (Table 9.4).

[16] Unlike the procedure followed for never-married women, there is only one definition of need for formerly married women, based on those who reported sex in the past month. Since virtually all formerly married women have had sex at some time in the past, the inclusion of all fecund nonusers would greatly exaggerate the amount of need.

Table 9.2 Demand and unmet need: Formerly married women

Unmet need and the demand for contraception among formerly married women, Demographic and Health Surveys, 1987-1993

Country	Demand for contra-ception	Current use	Unmet need[a]	Percentage of demand satisfied
SUB-SAHARAN AFRICA				
Botswana	49.3[b]	29.5	18.5	62.5
Burkina Faso	21.4	10.0	11.4	46.7
Burundi	15.8	5.8	10.0	36.7
Cameroon	37.8	20.9	16.9	55.3
Ghana	30.5	14.4	16.1	47.2
Kenya	41.9	25.3	16.6	60.4
Liberia	45.7	12.5	33.2	27.3
Madagascar	31.0	7.1	23.9	22.9
Mali	11.6	6.8	4.8	58.6
Namibia	40.9	23.5	17.4	57.5
Niger	16.5	6.8	9.7	41.2
Nigeria	19.8	4.8	15.0	24.2
Rwanda	24.1	10.0	14.1	41.5
Senegal	25.9	15.6	10.3	60.2
Tanzania	35.8	11.9	23.9	33.2
Togo	39.2	32.4	6.8	82.6
Uganda	28.7	9.0	19.7	31.4
Zambia	32.3	9.8	22.5	30.3
Zimbabwe	46.2	31.5	14.7	68.2

[a] Limited to fecund women who had sex within the last month or to pregnant or amenorrheic women whose pregnancy was mistimed or unwanted.
[b] Included contraceptive failure among pregnant or amenorrheic women.

Figure 9.2 Total demand for family planning among formerly married women in 19 sub-Saharan countries, Demographic and Health Surveys, 1987-1993

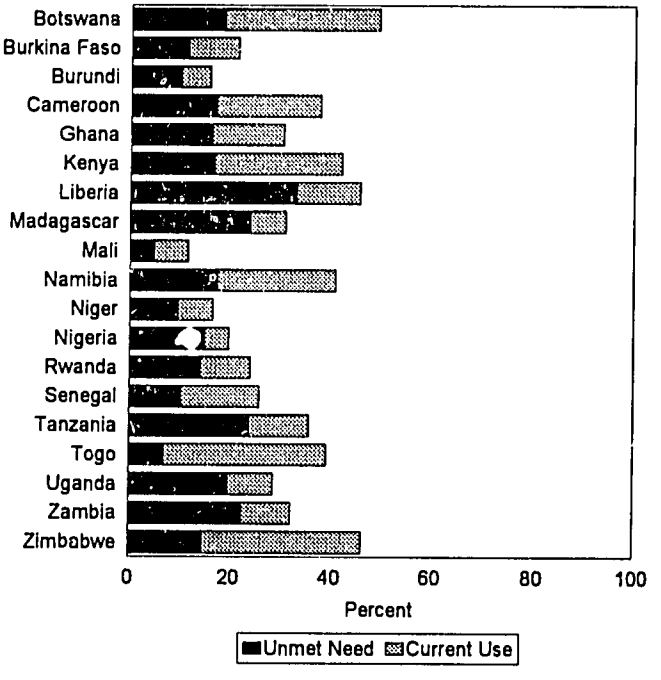


Table 9.3 Demand and unmet need by age groups: Formerly married women

Unmet need and the demand for family planning among formerly married women under 30 years old and 30-49, Demographic and Health Surveys, 1987-1993

Country	Demand for contra-ception	Current use	Unmet need	Percent of total demand satisfied
FORMERLY MARRIED WOMEN UNDER 30 YEARS				
Botswana	61.1	35.7	22.9	62.5
Burkina Faso	36.0	11.0	25.0	30.5
Burundi	20.7	7.9	12.8	38.2
Cameroon	44.8	24.3	20.5	54.2
Ghana	37.4	12.3	25.1	32.9
Kenya	54.9	32.8	22.1	59.7
Liberia	57.0	11.8	45.2	20.7
Madagascar	44.7	7.1	37.6	15.9
Mali	19.0	14.6	4.4	76.8
Namibia	50.7	29.5	21.2	58.2
Niger	21.2	7.2	14.0	34.0
Nigeria	32.4	8.4	24.0	25.9
Rwanda	32.4	12.4	20.0	38.3
Senegal	32.5	15.8	16.7	48.6
Tanzania	41.5	7.1	34.4	17.1
Togo	43.7	33.3	10.4	76.2
Uganda	36.1	10.3	25.8	28.5
Zambia	38.1	8.2	29.9	21.5
Zimbabwe	56.9	36.4	20.5	64.0
FORMERLY MARRIED WOMEN 30-49 YEARS				
Botswana	44.5	26.9	16.8	62.3
Burkina Faso	12.9	9.4	3.5	72.9
Burundi	13.0	4.7	8.3	36.1
Cameroon	33.3	18.7	14.6	56.2
Ghana	25.9	15.8	10.1	61.0
Kenya	34.2	20.9	13.3	61.1
Liberia	34.1	12.9	21.2	37.8
Madagascar	21.2	7.1	14.1	33.5
Mali	7.1	2.4	4.7	33.8
Namibia	36.9	21.0	15.9	56.9
Niger	12.4	6.5	5.9	52.4
Nigeria	15.2	3.6	11.6	23.7
Rwanda	21.1	9.1	12.0	43.1
Senegal	20.9	15.4	5.5	73.7
Tanzania	32.0	15.0	17.0	46.9
Togo	37.1	31.9	5.2	86.0
Uganda	23.0	8.0	15.0	34.8
Zambia	27.3	11.3	16.0	41.4
Zimbabwe	38.1	27.8	10.3	73.0

Table 9.4 Use by residence, education and media exposure: Formerly married women

Percent of formerly married women using any method, by urban-rural residence, education and exposure to mass media, Demographic and Health Surveys, 1987-1993

Country	Residence		Level of education			Media exposure			
	Urban	Rural	None	Primary	Secondary+	0	1	2	3
SUB-SAHARAN AFRICA									
Botswana	38.0	25.8	13.7	35.0	60.0	19.6	34.2	-	-
Burkina Faso	18.9	4.1	5.2	18.4	36.3	2.6	13.2	26.0	23.5
Burundi	24.6	3.6	3.1	18.0	16.1	4.3	9.2	-	-
Cameroon	33.6	8.3	8.3	17.1	55.7	8.0	29.8	39.5	-
Ghana	16.5	12.9	7.8	13.5	18.9	9.2	13.4	14.7	42.1
Kenya	38.6	21.6	13.8	29.6	35.5	19.2	24.1	30.3	54.9
Liberia	19.8	6.2	6.7	4.2	37.1	3.6	16.0	-	-
Madagascar	13.0	4.7	1.5	6.2	20.4	3.6	7.9	27.6	34.8
Mali	9.4	5.1	4.8	17.5	33.3	5.4	7.9	-	-
Namibia	36.0	14.5	12.2	20.8	38.0	13.0	10.4	26.5	47.6
Niger	15.9	1.7	4.0	21.7	25.8	3.0	6.4	11.7	42.9
Nigeria	12.0	2.5	2.8	3.7	21.3	2.0	5.5	10.4	-
Rwanda	15.6	9.6	6.5	14.1	12.6	NA	-	-	
Senegal	20.5	4.6	9.0	19.6	35.4	5.6	11.2	16.2	36.0
Tanzania	20.0	8.5	7.9	14.7	15.4	4.8	17.0	22.7	36.2
Togo	37.5	28.4	22.9	38.8	59.1	23.6	47.5	-	-
Uganda	17.6	7.6	4.9	9.3	26.7	7.9	11.6	-	-
Zambia	12.7	7.1	5.7	7.3	19.6	5.6	9.3	12.6	19.3
Zimbabwe	36.1	28.5	15.5	31.7	44.3	24.5	41.1	40.7	-

NA = Not available
- = All three media exposure questions not included

10 All Women

For both demographic and program purposes, it would be desirable to estimate unmet need without regard to marital status. The program administrator could plan on the basis of how many women in general there are to be served rather than on only the number of married women. The fertility rate in the population is based on all women as well. Of course, since married women constitute the major relevant component, estimates for this group certainly are useful. And, as will be seen in the following section, since samples of married women are the conventional basis for estimating contraceptive prevalence rates, the cumulative evidence permits estimating the associated total fertility rates. Nonetheless, the ultimate goal would be to estimate need for all women. Since estimates for all women are aggregated from the three separate marital categories, the procedure is again confined to the sub-Saharan countries. The net product is an estimate of total unmet need and total demand. These estimates are for a limited number of countries and are more in the spirit of innovation on the assumption that future surveys will be more comprehensive and permit estimates regardless of marital status.

