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DESIRED NUMBER OF CHILDREN: 2000-2008

DHS COMPARATIVE REPORTS 25



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The main objectives of the MEASURE DHS project are:

- to provide decisionmakers in survey countries with information useful for informed policy choices;
- to expand the international population and health database;
- to advance survey methodology; and
- to develop in participating countries the skills and resources necessary to conduct high-quality demographic and health surveys.

DHS Comparative Reports No. 25

Desired Number of Children: 2000-2008

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Preface

One of the most significant contributions of the MEASURE 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 Reports* series examines these data across countries in a comparative framework. The DHS *Analytical Studies* series focuses on specific topics. The principal objectives of both series are to provide information for policy formulation at the international level and to examine individual country results in an international context. Whereas *Comparative Reports* are primarily descriptive, *Analytical Studies* have a more analytical approach.

The *Comparative Reports* series covers a variable number of countries, depending on the availability of data sets. Where possible, data from previous DHS surveys are used to evaluate trends over time. Each report provides detailed tables and graphs organized by region. Survey-related issues such as questionnaire comparability, survey procedures, data quality, and methodological approaches are addressed as needed.

The topics covered in *Comparative Reports* are selected by MEASURE DHS staff in conjunction with the U.S. Agency for International Development. Some reports are updates of previously published reports.

It is anticipated that the availability of comparable information for a large number of developing countries will enhance the understanding of important issues in the fields of international population and health by analysts and policymakers.

Ann Way
Project Director

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Executive Summary

This report is a review of reproductive preferences in 60 countries based on data from Demographic and Health Surveys (DHS) conducted between 1998 and 2008. Several measures of preferences are used: the number of children considered ideal, the proportion of women who want no more children, the planning status of recent births, and the Wanted Total Fertility Rate. For those countries that have conducted more than one survey, trends in reproductive preferences have been documented. For a subset of mostly sub-Saharan African countries, men's reproductive attitudes are also described.

A review of the most recent DHS estimates of levels and trends of reproductive preferences indicates that the number of children desired is declining in most of the developing world with the exception of some countries in western and middle sub-Saharan Africa where, on the whole, an average of 6.0 children are still desired. In southern and eastern Africa, the mean number desired is 4.5. In contrast, in Asia and in North Africa the average is 2.9 and in Latin America and the Caribbean 3.0 children.

In most of the 60 countries reviewed, there has been a decline in the Total Fertility Rate which is due largely to a decline in the number of children wanted rather than to a reduction of unwanted births. The highest proportion of unwanted births is in Latin America and the Caribbean, as high as 39 percent of all recent births in Bolivia.

Among men, the number of children desired follows a similar pattern to that of women but typically at slightly higher levels. There is little evidence that this gender difference is diminishing.

Although the long-familiar negative association between women's education and reproductive preferences continues, there is evidence of a decline in preferences among women with no formal education even in sub-Saharan Africa but more strongly in Asia and Latin America.

A special analysis of unmet need and reproductive preferences focuses on several countries in sub-Saharan countries where unmet need is low because preferences are very high (Chad, Guinea, Mozambique, Niger and Nigeria). The number of children desired is associated with child mortality, Muslim affiliation, women's education and empowerment, and exposure to the mass media.

1 Introduction

Information on the number of children desired and trends in that number lie at the heart of family planning and population policy concerns. In particular, this information can identify populations with a demand for services and inform the interpretation of trends in contraceptive prevalence and fertility. Several measures of reproductive preferences are now in standard use: the desired or ideal number of children, reproductive intentions – particularly the proportion of women that report wanting no more children – the planning status of recent births, and Wanted and Unwanted Total Fertility Rates. There are many issues surrounding the quality of these measures including basic questions of reliability and validity and their predictive utility. These issues are discussed in Appendix A of this report.

Although the report contains several new directions of analysis, the main objective is to record the most recent estimates of reproductive preferences for a large number of developing countries and to describe trends in different measures of preferences for the growing number of countries that have conducted more than one survey. With the exception of the trend analyses, the focus is largely on surveys since the turn of the century. In the main, the report is an update of the three earlier DHS reports on the same subject (Westoff and Bankole, 2002; Adetunji, 1998; Bankole and Westoff, 1995; and Westoff, 1991). These earlier reports, in turn, are successors to a similar publication based on the World Fertility Surveys (United Nations, 1985; Kent and Larson, 1982). With the exception of Brazil (Brazilian Ministry of Health, 2008) and Guatemala (Ministerio de Salud Publica, 2002), this report is based entirely on data collected in the DHS project.

2 Ideal Number of Children and Reproductive Intentions

The most recent estimates of two of the basic indicators of reproductive preferences – the ideal number of children and the proportion of women who want no more children – are shown in Table 2.1. All but a few of these surveys were conducted since the turn of the century.

The mean number of children considered ideal – also known as the desired number of children - is based on responses to the survey question: “If you could go back to the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be?” A shorter version of the question was asked of women who did not have any children. A small number of women responded to this question with non-numeric responses such as “It’s up to God” or “don’t know”. In most countries, this type of response was in single digits but tended to be greater (between 10-20 percent) mainly in some countries in western and middle Africa.

The mean number of children desired by married women in the 18 recent surveys conducted in Asia and North Africa ranges from 2 in Ukraine and India to 4 in Jordan and Pakistan. In Latin America and the Caribbean the range is from 2.2 in Brazil to 3.7 in Guatemala. The highest ideal numbers are clearly evident in western and middle Africa ranging from 4.8 in Ghana to 9.2 in Chad and 9.1 in Niger, with an average of 6.1 children. Cape Verde is a distinct outlier here with a desired number of 2.8 children. The countries of eastern and southern Africa are also on the high side but generally lower than in western and middle Africa, ranging from 2.7 in Swaziland to 6.3 in Eritrea, with an average of 4.5.

Since the number of children desired can be influenced by the existing number of children, a separate calculation for women with 2 children (or with 1 child and currently pregnant) is also shown in Table 2.1. The number 2 was selected because virtually all women in developing countries want at least 2 children. This statistic typically runs somewhat lower in value than the estimate for all married women but generally shows the same overall international picture.

The second indicator of reproductive preferences included in Table 2.1 is a measure of the desire not to have any additional children. This information is derived from the response to a direct question: “Would you like to have (a/another) child or would you prefer not to have any (more) children?” Women who have been sterilized for contraceptive reasons or whose husbands have had such an operation are regarded as not wanting any more children. Since the proportion wanting no more children is obviously associated with the existing number of children, the estimates in Table 2.1 are shown not only for all (married) women but also for women with 2, 3 or 4 children.

The estimates for Asian and North African countries are quite consistent with the picture for ideal number of children. If we focus on women with 2 children, the lowest proportions of women who say they want no more children are in Jordan and Pakistan, 22 and 27 percent respectively. The highest value is for Vietnam where 92 percent of women with 2 children report not wanting any more.

Haiti, Honduras and Guatemala in the Latin America and Caribbean group show the lowest proportions intending to cease childbearing. Guatemala in particular shows that only 70 percent of women who already have 4 children report that they want no more. Brazil is at the opposite extreme with 98 percent wanting no more.

Table 2.1. Ideal number of children and the percentage of married women who want no more children.