10.1 ESTIMATES OF UNMET NEED AND DEMAND FOR ALL WOMEN

Since never-married women with no need for family planning constitute a significant part of the all-women total, the unmet need for all women (Table 10.1 and Figure 10.1) is lower than that for currently married women, but the difference is not large. The percentage of total demand satisfied ranges from a low of 21 in Burkina Faso to a high of 67 in Zimbabwe.

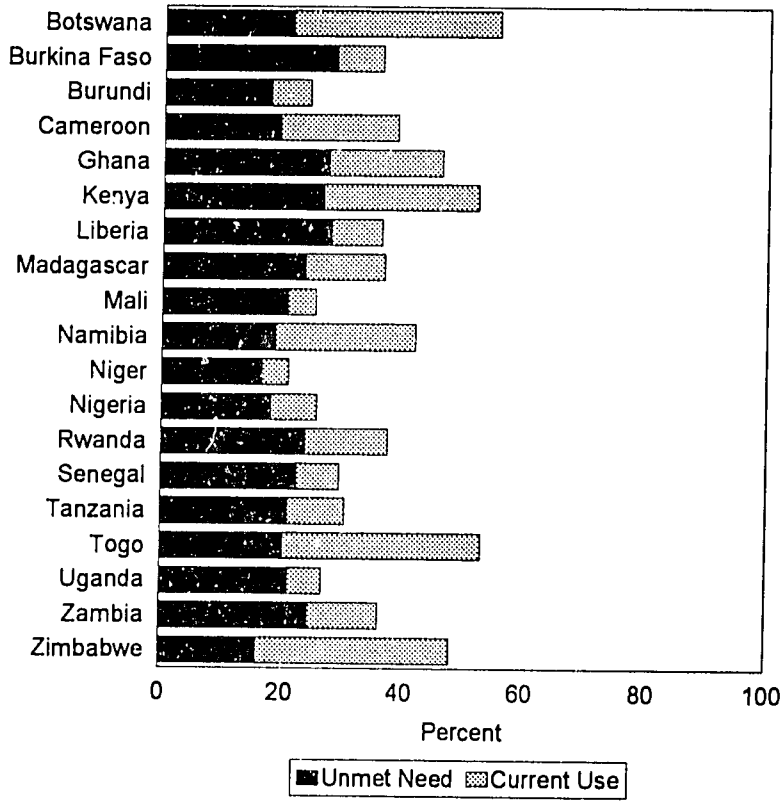
Table 10.1 Demand and unmet need: All women

Unmet need and the demand for contraception among all women, Demographic and Health Surveys, 1987-1993

Country	Demand for contraception	Current use	Unmet need	Percent of total demand satisfied
SUB-SAHARAN AFRICA				
Botswana	55.6[a]	29.7	21.1	62.0
Burkina Faso	36.1	7.7	28.4	21.3
Burundi	24.0	6.4	17.6	26.7
Cameroon	38.8	19.7	19.1	50.8
Ghana	46.2	18.9	27.3	40.9
Kenya	52.3	25.9	26.4	49.5
Liberia	36.2	8.4	27.8	23.2
Madagascar	36.8	13.3	23.5	36.1
Mali	25.3	4.6	20.7	18.2
Namibia	42.0	23.3	18.7	55.5
Niger	20.9	4.4	16.5	21.0
Nigeria	25.6	7.5	18.1	29.3
Rwanda	37.5	13.8	23.7	36.8
Senegal	29.5	7.1	22.4	24.1
Tanzania	30.4	9.5	20.9	31.2
Togo	53.2	33.0	20.2	62.0
Uganda	26.6	5.5	21.1	22.5
Zambia	36.1	11.6	24.5	32.1
Zimbabwe	48.2	32.2	16.0	66.8

[a] Includes contraceptive failure among pregnant or amenorrheic women.

Figure 10.1 Total demand for family planning for all women in 19 sub-Saharan countries regardless of marital status, Demographic and Health Surveys, 1987-1993



11 Demographic Significance of Unmet Need

One of the primary reasons for estimating the extent of unmet need in a population is to determine how much potential effect its satisfaction would have on the fertility rate. Here, the authors estimate this potential under four different assumptions about what kinds and amounts of unmet need are satisfied.

11.1 MODELS OF UNMET NEED SATISFIED

As has been seen, the diverse kinds of unmet need imply different kinds of program responses. Most unmet need would not be satisfied simply by providing additional contraceptive supplies or by making access more convenient or costs lower. Significant fractions apparently in need say that they do not intend to use any method because they are ambivalent about the timing of the next child, or because they are uninformed; others cite side effects or religious objections or objections of their partner, or report they are no longer exposed to the risk of pregnancy. To assume that all unmet need can be met, even among women who do not intend to use a method, and that all the different impediments can be overcome is extremely unrealistic but is useful simply to estimate the upper limit of the demographic potential of eliminating unmet need. Thus, Model 1 assumes the elimination of all unmet need.

The second model assumes the opposite extreme, i.e., that all married women in need who say that they do not intend to use a method in fact will not use. Whereas the first model will have the greatest impact on fertility, Model 2 will have the smallest. This model simply accepts at face value women's responses that, for whatever reason, they will not use contraception in the future.

A less stringent assumption is introduced in Model 3, i.e., that only those women in need who do not intend to use because they feel they are not exposed to risk (they report that they have difficulty becoming pregnant or that they have infrequent sex) in fact do not use. This implies that all of the other women who are in need but who do not intend to use are informed about contraception or are persuaded to overcome various kinds of objections to use.

Many alternative sets of assumptions can be imagined, but let us conclude with only one additional model, Model 4, which is our best estimate of the potential effect on fertility of eliminating unmet need. All of the preceding three models make different assumptions about the subset of women in need who report that they do not intend to use contraception. They assume, however, that all of those women who say they do intend to use in fact follow through on these intentions. This is clearly an exaggerated expectation. So, Model 4 relaxes this expectation and assumes (arbitrarily) that 20 percent of those women with a spacing need who intend to use a method and 10 percent of those with a limiting need who intend to use will not adopt contraception. Model 4 also assumes as does Model 3 that those women in need who do not intend to use because they feel unexposed to risk will not use. And, finally, this model assumes that half (also arbitrary) of the remaining women in need who do not intend to use will in fact use. This set of assumptions for Model 4 yields a fertility reduction between that for Models 2 and 3, but closer to that for Model 2. It is therefore a conservative estimate.

The hypothetical total demand estimates for the four models initially are calculated separately for the spacing and limiting components of unmet need and then are aggregated. The reason is to permit first adjusting the unmet need downward as proposed by Bongaarts (1991), which seems to be an appropriate adjustment for assessing the demographic significance of unmet need.[17] Based on Bongaarts' calculations, the adjustment for spacing need is a 30 percent reduction but for limiting need it is only 3 percent. The rationale for this spacing need adjustment is that spacers will at some point in the near future discontinue contraceptive practice in order to have another child. Therefore, the estimated demand for family planning as a current status estimate would exaggerate the steady-state effect of satisfying the unmet need for spacing.[18]

The "correction" of the unmet need for limiting, which has also been incorporated into all models, is based on Bongaarts' argument that a cohort's period of exposure to the need for contraception to limit fertility will diminish as the need for spacing is satisfied, because the women will have stretched out the time required to reach their desired number of children and thus have fewer remaining years of exposure to the risk of an unwanted birth. The downward adjustment for this category is only 3 percent and could easily be ignored both because of its magnitude and because the hypothetical effect is over a longer period of time. Nonetheless, it has been taken into account.

[17] The adjustment is appropriate for calculations of the hypothetical effect on fertility. For other uses of data on unmet need, such as those utilized by program managers, the appropriate statistic is the unadjusted unmet need presented in the earlier tables (Westoff, response to Bongaarts, 1992).