Country	Survey Year	Mean Ideal Number of Children		Percentage Who Want No More Children ²			
		All Married Women	Married Women with 2 Children ¹	All Married Women	Number of Children		
					2	3	4
ASIA AND NORTH AFRICA							
Armenia	2005	2.7	2.6	71	79	91	93
Azerbaijan	2006	2.6	2.5	72	84	92	93
Bangladesh	2007	2.3	2.2	62	74	89	93
Cambodia	2005	3.2	3.6	57	47	70	85
Egypt	2008	2.9	2.6	63	59	88	92
India	2005/06	2.1	2.4	70	83	90	92
Indonesia	2007	2.8	2.6	53	62	79	85
Jordan	2007	4.0	3.4	50	22	39	64
Kazakhstan	1999	3.0	2.7	58	65	76	80
Moldova	2005	NA	NA	64	83	89	89
Morocco	2003/04	3.3	2.8	54	44	64	82
Nepal	2006	2.4	2.1	71	83	91	93
Pakistan	2006/07	4.1	3.6	52	27	54	73
Philippines	2003	3.2	2.9	61	56	78	85
Turkey	2003	2.5	2.3	69	80	90	92
Turkmenistan	2000	3.7	3.1	55	43	64	86
Ukraine	2007	2.0	2.2	58	80	88	68
Vietnam	2002	2.4	2.2	75	92	94	95
LATIN AMERICA AND THE CARIBBEAN							
Bolivia	2003	2.7	2.4	71	67	83	91
Brazil	2006	2.2	2.2	70	89	95	98
Colombia	2005	2.4	2.3	71	79	92	94
Dominican Republic	2007	3.2	3.0	66	61	91	94
Guatemala	2002	3.7	3.0	53	52	68	70
Haiti	2005/06	3.2	3.0	52	53	72	81
Honduras	2005/06	3.3	2.8	58	51	76	82
Nicaragua	2001	3.2	2.7	65	64	80	86
Peru	2004/08	2.6	2.4	65	65	83	90

(Cont'd)

Table 2.1. – cont'd

Country	Survey Year	Mean Ideal Number of Children		Percentage Who Want No More Children ²			
		All Married Women	Married Women with 2 Children ¹	All Married Women	Number of Children		
					2	3	4
WESTERN AND MIDDLE AFRICA							
Benin	2006	5.2	4.8	27	8	19	35
Burkina Faso	2003	5.8	5.4	23	6	14	26
Cameroon	2004	6.1	5.7	21	9	15	30
Cape Verde	2005	2.8	2.5	49	71	84	94
Chad	2004	9.2	8.1	8	3	4	7
Congo (Brazzaville)	2005	5.4	5.0	19	7	12	27
Congo Democratic Rep.	2007	6.8	6.3	20	8	16	22
Cote d' Ivoire	1998/99	5.9	5.3	21	4	14	24
Gabon	2000	5.4	4.9	23	12	17	28
Ghana	2008	4.6	4.2	36	18	36	57
Guinea	2005	5.9	5.6	22	7	13	24
Liberia	2007	5.4	4.8	31	10	27	37
Mali	2006	6.4	5.9	19	7	11	21
Mauritania	2000/01	6.8	6.0	19	11	15	22
Niger	2006	9.1	8.7	9	3	4	5
Nigeria	2008	6.7	6.1	20	5	13	26
Senegal	2005	5.7	5.6	21	4	12	22
Sierra Leone	2008	5.3	4.9	30	13	29	45
EASTERN AND SOUTHERN AFRICA							
Eritrea	2002	6.3	5.8	18	6	10	22
Ethiopia	2005	5.1	4.6	42	27	31	50
Kenya	2003	4.3	3.6	49	34	50	67
Lesotho	2004	3.5	3.4	54	51	72	85
Madagascar	2003/04	5.1	4.3	41	26	46	58
Malawi	2004	4.3	3.8	41	25	38	58
Mozambique	2003	5.7	5.1	24	11	20	31
Namibia	2006/07	3.7	3.2	60	54	68	73
Rwanda	2007/08	3.6	3.3	49	3	57	72
South Africa	2003	2.9	2.6	61	66	75	80
Swaziland	2006/07	2.7	2.5	68	65	81	82
Tanzania	2004/05	5.4	4.7	29	13	25	41
Uganda	2006	5.3	4.6	41	16	24	44
Zambia	2007	5.1	4.4	36	16	24	41
Zimbabwe	2005/06	4.1	3.6	44	39	53	72

¹ Includes currently pregnant women with one child.

² Women who are sterilized or whose husbands are sterilized are regarded as wanting no more children.

In sub-Saharan Africa, Chad and Niger stand out clearly with the lowest proportions intending to terminate childbearing. Only 8-9 percent want no more children among all married women with even lower proportions in this category among those with 4 children. To express this differently, in these two countries around 95 percent of women with 4 children continue to want more children, an estimate that drops only to around 75 percent among women with 6 or more children. In west Africa, Ghana is at the opposite extreme with about half of women with 4 children who want no more children. Again, Cape Verde is at the extreme with 94 percent of those with 4 children who want no more.

In the southern and eastern Africa grouping, women in Eritrea show the lowest expressed desire to cease childbearing with 22 percent of those with 4 children indicating this intention. This is consistent with the very high desired number of children in that country. The most inclined to want no more children are in Lesotho, Swaziland and South Africa, an observation probably related in part to the high prevalence of HIV/AIDS. In these three countries, 80 to 85 percent of women with 4 children want no more.

3 Trends in Reproductive Preferences

Since the number of children desired is influenced by the existing number of children, the analysis of trends in this measure is focused here on women under 25 years of age who have not yet married, very few of whom have had children (the trends among women 15-49 are very similar). Observations about the reproductive preferences of younger women also may elucidate forthcoming trends in the desired number of children. These trends, depicted in Figure 3.1, generally but not universally show a decline in the average ideal number. It is important to note that the trend data here and throughout this report are based on varying intervals of time between surveys.

Some of the highlights of this review are continuing declines in the number of children desired in India, Jordan, Morocco and Nepal but no change in 15 years in Egypt, Indonesia and Pakistan. There are declines in most of the Latin American and Caribbean countries here.

The picture is mixed in western and middle Africa with declines predominating but with major exceptions in Chad and Niger. The increase in the number desired in Nigeria between 1990 and 1999 may be misleading since the percent of women offering non-numeric responses in the first survey in 1990 reached nearly two-thirds, a figure that dropped to 18 percent by 1999. Moreover, as will be seen in the analysis of the trend in the intention to have no more children, Nigeria is more in line with other countries. But in Chad and in Niger there is no such explanation of what appears to be an increase in the ideal number of children, exceeding eight children in both countries. In contrast, there are significant declines in Cameroon, Ghana, Liberia, Senegal and Togo.

In most of the countries of eastern and southern Africa, there is a continuing downward trend in the ideal number. In Kenya, following a slow decline from 4.2 in 1989 to 3.6 in 1998, the desired number reversed and climbed back to 3.9 in 2003. This is consistent with the observed stall in contraceptive prevalence and fertility observed for Kenya by 2003 (Westoff and Cross, 2006). Declines are clear in Rwanda, Tanzania, Uganda, Zambia and Zimbabwe.

Figure 3.1. Trends in the average ideal number of children for never-married women under 25 years of age in Asia and North Africa.

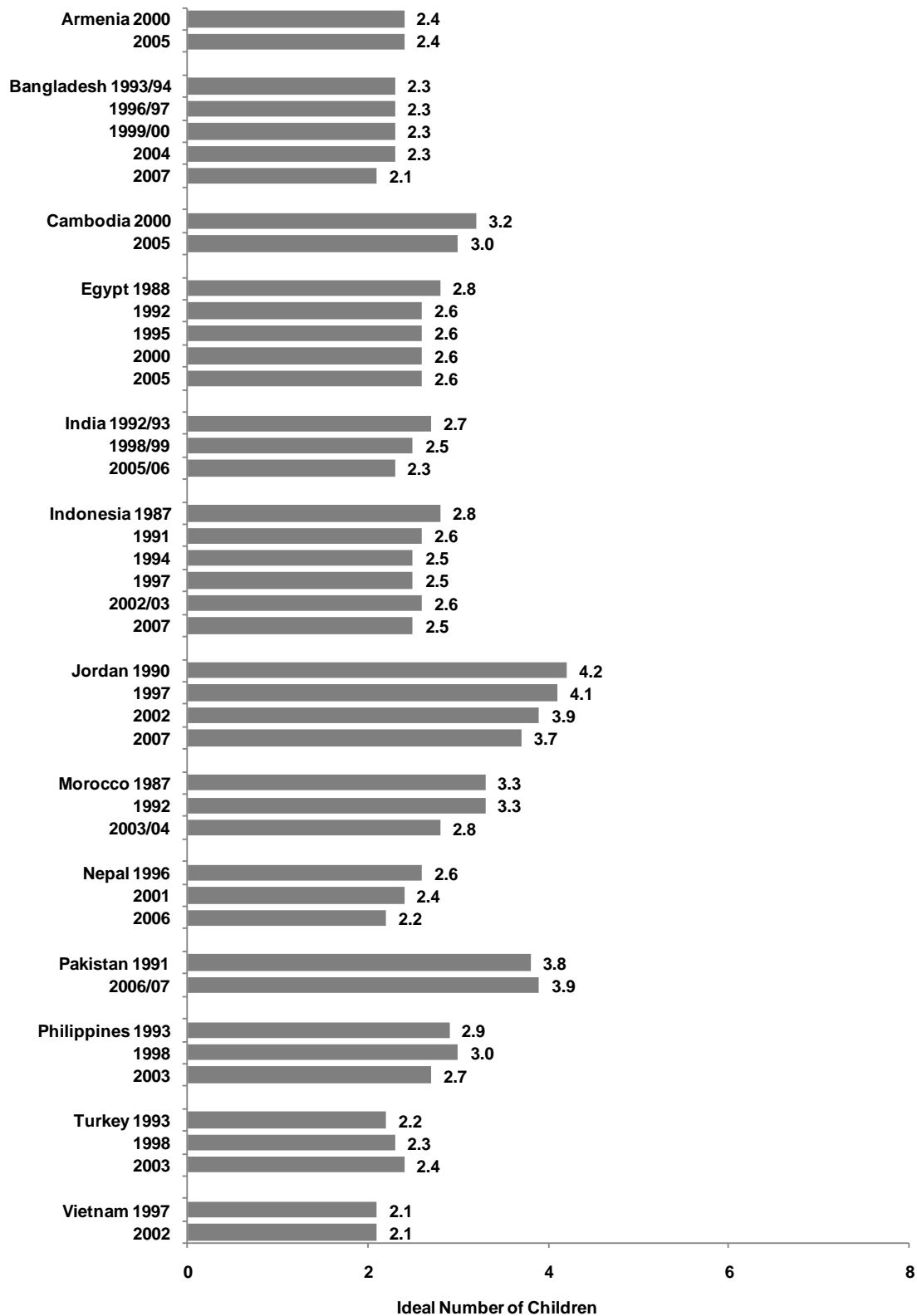


Figure 3.1 (continued). Trends in the average ideal number of children for never-married women under 25 years of age in Latin America and the Caribbean.

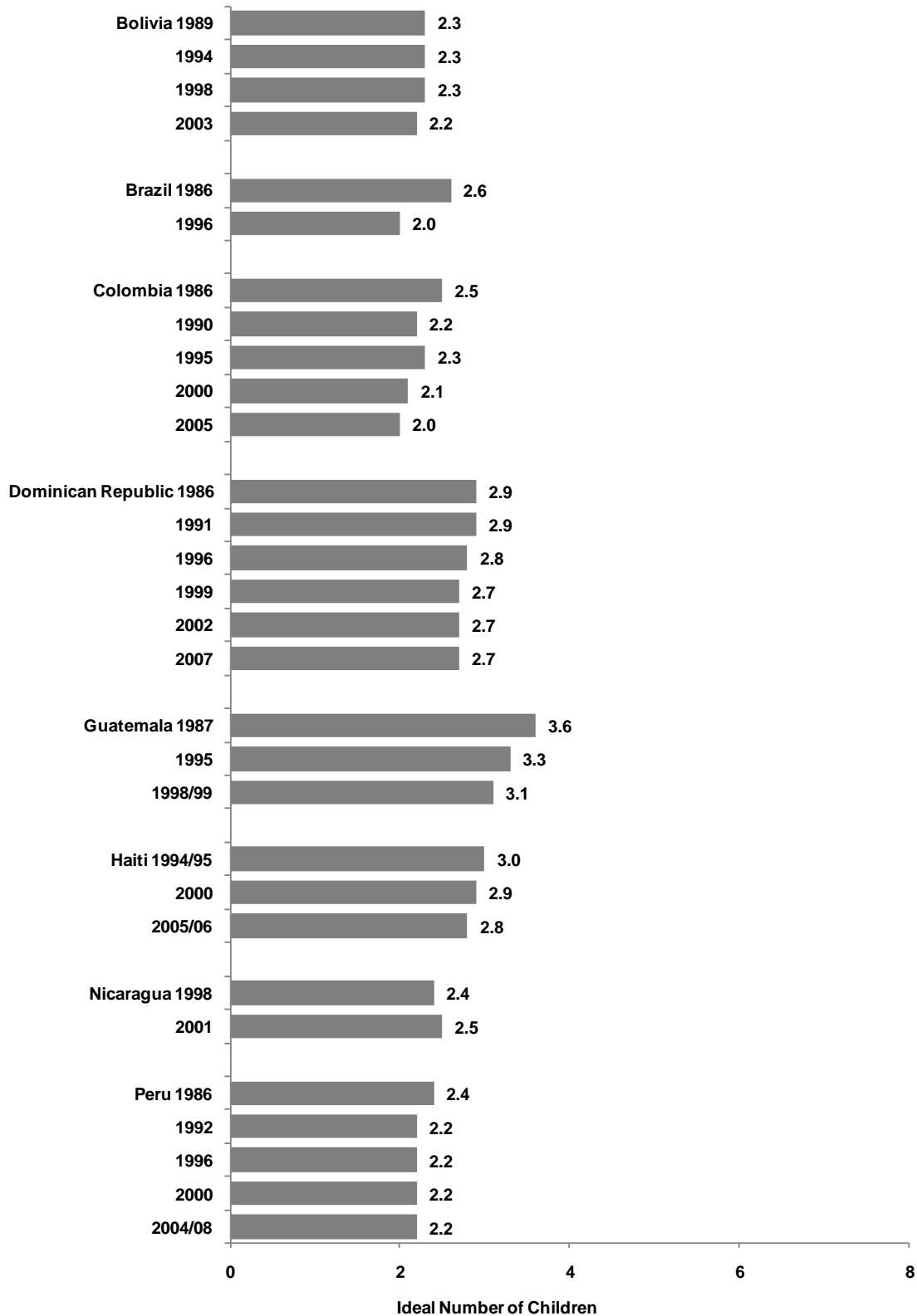


Figure 3.1 (continued). Trends in the average ideal number of children for never-married women under 25 years of age in Western and Middle Africa.