[18] The current CPR is unaffected by this consideration since it already reflects the net balance of entries and exits from the use for spacing purposes.

11.2 ESTIMATED TOTAL DEMAND UNDER DIFFERENT ASSUMPTIONS

The estimated total demand[19] for family planning implied by the satisfaction of unmet need under the four different assumptions shows a considerable range. The greatest increase in total demand is for Model 1, which assumes (following the Bongaarts adjustment) that all unmet need is satisfied. The hypothetical gains in the CPR that would be realized are considerable (Table 11.1 and Figure 11.1). For example, the CPR of Burkina Faso would increase from the current 8 to 33; of Rwanda, from 21 to 50; and of Pakistan from 12 to 38. The implied increases are considerable in the more developed countries as well, e.g., the CPR in Egypt would rise from 47 to 66, in Morocco from 41 to 58, in the Philippines from 40 to 62 and in Peru from 59 to 73. The average CPR in sub-Saharan Africa would rise from 15 to 37; the corresponding increase in countries outside that region, excluding Pakistan, is from 50 to 65 percent.

However, these estimated increases from Model 1 are too high because these calculations assume that all current unmet need can be satisfied.[20] A very conservative alternative is captured in Model 2, which assumes that only women in need who intend to use a method will become users. This has the effect, as noted earlier, of removing an average of nearly half of women in need. This model shows the smallest increases in expected use but there are appreciable gains nonetheless. Use in Ghana would rise from 20 to 38 percent, in Kenya from 33 to 53, in Malawi from 13 to 32. Under this assumption, the CPR in Jordan would increase from 40 to 48, in Bangladesh from 45 to 56, and in Colombia from 66 to 73 percent.

The two remaining models show results between those of Models 1 and 2. Model 3, which removes only the unexposed women in need from those who do not intend to use, shows a hypothetical increase from an average current CPR of 15 to an expected average of 36 percent in the sub-Saharan countries. In the other countries (excluding Pakistan) the CPR increases from an average of 50 to 64 percent.

Model 4, which is designed to be the most realistic estimate of the potential reduction of unmet need, also shows appreciable expected increases in the demand for family planning although not quite as high as Model 3. For example, the CPR in Madagascar could rise from 17 to 36, in Namibia from 29 to 41, in Nigeria from 6 to 16, and in Zambia from 15 to 31. Elsewhere, the increases expected are more modest: from 63 in Turkey to 69, from 50 in Indonesia to 57, from 45 to 56 in Bangladesh and from 56 to 67 percent in the Dominican Republic.

In sub-Saharan Africa the rise would be from the average CPR of 15 to 30 percent. In the other countries (excluding Pakistan), the corresponding increase would be from 50 to 60 percent.

Table 11.1 Estimates of demand for family planning: Four models

Estimates of the potential demand for family planning under four different assumptions of the amount of unmet need satisfied, Demographic and Health Surveys, 1990-1994

Country	Current contraceptive use	Potential demand estimated if need satisfied			
		Model 1	Model 2	Model 3	Model 4
SUB-SAHARAN AFRICA					
Burkina Faso	7.9	33.0	16.9	29.9	21.9
Cameroon	16.0	32.4	23.6	31.9	26.5
Ghana	20.3	45.9	38.1	44.6	38.4
Kenya	32.8	61.1	53.1	59.9	53.4
Madagascar	16.7	43.5	34.1	42.8	36.0
Malawi	13.0	40.4	32.5	38.8	32.2
Namibia	28.9	45.9	37.7	45.3	40.1
Niger	4.5	18.2	9.9	17.2	12.5
Nigeria	5.9	22.4	12.3	22.2	16.3
Rwanda	21.1	50.4	43.9	49.3	42.9
Senegal	7.4	29.6	18.5	29.0	21.8
Sudan (Northern)	8.7	28.5	15.7	25.8	24.3
Tanzania	10.4	31.7	20.4	30.4	23.7
Zambia	15.2	38.8	30.8	36.8	31.2
NEAR EAST/NORTH AFRICA					
Egypt	47.1	66.4	57.9	62.8	59.0
Jordan	40.0	58.5	48.2	55.1	50.4
Morocco	41.5	58.3	50.7	57.3	52.7
Turkey	62.6	72.5	68.7	70.7	69.0
ASIA					
Bangladesh	44.8	59.5	56.3	58.7	55.8
Indonesia	49.7	61.2	54.7	60.2	56.7
Pakistan	11.9	38.1	19.0	36.2	26.7
Philippines	40.0	61.6	48.5	59.2	52.7
LATIN AMERICA/CARIBBEAN					
Bolivia	45.3	66.6	56.9	65.4	59.8
Colombia	66.1	76.2	73.5	75.5	73.5
Dominican Republic	56.4	70.6	66.3	70.0	66.6
Paraguay	48.4	60.9	54.2	59.8	56.1
Peru	59.0	73.1	69.1	72.7	69.7

[19] "Total demand" is defined for this purpose as the simple sum of contraceptive prevalence and unmet need. This is the same definition used (see Table 4.2) for the sub-Saharan countries, but it differs for other countries in that it does not include the contraceptive failures of pregnant and amenorrheic women. The reason for excluding these failures in the demand estimated for this fertility analysis is that a measure of future contraceptive prevalence is needed that is consistent with the measure of prevalence used in other national surveys, which is the basis for the regression analysis of the TFR on the CPR.

[20] There will be rapid increases in the proportions of women wishing to control their fertility which may cause temporary increases in unmet need. At a certain stage of the transition, unmet need is a rapidly moving target because demand is outpacing supply.

Figure 11.1 Estimates of the demand for family planning under two assumptions of the satisfaction of unmet need, Demographic and Health Surveys, 1990-1994

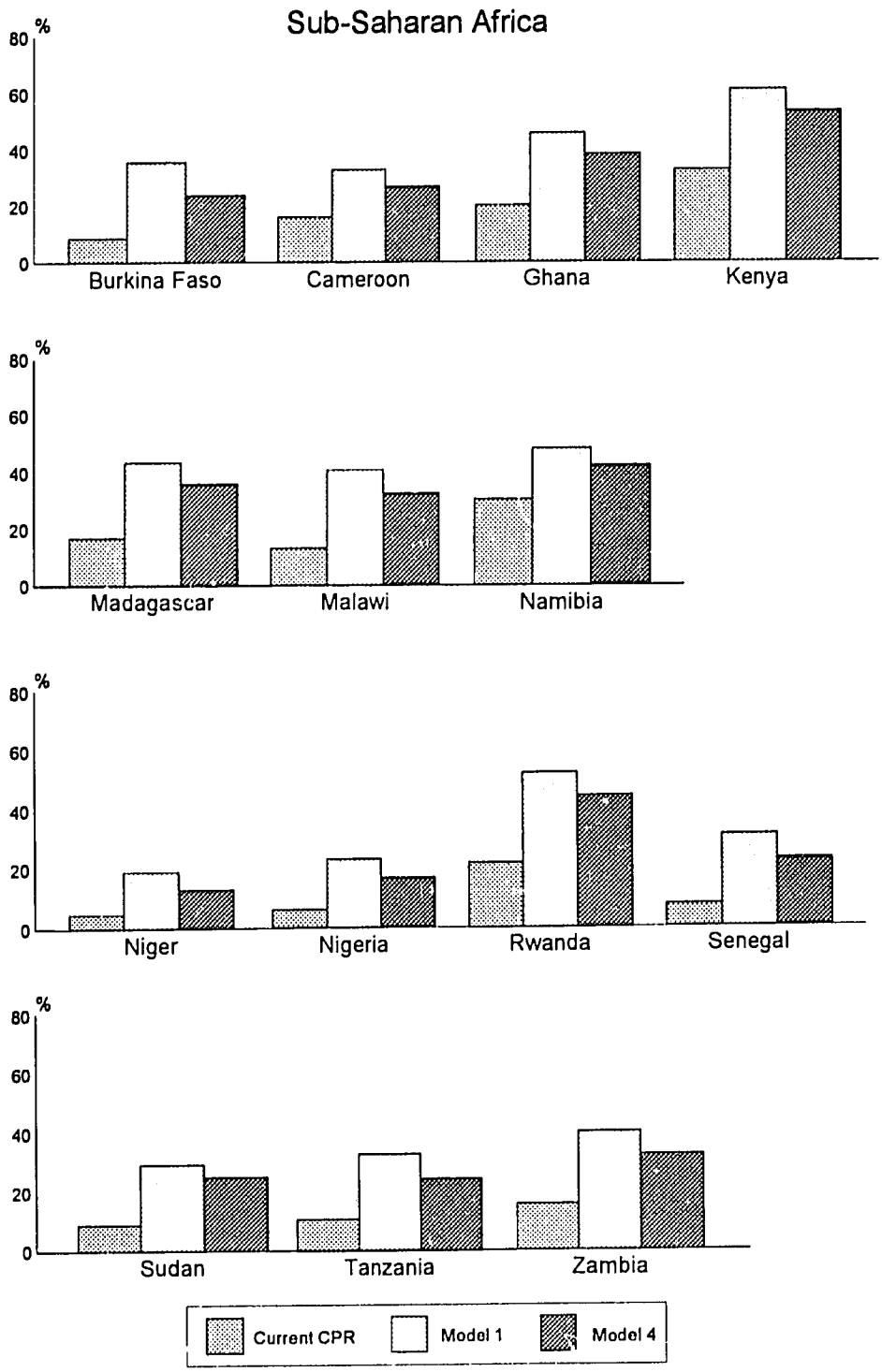
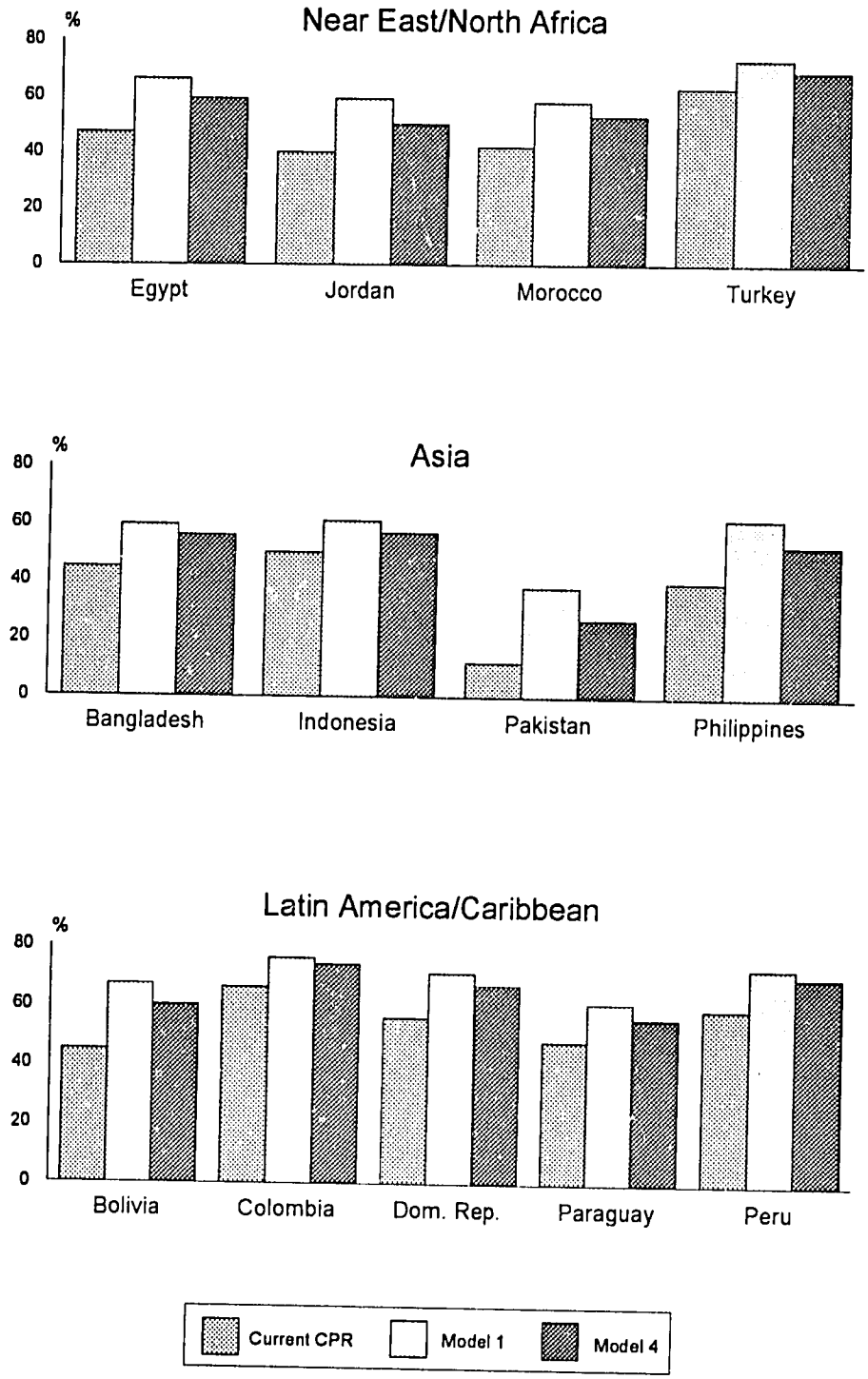


Figure 11.1—*Continued*



11.3 METHODOLOGY FOR ESTIMATING THE IMPLIED FERTILITY REDUCTION

The next question, given the estimates of demand if unmet need is satisfied, is "What would be the effect on the fertility rate?" The logic of the procedure followed is to exploit the strong correlation between contraceptive prevalence and the fertility rate that has been documented repeatedly across countries.

A collection of the most recent national survey estimates of these two parameters for 86 different countries has been assembled; the correlation between contraceptive prevalence (CPR) and the total fertility rate is 0.94. The regression equation used by the authors for estimating the TFR from the predicted new contraceptive prevalence rate is:

$$TFR_i = 7.178 - 0.0682\ (CPR_i) + e_i$$

where the CPR_i is the potential total demand for the individual country, i.e., the observed percentage of married women currently using contraception plus the percentage expected from satisfying unmet need under the different assumptions of the four models.

There is one complication that arises from the fact that although the correlation between the CPR and the TFR is very high, it is not perfect. The unexplained variance (around 12 percent) stems both from the operation of other unrepresented variables that affect fertility, for example, age at marriage, postpartum insusceptibility and abortion, and from errors of measurement of both of the main variables. The TFR is subject to errors of both displacement and omission of births (Curtis and Arnold, 199 , and contraceptive practice can be misreported as well although its characteristic errors are less understood. Also, the time junctures of the two measurements are imprecise. Although the CPR is a current status measure, the fertility rate is based on the three-year or five-year period before the interview. One consequence of these different factors is that the simple inclusion of the estimated demand into the regression equation can occasionally predict a fertility rate higher than the observed current rate. One example is Sudan,[21] with an observed TFR of 4.6 and a predicted rate of 5.2 based on Model 1 (the model that yields the greatest reduction estimate). In the case of Sudan there is the anomaly of a low TFR and a very low CPR of 8.7 percent. The extent of this apparent inconsistency can be appreciated by estimating the CPR that would theoretically be expected with the observed TFR of 4.6, which is 37 percent. The TFR expected with a CPR of 8.7 percent is 6.5. The TFR in Sudan has declined precipitously and sharp increases in age at marriage and age at first birth have played a major role. Other factors may be at work as well, including the possibility of underreporting of births. In any event, it is clear that determinants other than contraceptive practice are at work here.

There are a few other anomalies among the more than 100 estimates of fertility based on the four models of unmet need reduction; these occur for Model 2 for Nigeria and for Pakistan. Both of these countries have apparent problems with the accuracy of the reporting of recent births. In Pakistan, the observed recent decline in fertility was shown on reinterview to be largely due to the omission of births (Curtis and Arnold, 1994).

It is obvious that any reduction of unmet need by the substitution of contraception will not result in an increase in the fertility rate.[22] This problem has been essentially resolved by estimating the TFR that would be implied by the various models if all observations lay on the regression line. In effect, this eliminates the residuals and implies that contraceptive practice is a perfect predictor of fertility. Stated differently, it implies that all of the variance of fertility is determined by the variance of contraceptive practice. The procedure followed is first to calculate the estimated total demand for family planning under the four different models (shown earlier in Table 11.1). The second step is to derive from the regression equation the TFR that would be associated with these new estimated prevalence rates. In order to circumvent the anomalies described above, these estimated TFRs are then adjusted by adding the residuals obtained as the difference between the observed TFR and the TFR predicted by the current CPR. In effect, this removes the deviations from the straight line and indicates the TFR that would be realized if contraceptive prevalence were the only determinant. The adjusted TFRs for the four models are shown in Table 11.2 (see also Figure 11.2) and the derived percentage declines appear in Table 11.3.