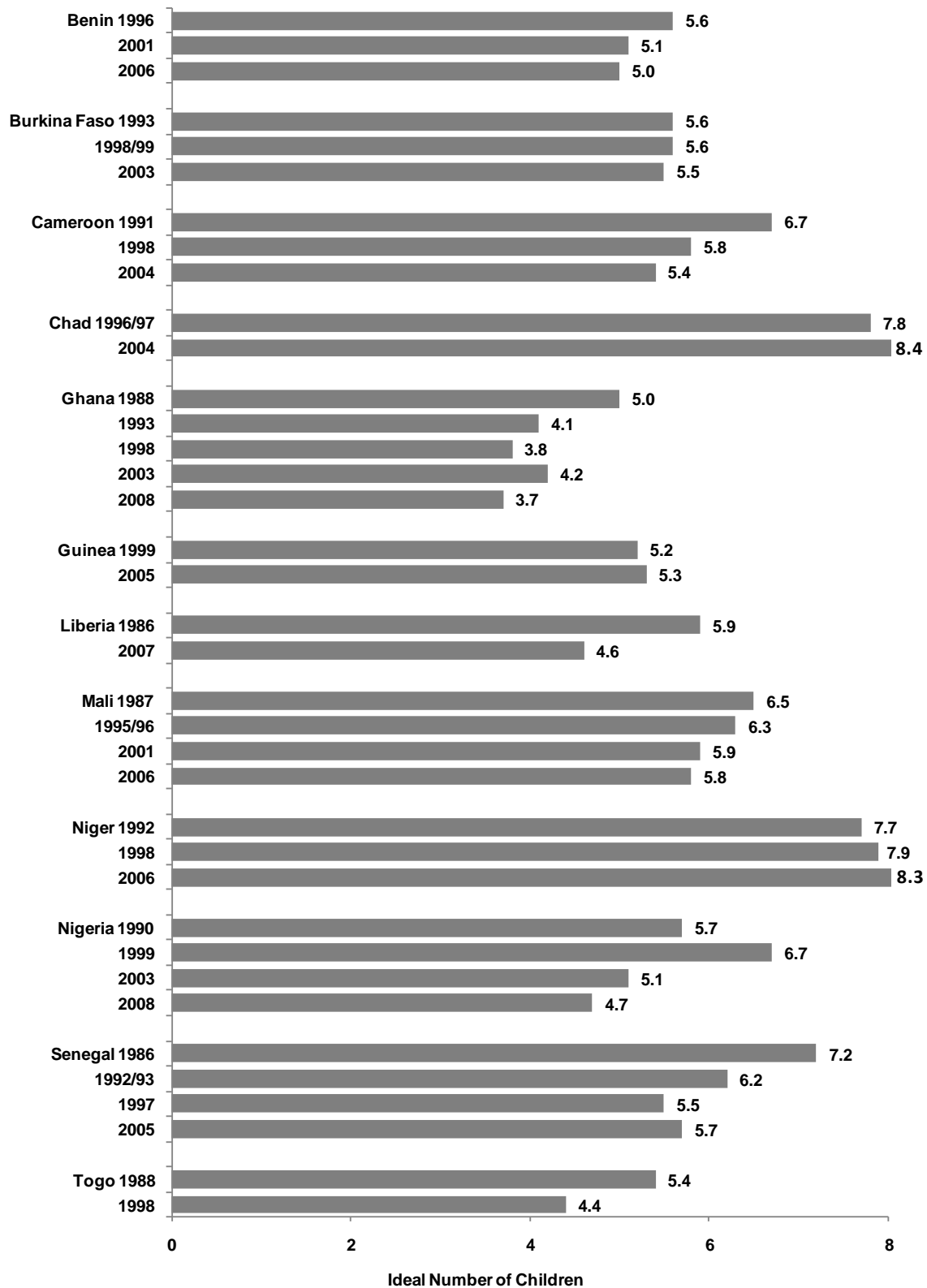
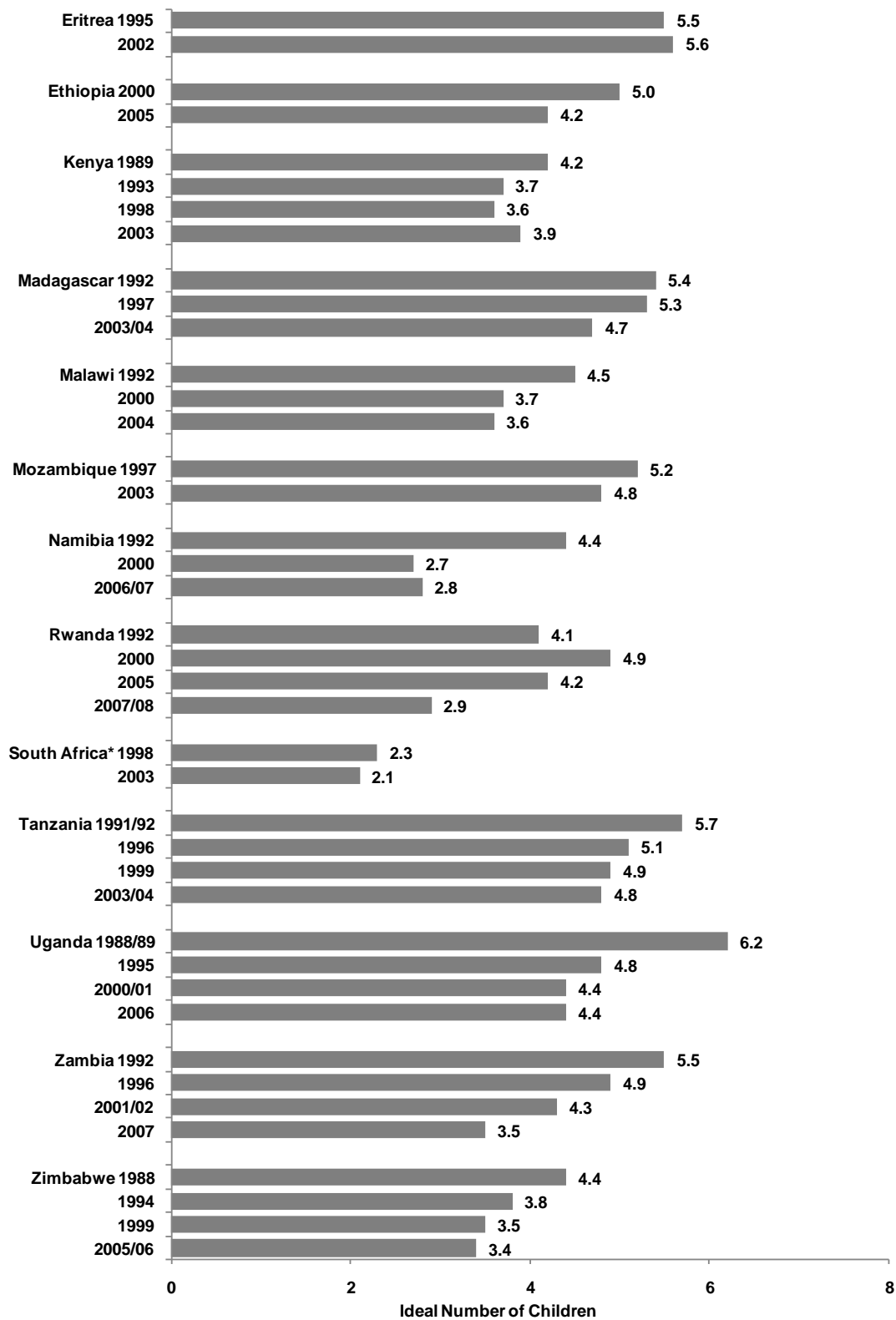


Figure 3.1 (continued). Trends in the average ideal number of children for never-married women under 25 years of age in Southern and Eastern Africa.



* Estimates for zero parity women ages 15 – 24

Shifting from the trend in the number desired to the trend in the proportion of women who want no more children (Figure 3.2), the concern about the interaction of the existing number of children and preferences is addressed by examining trends among women with 2 or 3 children or, in sub-Saharan Africa among those with 3 or 4 children. In most of the countries in Asia and North Africa, there is a clear trend toward wanting no more children. In India, for example, the proportion among women with 2 children who want no more children has increased from 60 percent in 1992/93 to 83 percent by 2005/06. In Indonesia, this percentage has increased over 15 years from 43 to 58 percent. Other countries in these regions that show dramatic increases in this proportion are Cambodia, Morocco and Nepal. In Pakistan, an increase (among women with 3 children) is observed from 36 to 54 percent over some 16 years. In contrast, there is little change in Jordan over 17 years although the preceding description of trends of the desired number of children among younger women suggests that this may be changing.

Figure 3.2. Trends in the percentage of currently married women who want no more children¹ for women with two or three children² in Asia and North Africa.