11.4 THE FERTILITY IMPLICATIONS

Given the observed potential demand for family planning in Model 1 (revised downward only by the Bongaarts adjustment), which assumes that *all* unmet need would be satisfied, the implied reductions in fertility would be considerable. This maximum assumption would reduce the TFR in sub-Saharan Africa from an average of 6.1 to 4.6. The potential decline would be greatest in Kenya (36 percent), which has already experienced a rapid recent decline in fertility; the smallest reduction would be in Niger where even if all existing unmet need were satisfied, the estimated reduction would be only 13 percent. In other regions, the Philippines and Pakistan would realize large reductions as would the Dominican Republic. On average, the maximum effect (Model 1) for all countries considered indicates a reduction of 27 percent in the TFR; the minimum reduction in Model 2 is 15 percent.

In Model 3, which excludes from potential use only those women in need who do not intend to use because they do not think they are exposed to the risk of pregnancy, the results are quite similar to those for Model 1, i.e., an average reduction of 24 percent.

[21] Only northern Sudan was included in the survey.

[22] One possible exception would be the replacement of abstinence with imperfect methods.

Table 11.2 Total fertility rates associated with estimates of the demand for family planning

Total fertility rates associated with four estimates of the demand for family planning, Demographic and Health Surveys, 1990-1994

Country	Current TFR	TFR implied by CPR	TFR estimated if unmet need satisfied			
			Model 1	Model 2	Model 3	Model 4
SUB-SAHARAN AFRICA						
Burkina Faso	6.9	6.6	5.2	6.3	5.4	6.0
Cameroon	5.9	6.3	4.6	5.2	4.6	5.0
Ghana	5.5	4.9	4.6	5.2	4.7	5.1
Kenya	5.3	4.9	3.4	3.9	3.5	3.9
Madagascar	6.1	6.3	4.0	4.7	4.1	4.5
Malawi	6.7	6.3	4.8	5.4	4.9	5.4
Namibia	5.6	5.2	4.4	5.0	4.5	4.8
Niger	7.4	6.9	6.4	7.0	6.5	6.8
Nigeria	6.0	6.8	4.9	5.6	4.9	5.3
Rwanda	6.2	5.7	4.2	4.6	4.3	4.7
Senegal	6.0	6.7	4.5	5.2	4.5	5.0
Sudan (Northern)	4.7	6.6	3.4	4.2	3.6	3.7
Tanzania	6.2	6.5	4.7	5.5	4.8	5.3
Zambia	6.5	6.2	4.9	5.4	5.0	5.4
NEAR EAST/NORTH AFRICA						
Egypt	3.9	4.0	2.6	3.2	2.8	3.1
Jordan	5.6	4.8	4.0	4.7	4.2	4.5
Morocco	4.2	4.3	3.1	3.6	3.2	3.5
Turkey	2.5	2.9	1.9	2.1	2.0	2.1
ASIA						
Bangladesh	3.4	4.1	2.4	2.6	2.5	2.7
Indonesia	3.0	3.8	2.2	2.7	2.3	2.5
Pakistan	5.4	6.4	3.6	4.9	3.7	4.4
Philippines	4.1	4.5	2.6	3.5	2.8	3.2
LATIN AMERICA/CARIBBEAN						
Bolivia	4.8	4.1	3.3	4.0	3.4	3.8
Colombia	2.9	2.7	2.2	2.4	2.3	2.4
Dominican Republic	3.3	3.4	2.3	2.6	2.3	2.6
Paraguay	4.7	3.9	3.8	4.3	3.9	4.1
Peru	3.5	3.2	2.5	2.8	2.6	2.8

TFR = Total fertility rate
CPR = Contraceptive prevalence

Figure 11.2 Total fertility rates associated with increases in demand for family planning under two assumptions, Demographic and Health Surveys, 1990-1994