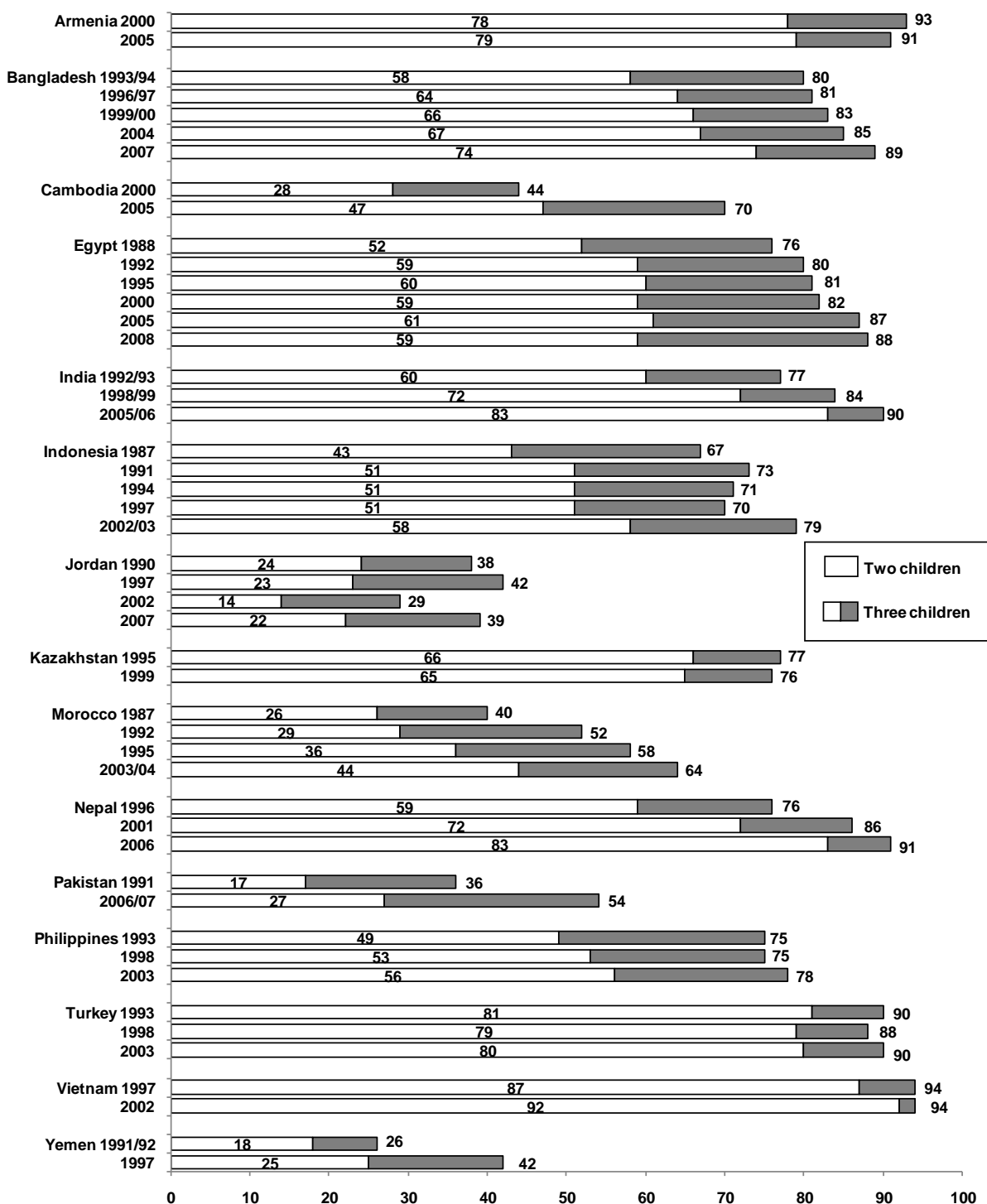


Figure 3.2 (continued). Trends in the percentage of currently married women who want no more children¹ for women with two or three children² in Latin America and the Caribbean.

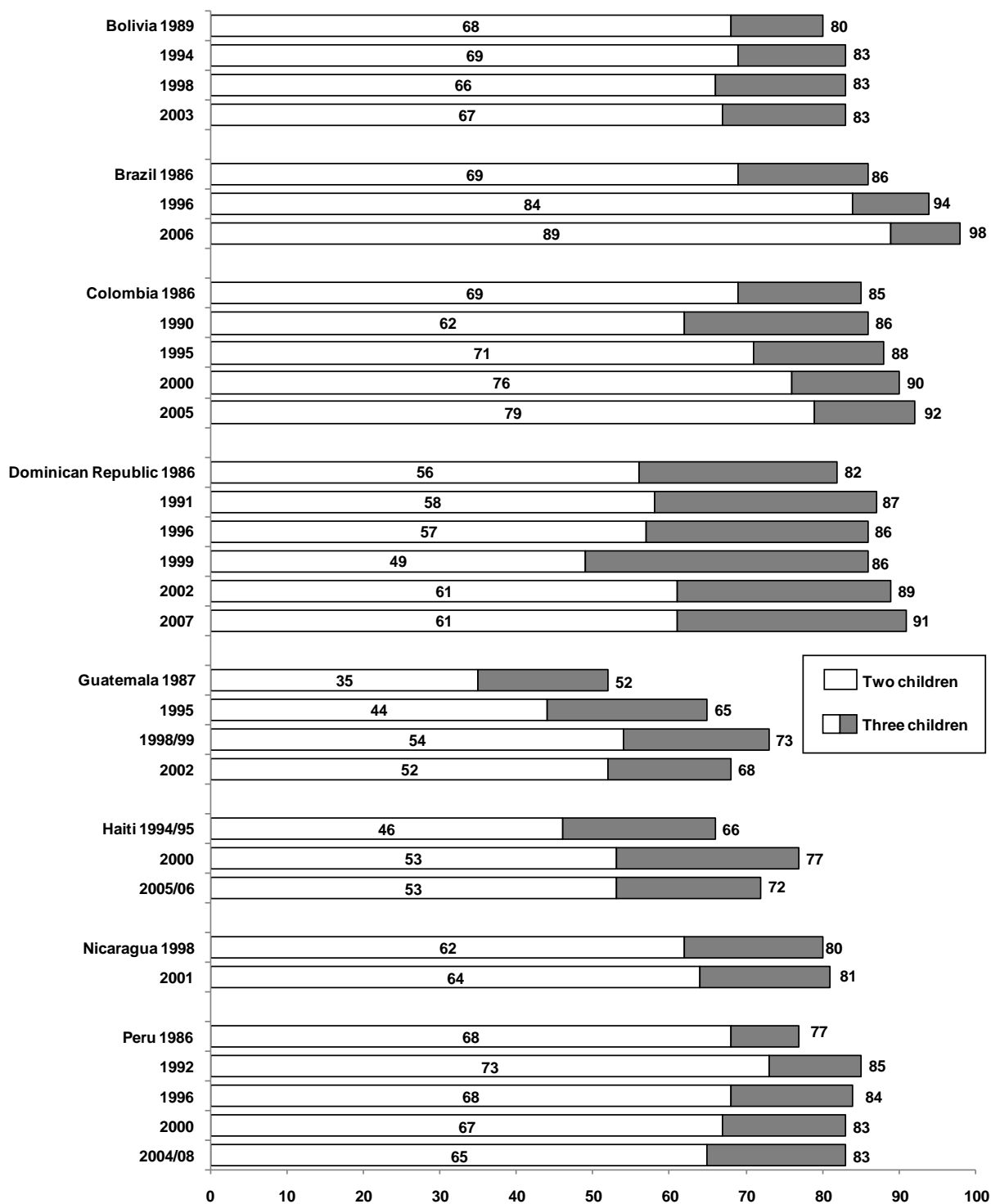


Figure 3.2 (continued). Trends in the percentage of currently married women who want no more children¹ for women with three or four children² in Western and Middle Africa.