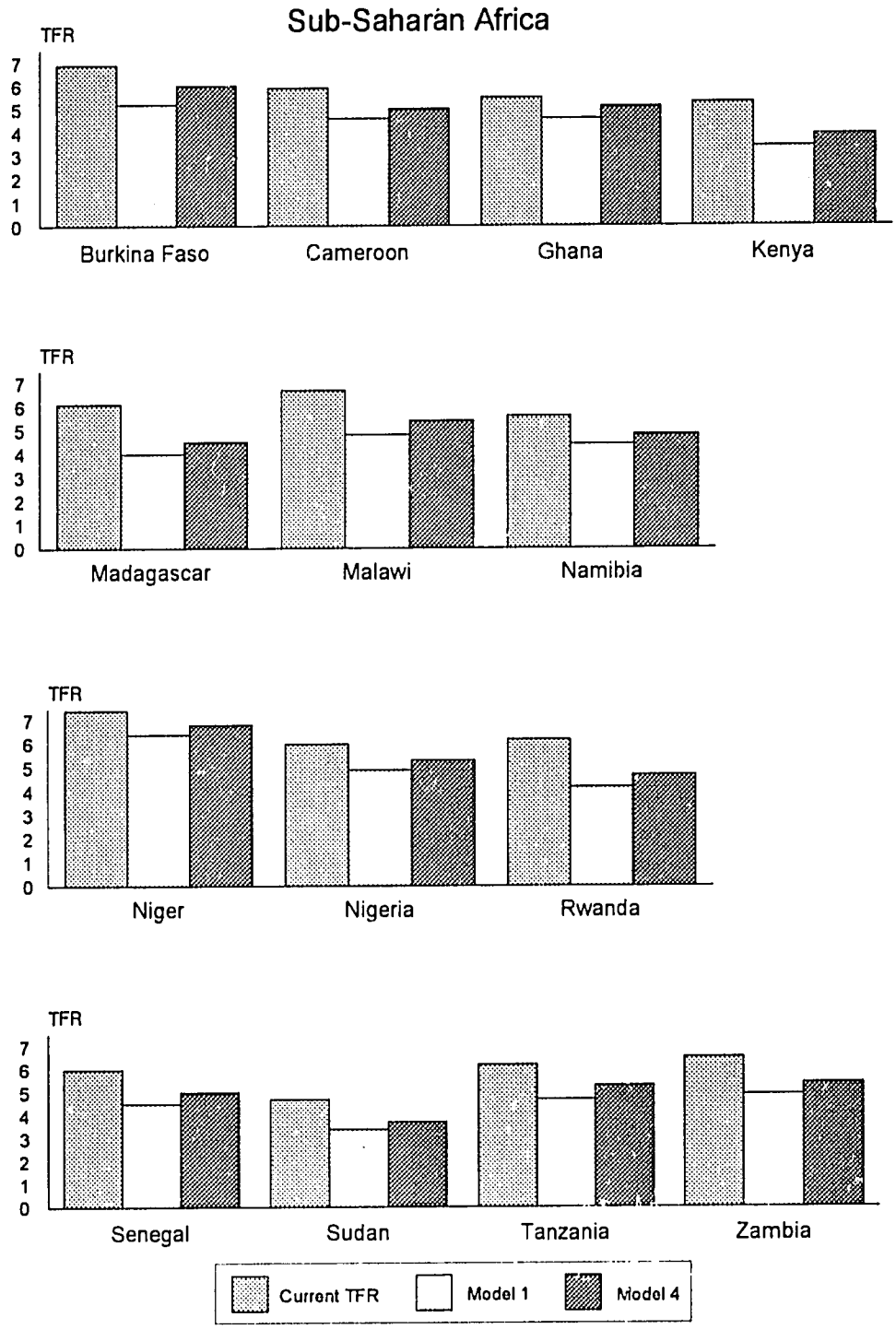


Figure 11.2—*Continued*

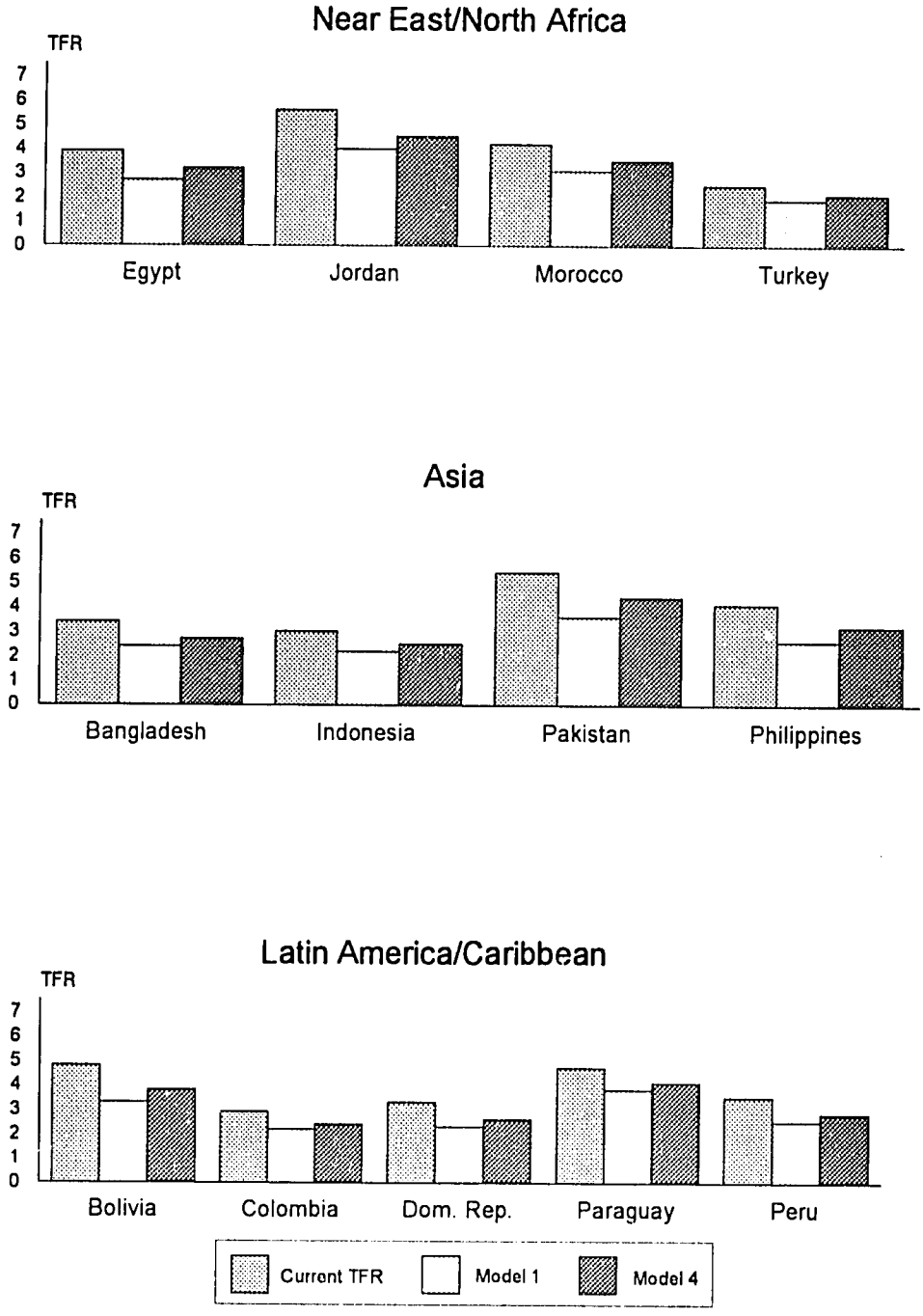


Table 11.3 Reductions in total fertility rate implied by the satisfaction of unmet need: Four models

Percent reduction of the total fertility rate implied by the satisfaction of unmet need under different assumptions, Demographic and Health Surveys, 1990-1994

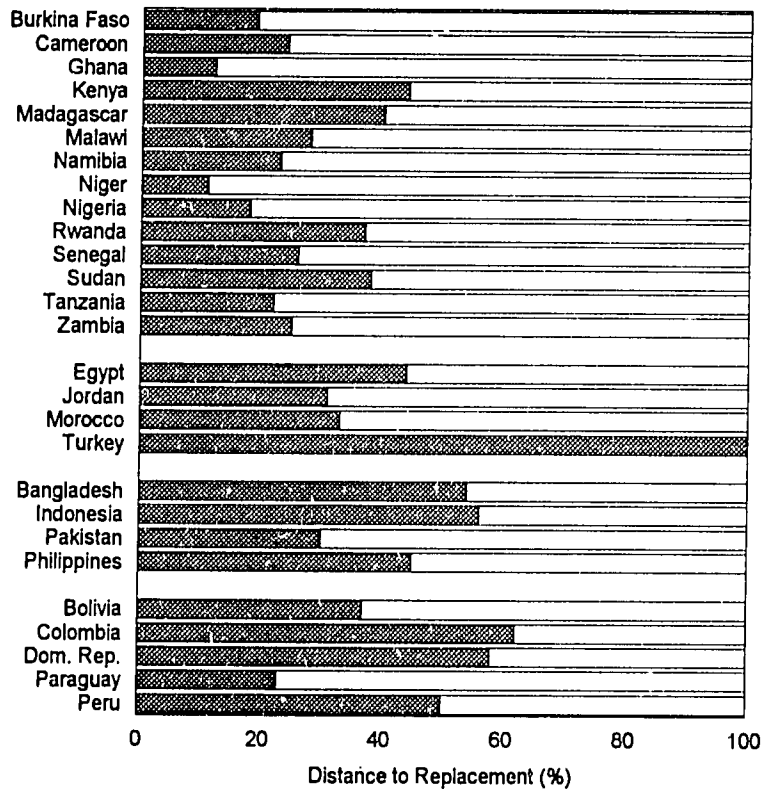
Country	Model 1	Model 2	Model 3	Model 4
SUB-SAHARAN AFRICA				
Burkina Faso	24.7	8.8	21.6	13.7
Cameroon	22.4	12.3	21.8	15.6
Ghana	16.0	6.3	14.4	6.7
Kenya	36.2	25.9	34.6	26.2
Madagascar	34.1	23.6	33.3	25.7
Malawi	27.9	19.8	26.3	19.5
Namibia	20.6	10.6	19.8	13.5
Niger	13.1	5.4	12.2	7.8
Nigeria	18.6	7.2	18.4	11.7
Rwanda	32.3	25.2	31.1	24.1
Senegal	25.7	13.1	25.0	16.8
Sudan (Northern)	28.3	9.7	24.4	22.2
Tanzania	23.9	11.4	22.4	15.1
Zambia	25.0	16.6	22.9	17.0
NEAR EAST/NORTH AFRICA				
Egypt	33.9	19.1	27.6	21.0
Jordan	28.6	16.1	24.5	18.8
Morocco	26.5	14.1	24.8	17.4
Turkey	25.9	15.5	21.0	16.4
ASIA				
Bangladesh	28.7	22.3	27.1	21.3
Indonesia	25.5	10.7	23.2	15.2
Pakistan	33.0	8.8	30.6	18.6
Philippines	35.9	14.1	31.9	21.1
LATIN AMERICA/CARIBBEAN				
Bolivia	30.3	16.5	28.6	20.6
Colombia	24.0	17.6	22.3	17.6
Dominican Republic	30.2	21.3	28.9	21.9
Paraguay	18.7	9.0	17.1	11.8
Peru	27.5	19.7	26.7	20.8

The most likely set of assumptions in Model 4 indicates an average TFR reduction across all countries of 18 percent. For sub-Saharan Africa, this average is essentially the same, 17 percent.

Another perspective on the extent to which fertility would be reduced by the satisfaction of unmet need is the proportion of the distance to the replacement level that would result. With the Model 4 assumptions, the TFR in Kenya would decline from 5.3 to 3.9. This decline of 1.4 represents 44 percent of the distance to replacement (1.4/5.3 - 2.1).[23] This calculation is shown in Figure 11.3 for all of the countries. In Turkey, if unmet need were satisfied with the criteria of the conservative Model 4, the TFR would reach replacement covering all (100 percent) of the distance from the current TFR of 2.5. In some other countries where current fertility is also relatively low, such as Colombia, the Dominican Republic and Peru, the satisfaction of unmet need would also have substantial effects on narrowing the distance to replacement (62, 58 and 50 percent, respectively). In Bangladesh and Indonesia, the elimination of unmet need would also result in reducing the distance to replacement by more than 50 percent. In sub-Saharan Africa, the average effect would be to cover one-quarter of the way to replacement. These estimates indicate that significant demographic effects could be realized by the reduction of unmet need even with the conservative assumptions incorporated into Model 4.