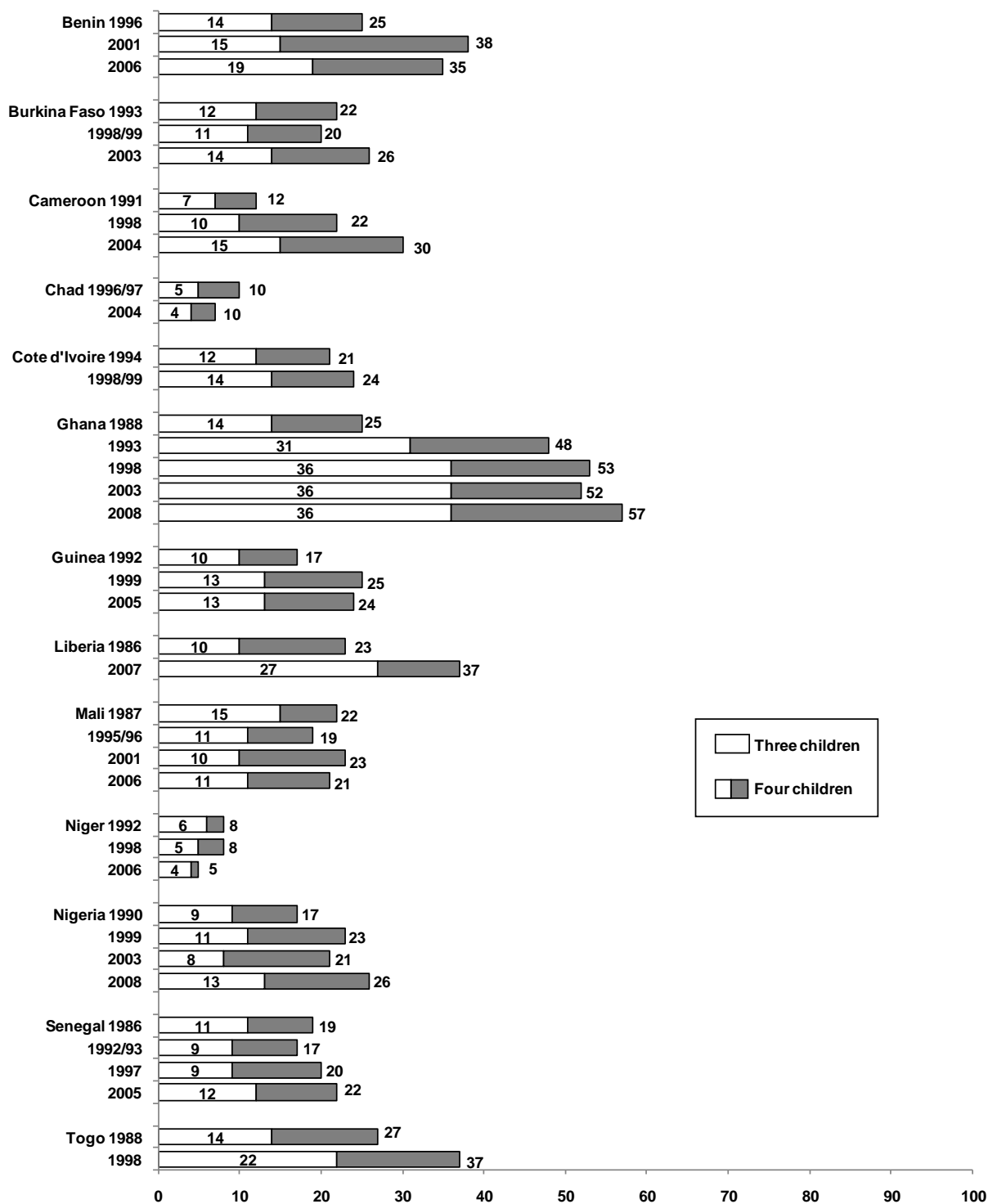
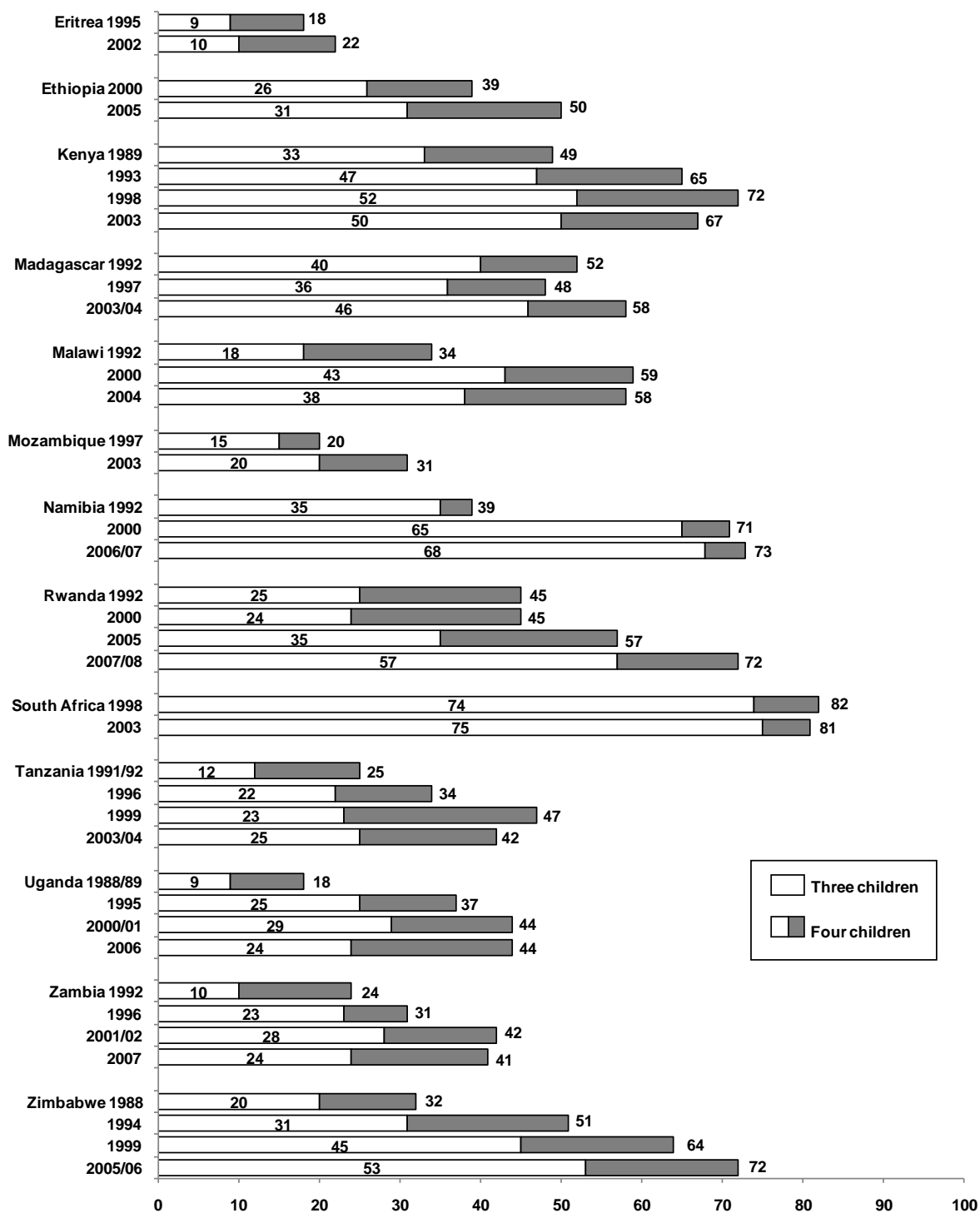


Figure 3.2 (continued). Trends in the percentage of currently married women who want no more children¹ for women with three or four children² in Southern and Eastern Africa.



¹ Includes those sterilized

² Includes current pregnancy

Most of the Latin American countries included in this analysis had already reached high levels of the intention to avoid further childbearing. Guatemala and Haiti are exceptions but there is some evidence of an increase in this intention.

The trends among women with 3 or 4 children in western and middle Africa are very mixed. A clear trend toward family limitation is evident in Ghana, in Cameroon, in Togo but not in Mali, Chad, and Niger. Slight evidence appears for Benin, Guinea and Nigeria. In southern and eastern Africa, increases in the proportion who want no more children are evident in most of the countries, especially in Rwanda and Zimbabwe¹.