[23] The value of 2.1 is an approximation of the TFR required for replacement. The actual level may be slightly higher for countries with higher mortality rates.

Figure 11.3 Percent of the distance to replacement fertility that would result from satisfying unmet need (Model 4), Demographic and Health Surveys, 1990-1994



12 Summary and Conclusions

The original objective of this report was to bring up to date the comparative analysis of unmet need based on 25 countries included in DHS-I in which surveys had been conducted in the late 1980s. This original objective has been met. Furthermore, 27 countries with surveys completed in the first half of the 1990s have been included and the content of this report has been considerably expanded. In addition to presenting the estimates of unmet need for married women, estimates have been included for some countries for never-married and for formerly married women. Another new direction has been to include an analysis of the reasons why many women in need do not intend to use any method of contraception. Finally, the potential future demand for family planning and the implied reduction of fertility rates based on four different assumptions of the amount and kinds of unmet need satisfied have been estimated.

Countries represented in both DHS-I and DHS-II, covering roughly a five-year interval, have shown a fairly consistent small decline in the amount of unmet need. In a sense, unmet need is a moving target, increasing as higher proportions of women desire to control their fertility and decreasing with the adoption of contraception.

Two estimates of unmet need for the never-married women are provided, one for those who reported sex in the past month and another for those who ever had sex. The fraction of never-married women in sub-Saharan Africa with an unmet need is estimated as an average of 9 percent under the first definition and 17 percent if one prefers any history of sexual experience as the base. Estimates for formerly married women show an average unmet need of 14 percent across all countries. An average of 29 percent of married women in sub-Saharan Africa compared with 19 percent in other regions are estimated to have an unmet need.

Because all women classified in need of family planning are unlikely to use contraception in the future (surprisingly high proportions say that they do not intend to use for such reasons as lack of information, opposition to the idea, health reasons, or ambivalence about their childbearing preferences), the authors have developed several estimates of the fertility implications of the potential demand for family planning if different amounts of unmet need were satisfied. The most likely set of assumptions yields an average of a 17 percent decline in the total fertility rate in 14 sub-Saharan countries and an 18 percent decline across all of the 27 countries included in the report. Viewed in terms of the proportion of the distance to replacement fertility, the satisfaction of unmet need even with very conservative assumptions has significant potential demographic implications. It would exceed 50 percent in some countries and in sub-Saharan Africa the average effect would be to cover 25 percent of the distance to replacement.

13 References

Bongaarts, John. 1991. The KAP-gap and the unmet need for contraception. *Population and Development Review* 17(2):293-313.

Bongaarts, John and Judith Bruce. 1995. The causes of unmet need for contraception and the social content of services. *Studies in Family Planning* 26(2):57-75.

Curtis, Sean and Fred Arnold. 1994. *An evaluation of the reliability of the Pakistan Demographic and Health Survey based on the Pakistan Reinterview Survey.* Occasional Papers No. 1. Calverton, Maryland: Macro International Inc.

Dixon-Mueller, Ruth and Adrienne Germain. 1992. Stalking the elusive "unmet need" for family planning. *Studies in Family Planning* 23(5):330-335.

Meekers, Dominique. 1994. Sexual initiation and premarital childbearing in sub-Saharan Africa. *Population Studies* 48(1):47-64.

Orubuloye, I.O. 1987. Socio-cultural factors influencing the determinants of fertility: Selected case studies in Nigeria. In *The Cultural Roots of African Fertility Regimes*, ed. E. van de Walle and J.A. Ebigbola, 331-342. Philadelphia, Pennsylvania: Population Studies Center, University of Pennsylvania.

Population Reference Bureau. 1992. *Adolescent women in sub-Saharan Africa: A chartbook on marriage and childbearing.* Washington, D.C.

Pritchett, Lant. 1994. Desired fertility and the impact of population policies. *Population and Development Review* 20(1):1-55.

Ross, John A. 1994. Program implementation of the unmet need approach. Presented at the 1994 Annual Meeting of the Population Association of America, Miami, Florida.

Schapera, Isaac. 1933. Premarital pregnancy and native opinion: A note on social change. *Africa* 6(1): 59-89.

Sinding, Steven, John A. Ross and Allen Rosenfield. 1994. Seeking common ground: Unmet need and demographic goals. *International Family Planning Perspectives.* 20(1):23-27.

Westoff, Charles F. 1992. Measuring the unmet need for contraception: Comment on Bongaarts. *Population and Development Review* 18(1):123-125.

Westoff, Charles F. and Luis H. Ochoa. 1991. *Unmet need and the demand for family planning.* DHS Comparative Studies, No. 5. Columbia, Maryland: Institute for Resource Development.

Westoff, Charles F. and Anne R. Pebley. 1981. Alternative measures of unmet need for family planning in developing countries. *International Family Planning Perspectives* 7(4):126-136.

Appendix

Summary of DHS-I, DHS-II, and DHS-III Surveys, 1985-1995

Region and Country	Date of Fieldwork	Implementing Organization	Respondents	Sample Size	Male/Husband Survey	Supplemental Studies, Modules, and Additional Questions
SUB-SAHARAN AFRICA						
DHS-I						
Botswana	Aug-Dec 1988	Central Statistics Office	AW 15-49	4,368		AIDS, PC, adolescent fertility
Burundi	Apr-Jul 1987	Département de la Population, Ministère de l'Intérieur	AW 15-49	3,970	542 Husbands	CA, SAI, adult mortality
Ghana	Feb-May 1988	Ghana Statistical Service	AW 15-49	4,488	943 Husbands	CA, SM, WE
Kenya	Dec-May 1988/89	National Council for Population and Development	AW 15-49	7,150	1,133 Husbands	
Liberia	Feb-Jul 1986	Bureau of Statistics, Ministry of Planning and Economic Affairs	AW 15-49	5,239		TBH, employment status
Mali	Mar-Aug 1987	Institut du Sahel, USED/CERPOD	AW 15-49	3,200	970 Men 20-55	CA, VC, childhood physical handicaps
Ondo State, Nigeria	Sep-Jan 1986/87	Ministry of Health, Ondo State	AW 15-49	4,213		CA, TBH
Senegal	Apr-Jul 1986	Direction de la Statistique, Ministère de l'Economie et des Finances	AW 15-49	4,415		CA, CD
Sudan	Nov-May 1989/90	Department of Statistics, Ministry of Economic and National Planning	EMW 15-49	5,860		M, MM, female circumcision family planning services
Togo	Jun-Nov 1988	Unité de Recherche Démographique, Université du Benin	AW 15-49	3,360		CA, SAI, marriage history
Uganda	Sep-Feb 1988/89	Ministry of Health	AW 15-49	4,730		CA, SAI
Zimbabwe	Sep-Jan 1988/89	Central Statistical Office	AW 15-49	4,201		AIDS, CA, PC, SAI, WE
DHS-II						
Burkina Faso	Dec-Mar 1992/93	Institut National de la Statistique et de la Démographie	AW 15-49	6,354	1,845 Men 18+	AIDS, CA, MA, SAI
Cameroon	Apr-Sep 1991	Direction Nationale du Deuxième Recensement Général de la Population et de l'Habitat	AW 15-49	3,871	814 Husbands	CA, CD, SAI
Madagascar	May-Nov 1992	Centre National de Recherches sur l'Environement	AW 15-49	6,260		CA, MM, SAI
Malawi	Sep-Nov 1992	National Statistical Office	AW 15-49	4,850	1,151 Men 20-54	AIDS, CA, MA, MM, SAI
Namibia	Jul-Nov 1992	Ministry of Health and Social Services, Central Statistical Office	AW 15-49	5,421		CA, CD, MA, MM
Niger	Mar-Jun 1992	Direction de la Statistique et des Comtes Nationaux	AW 15-49	6,503	1,570 Husbands	CA, MA, MM, SAI
Nigeria	Apr-Oct 1990	Federal Office of Statistics	AW 15-49	8,781		CA, SAI
Rwanda	Jun-Oct 1992	Office National de la Population	AW 15-49	6,551	598 Husbands	CA

Senegal	Nov-Aug 1992/93	Direction de la Prévision et de la Statistique	AW 15-49	6,310	1,436 Men 20+	AIDS, CA, MA, MM, SAI
Tanzania	Oct-Mar 1991/92	Bureau of Statistics, Planning Commission	AW 15-49	9,238	2,114 Men 15-60	AIDS, CA, MA, SAI
Zambia	Jan-May 1992	University of Zambia	AW 15-49	7,060		AIDS, CA, MA
DHS-III						
Central African Republic	Sep-Mar 1994/95	Direction des Statistiques Démographiques et Sociales	AW 15-49	5,884	1,729 Men 15-59	AIDS, CA, CD, MA, MM, SAI
Côte d'Ivoire	Jun-Nov 1994	Institut National de la Statistique	AW 15-49	8,099	2,552 Men 15-59	CA, MA, SAI
Ghana	Sep-Dec 1993	Ghana Statistical Service	AW 15-49	4,562	1,302 Men 15-59	CA, MA
Kenya	Feb-Aug 1993	National Council for Population and Development	AW 15-49	7,540	2,336 Men 20-54	AIDS, CA, MA, SAI
Tanzania (KAP)[a]	Jul-Sep 1994	Bureau of Statistics, Planning Commission	AW 15-49	4,225	2,097 Men 15-59	AIDS, PC
Uganda	Apr-Jul 1995	Department of Statistics, Ministry of Finance and Economic Planning	AW 15-49	5,500	1,500 Men 15-54	AIDS, CA, MA, MM, SAI
Zimbabwe	Jul-Nov 1994	Central Statistical Office	AW 15-49	6,128	2,141 Men 15-54	AIDS, CA, MA, MM, PC, SAI
NEAR EAST/NORTH AFRICA						
DHS-I						
Egypt	Oct-Jan 1988/89	National Population Council	EMW 15-49	8,911		CA, CD, MM, PC, SAI, WE, women's status
Morocco	May-Jul 1987	Ministère de la Santé Publique	EMW 15-49	5,982		CA, CD, S
Tunisia	Jun-Oct 1988	Office National de la Famille et de la Population	EMW 15-49	4,184		CA, S, SAI
DHS-II						
Egypt	Nov-Dec 1992	National Population Council	EMW 15-49	9,864	2,466 Husbands	CA, MA, PC, SM
Jordan	Oct-Dec 1990	Department of Statistics, Ministry of Health	EMW 15-49	6,461		CA, SAI
Morocco	Jan-Apr 1992	Ministère de la Santé Publique	AW 15-49	9,256	1,336 Men 20-70	CA, MA, MM, SAI
Yemen	Nov-Jan 1991/92	Central Statistical Organization	EMW 15-49	5,687		CA, CD, MM, SAI
DHS-III						
Morocco (Panel)	Apr-May 1995	Ministère de la Santé Publique	AW 15-49	3,500		SAI
ASIA						
DHS-I						
Indonesia	Sep-Dec 1987	Central Bureau of Statistics/ National Family Planning Coordinating Board	EMW 15-49	11,884		PC, SM
Nepal (In-depth)	Feb-Apr 1987	New Era	CMW 15-49	1,623		KAP-gap survey
Sri Lanka	Jan-Mar 1987	Department of Census and Statistics, Ministry of Plan Implementation	EMW 15-49	5,865		CA, NFP
Thailand	Mar-Jun 1987	Institute of Population Studies, Chulalongkorn University	EMW 15-49	6,775		CA, S, SAI

DHS-II						
Indonesia	May-Jul 1991	Central Bureau of Statistics/ NFPCB/MOH	EMW 15-49	22,909		PC, SM
Pakistan	Dec-May 1990/91	National Institute of Population Studies	EMW 15-49	6,611	1,354 Husbands	CA
DHS-III						
Bangladesh	Nov-Mar 1993/94	Mitra & Associates/NIPORT	EMW 10-49	9,640	3,284 Husbands	PC, SAI, SM
Indonesia	Jul-Nov 1994	Central Bureau of Statistics/ NFPCB/MOH	EMW 15-49	28,168		MM, PC, SAI, SM
Kazakhstan	May-Aug 1995	Nutrition Research Center	AW 15-49	5,000		CA, Hb, MA
Philippines	Apr-Jun 1993	National Statistics Office	AW 15-49	15,029		MM, SAI
Turkey	Aug-Oct 1993	General Directorate of MCH/FP, Ministry of Health	EMW <50	6,519		CA, MA
LATIN AMERICA & CARIBBEAN						
DHS-I						
Bolivia	Feb-Jul 1989	Instituto Nacional de Estadística	AW 15-49	7,923		CA, CD, MM, PC, S, WE
Bolivia (In-depth)	Feb-Jul 1989	Instituto Nacional de Estadística	AW 15-49	7,923		Health
Brazil	May-Aug 1986	Sociedade Civil Bem-Estar Familiar no Brasil	AW 15-44	5,892		CA, S, SM, abortion, young adult use of contraception
Colombia	Oct-Dec 1986	Corporación Centro Regional de Población, Ministerio de Salud	AW 15-49	5,329		CA, PC, S, SAI, SM
Dominican Republic	Sep-Dec 1986	Consejo Nacional de Población y Familia	AW 15-49	7,649		CA, NFP, S, SAI, family planning communication
Dominican Republic (Experimental)	Sep-Dec 1986	Consejo Nacional de Población y Familia	AW 15-49	3,885		S, SAI
Ecuador	Jan-Mar 1987	Centro de Estudios de Población y Paternidad Responsable	AW 15-49	4,713		CD, SAI, employment
El Salvador	May-Jun 1985	Asociación Demográfica Salvadoreña	AW 15-49	5,207		CA, S, TBH
Guatemala	Oct-Dec 1987	Instituto de Nutrición de Centro América y Panamá	AW 15-44	5,160		CA, S, SAI
Mexico	Feb-May 1987	Dirección General de Planificación Familiar, Secretaría de Salud	AW 15-49	9,310		NFP, S, employment
Peru	Sep-Dec 1986	Instituto Nacional de Estadística	AW 15-49	4,999		NFP, employment, cost of family planning
Peru (Experimental)	Sep-Dec 1986	Instituto Nacional de Estadística	AW 15-49	2,534		
Trinidad and Tobago	May-Aug 1987	Family Planning Association of Trinidad and Tobago	AW 15-49	3,806		CA, NFP, breastfeeding

DHS-II						
Brazil (NE)	Sep-Dec 1991	Sociedade Civil Bem-Estar Familiar no Brasil	AW 15-49	6,222	1,266 Husbands	AIDS, PC
Colombia	May-Aug 1990	PROFAMILIA	AW 15-49	8,644		AIDS
Dominican Republic	Jul-Nov 1991	Instituto de Estudios de Población y Desarrollo (PROFAMILIA)/Oficina Nacional de Planificación	AW 15-49	7,320		CA, MA, S, SAI
Paraguay	May-Aug 1990	Centro Paraguayo de Estudios de Población	AW 15-49	5,827		CA, SAI
Peru	Oct-Mar 1991/92	Instituto Nacional de Estadística e Informática	AW 15-49	15,882		CA, MA, MM, SAI
DHS-III						
Bolivia	Nov-May 1993/94	Instituto Nacional de Estadística	AW 15-49	8,603[b]		AIDS, CA, CD, MA, MM, S, SAI
Colombia	Apr-Jun 1995	PROFAMILIA	AW 15-49	14,000		AIDS, CA, MA
Guatemala	May-Jul 1995	Instituto Nacional de Estadística	AW 15-49	10,000		AIDS, CA, CD, MA, SAI
Haiti	Jul-Feb 1994/95	Institut Haitien de l'Enfance	AW 15-49	5,709	1,767 Men 15-59	AIDS, CA, CD, MA, SAI

[a] No health or birth history section in questionnaire.
[b] Household questionnaire was administered in 26,144 households.

AW all women
CMW currently married women
EMW ever-married women

AIDS acquired immune deficiency syndrome
CA child anthropometry
CD causes of death (verbal reports of symptoms)
Hb anemia testing
M migration
MA maternal anthropometry
MM maternal mortality

NFP natural family planning
PC pill compliance
S sterilization
SAI service availability information
SM social marketing
TBH truncated birth history
SM social marketing
VC value of children