¹ Estimates from the Kenya 2008/09 Preliminary Report indicate that the trend toward wanting no more children interrupted in 2003 has resumed. For example, among women with 3 children, 58 percent now want no more children, up from 50 percent in 2003.

4 Planning of Recent Births and Wanted Fertility Rates

Another measure of reproductive preferences is the prevalence of births reported as wanted and unwanted. Women who had a birth or several births in the five years prior to their interview were asked whether the pregnancy had been wanted at the time it occurred or whether it had been wanted but had occurred sooner than wanted, or whether the woman had wanted no further children at the time, a response that was classified as an unwanted birth. Of all the measures of reproductive preferences, this approach is probably the most vulnerable to measurement error and probably underestimates the prevalence of unwanted fertility (see Appendix A for discussion).

The distributions of responses to this question are shown in the first section of Table 4.1. The other section of Table 4.1 shows Wanted and Total Fertility Rates which are focused on similar issues but which are constructed differently and discussed separately below.

Table 4.1. Planning status of births in the five years preceding the survey.

Country	Survey Year	Planning Status of Births ¹			Wanted Total Fertility Rate	Total Fertility Rate	Percent of TFR Unwanted
		Wanted then (%)	Wanted later (%)	Unwanted (%)			
ASIA AND NORTH AFRICA							
Armenia	2005	82	10	7	1.6	1.7	6
Azerbaijan	2006	83	9	8	1.8	2.0	10
Bangladesh	2007	71	15	14	1.9	2.7	30
Cambodia	2005	72	9	19	2.8	3.4	18
Egypt	2008	86	5	9	2.4	3.0	20
India	2005/06	79	10	11	1.9	2.7	30
Indonesia	2007	80	12	7	2.2	2.6	15
Jordan	2007	74	15	11	2.8	3.6	22
Kazakhstan	1999	82	8	9	1.9	2.0	5
Moldova	2005	79	12	9	NA	1.7	NA
Morocco	2003/04	70	15	15	1.8	2.5	28
Nepal	2006	69	14	16	2.0	3.1	35
Pakistan	2006/07	75	13	11	3.1	4.1	24
Philippines	2003	55	24	20	2.5	3.5	29
Turkey	2003	66	14	20	1.6	2.2	27
Turkmenistan	2000	94	2	1	2.7	2.9	7
Ukraine	2007	85	8	6	1.1	1.2	8
Vietnam	2002	76	14	9	1.6	1.9	16
LATIN AMERICA AND THE CARIBBEAN							
Bolivia	2003	38	22	39	2.1	3.8	45
Brazil	2006	52	30	18	1.6	1.8	11
Colombia	2005	46	27	27	1.7	2.4	29
Dominican Republic	2007	55	30	14	1.9	2.4	21
Guatemala	2002	68	16	15	3.7	4.4	16
Haiti	2005/06	52	21	26	2.4	3.9	38
Honduras	2005/06	50	25	24	2.3	3.3	30
Nicaragua	2001	51	21	27	2.3	3.2	25
Peru	2004/08	43	30	27	1.7	2.6	35

(Cont'd)

Table 4.1. – cont'd

Country	Survey Year	Planning Status of Births ¹			Wanted Total Fertility Rate	Total Fertility Rate	Percent of TFR Unwanted
		Wanted then (%)	Wanted later (%)	Unwanted (%)			
WESTERN AND MIDDLE AFRICA							
Benin	2006	82	14	4	4.8	5.7	16
Burkina Faso	2003	77	20	3	5.1	5.9	14
Cameroon	2004	77	17	5	4.5	5.0	10
Cape Verde	2005	43	34	22	2.8	2.9	4
Chad	2004	83	16	1	6.1	6.3	3
Congo (Brazzaville)	2005	66	29	4	4.4	4.8	8
Congo Democratic Rep.	2007	70	21	9	5.6	6.3	11
Côte d'Ivoire	1998/99	71	24	5	4.5	5.2	13
Gabon	2000	55	38	7	3.5	4.2	17
Ghana	2008	62	23	14	3.5	4.0	12
Guinea	2005	86	10	4	5.1	5.7	10
Liberia	2007	69	25	4	4.6	5.2	11
Mali	2006	83	13	3	6.0	6.6	9
Mauritania	2000/01	71	22	6	4.1	4.5	9
Niger	2006	89	9	<1	6.8	7.0	3
Nigeria	2008	87	7	4	5.3	5.7	7
Senegal	2005	71	24	4	4.5	5.3	15
Sierra Leone	2008	72	16	10	4.5	5.1	12
EASTERN AND SOUTHERN AFRICA							
Eritrea	2002	74	19	6	4.4	4.8	8
Ethiopia	2005	65	19	16	4.0	5.4	26
Kenya	2003	55	25	20	3.6	4.9	26
Lesotho	2004	50	12	38	2.5	3.5	29
Madagascar	2003/04	83	10	6	4.6	5.2	11
Malawi	2004	60	20	20	4.9	6.0	18
Mozambique	2003	80	16	4	4.9	5.5	11
Namibia	2006/07	46	26	27	2.7	3.6	25
Rwanda	2007/08	52	13	22	3.7	5.5	33
South Africa	2003	50	24	23	1.6	2.1	24
Swaziland	2006/07	36	27	37	2.1	3.9	46
Tanzania	2004/05	76	18	5	4.9	5.7	14
Uganda	2006	54	33	13	5.1	6.7	24
Zambia	2007	58	26	16	5.2	6.2	16
Zimbabwe	2005/06	67	20	13	3.3	3.8	13

¹ The sum of these categories may be slightly less than 100 percent because of rounding and no response.
NA - not available

The highest proportion of births reported as unwanted in the 18 countries in the Asian – North Africa grouping are in Cambodia, Philippines and Turkey with 20 percent in the unwanted category. At the opposite extreme, the lowest proportion of unwanted births is in Ukraine and in Turkmenistan, though the 1 percent estimate for Turkmenistan seems improbable.

On the whole, the prevalence of unwanted births in Latin America and the Caribbean – an average of 24 percent - is appreciably higher than in Asia and North Africa and in most of the sub-Saharan African countries as well. The highest – 39 percent – is for Bolivia and the lowest – 14 percent – is for the Dominican Republic.

The level of unwanted births is lowest in the countries of west and middle Africa, with an average of 6 percent in the 18 countries. The main exception, other than Cape Verde, is Ghana where unwanted births reach 14 percent. The proportion of births unwanted in Ghana is high compared with most other countries in the region.

There is much more variability in the levels of unwanted births in eastern and southern Africa. The highest are in Swaziland and Lesotho with 37 and 38 percent respectively. Both of these countries have very high rates of HIV/AIDS, with 31 and 27 percent of women infected. These two countries have the lowest wanted fertility rates in the region along with Namibia and South Africa.

The other section of Table 4.1 shows the Wanted Total Fertility Rates and the actual Total Fertility Rates for each country. The WTFR is calculated exactly in the same way as the TFR except that it excludes in the numerator those births that exceed the number wanted, as measured by the question on desired or ideal number of children shown in Table 2.1 and discussed earlier. This measure also has its limitations (see Appendix A) but is a convenient summary and offers a demographic insight into what the TFR might be without undesired births. Though not derived from the question on the planning status of recent births, it complements this measure and provides some further explanation of variations in unwanted births.

The Wanted Total Fertility Rates are lowest in the Asia – North Africa region with more than half of the surveyed countries showing rates below that needed for population replacement. The lowest WTFR is 1.1 for Ukraine, very close to the level of the actual TFR, while Pakistan shows the highest at 3.1 a level significantly below the Pakistan TFR of 4.1. The WTFRs in Latin America and the Caribbean, with the exception of Guatemala, cluster around the replacement level but are typically considerably below the TFRs. The extreme example is Haiti where the TFR is 3.9 but the WTFR is 2.4, a large difference consistent with the relatively high proportion of unwanted births in that country.

Chad and Niger show two of the highest TFRs in western and middle Africa at 6.3 and 7.0 respectively. What distinguishes these two countries from others in the region is less their high TFRs than the very small difference between the TFR and the WTFR. Unlike most countries, there is hardly any indication of unwanted fertility in Chad or Niger. In southern and eastern Africa, the most developed country, South Africa, has the lowest WTFR, 1.6, along with the lowest TFR, 2.1.

The last column in Table 4.1 shows the proportion of unwanted births in the TFR (the difference between the TFR and the WTFR divided by the TFR). Although this proportion is derived from the question on the number of children desired while the proportion of births never wanted is based on the question about the planning status of births in the past five years, both indices are measures of unwanted fertility and tell a similar story. Indeed, the correlation between the two measures for the 62 countries is .82. The measure in the last column is more relevant to the population growth issue.

In Asia and North Africa, the highest unwanted fertility component appears in Bangladesh, India, Nepal and the Philippines. The lowest are for countries in Central Asia. In Latin America, Bolivia records the highest unwanted fertility with nearly half of its TFR in this category.

The proportion of the TFR in unwanted births is significantly lower in western and middle Africa where the WTFR is so much higher and contraceptive prevalence much lower. In eastern and southern Africa, the proportion is twice as high – 21 percent on average compared with 10 percent in western and middle Africa.

The lower proportion of the TFR unwanted in sub-Saharan Africa especially in western and middle Africa, compared with other regions is not the result of more effective contraceptive use but rather the much higher level of wanted fertility.

5 Trends in Wanted, Unwanted and Total Fertility Rates

Figure 5.1 shows trends in the WTFR and the TFR for all of the countries with recent repeat surveys. A later analysis focuses on the relative changes in the wanted and unwanted components of these rates.

With the exception of Armenia which has already reached a low WTFR of 1.6, the trend in the surveyed countries in Asia and North Africa is down, some quite dramatically. In Egypt, for example, the WTFR has dropped from 2.9 to 2.4 in the eight years between 2000 and 2008. At the end of the 1980s, it had been 3.6. In India, the WTFR has dropped from 2.6 in 1992/93 to 1.9 in 2005/06. While Pakistan shows the highest WTFR in the group at 3.1 in 2006/07, it is down from 4.3 in 1990/91. Morocco also shows a large decline in the WTFR.

The picture is similar in the Latin American – Caribbean region. These rates appear to be declining to very low levels in Brazil based on estimates from a 2006 survey where the WTFR is 1.6 and the TFR is 1.8.

In western and middle Africa, there is a more mixed pattern of change. While there are a few countries that show declines in wanted fertility such as Ghana, Senegal, Togo and Liberia, the dominant pattern is little or no change. In southern and eastern Africa, about half of the countries show clear declines in wanted fertility.

This discussion has concentrated on trends in wanted fertility. The other component of the TFR is unwanted fertility. The relative contributions of wanted and unwanted fertility to the declines in the TFR are presented for each country in Table 5.1. For example, in Egypt over a 20 year span, the TFR declined by 1.7 births per woman from 1988/89 to 2008. Most of this decline – 1.2 – was in wanted fertility while the remaining 0.5 decline was in unwanted fertility. In Jordan, however, the decline in the TFR of 2.0 over 17 years was almost equally divided between the two components. In most of the countries in the different regions, the TFR declined primarily because of the decrease in wanted fertility. An extreme example is in Pakistan where the 0.8 decline in the TFR included an increase of 0.4 in unwanted fertility. A similar pattern can be seen for Ethiopia where the TFR hardly changed between 2000 and 2005 as a result of a decline in wanted fertility of 0.7 offset by an increase in unwanted fertility of 0.6. Uganda also shows a similar increase in unwanted fertility. This suggests a lag between effective contraceptive practice and the changing fertility preference.

Countries that show relatively large declines in unwanted fertility besides Jordan are Morocco, Nepal, Bolivia, Brazil, Dominican Republic, Peru, Ghana and Kenya. Again, it is important to remember that the time intervals between surveys (shown in Table 5.1) range from 5 to 21 years.

Figure 5.1. Trends in wanted, unwanted and total fertility rates for Asia and North Africa.

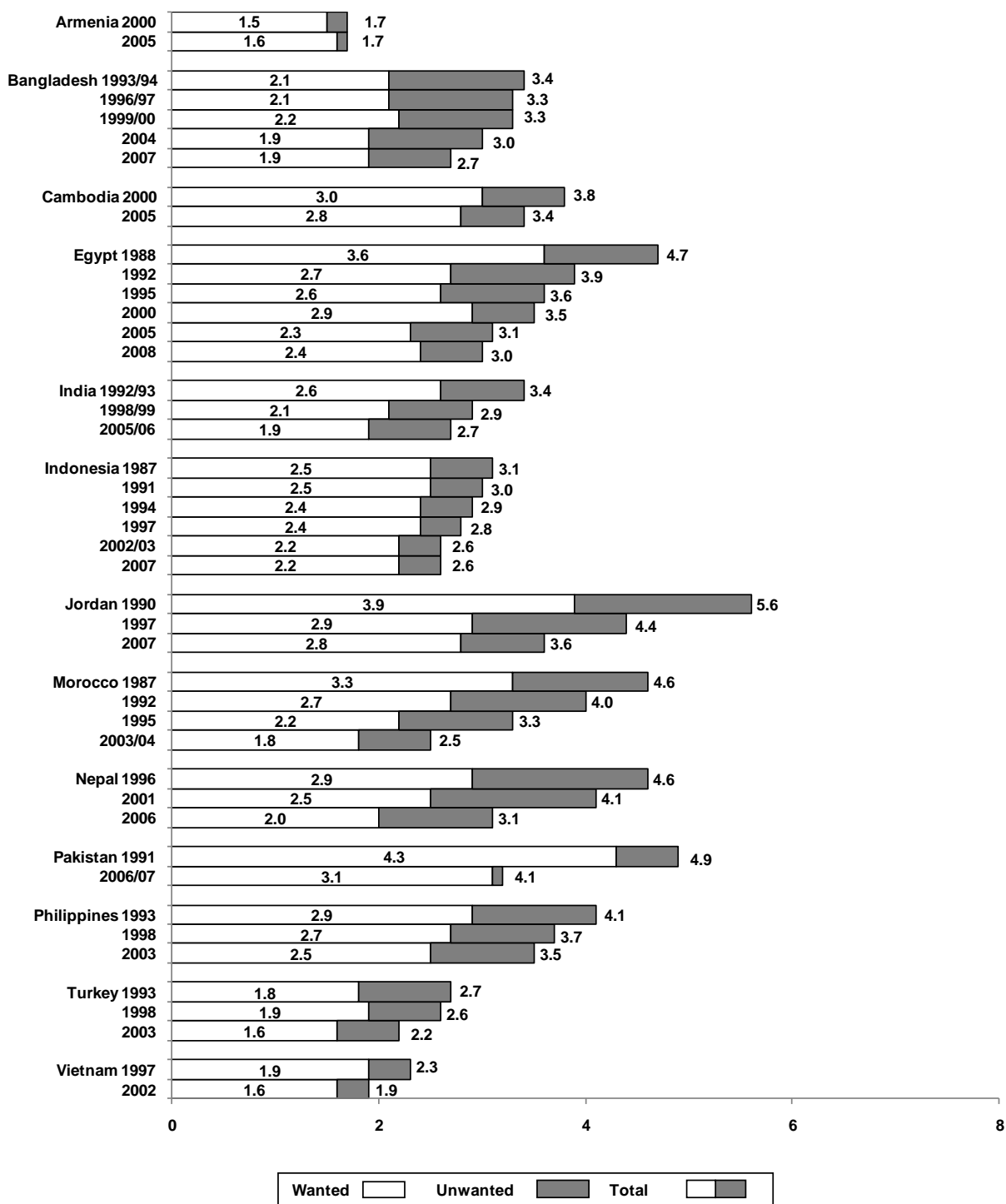


Figure 5.1 (continued). Trends in wanted, unwanted and total fertility rates for Latin America and the Caribbean.

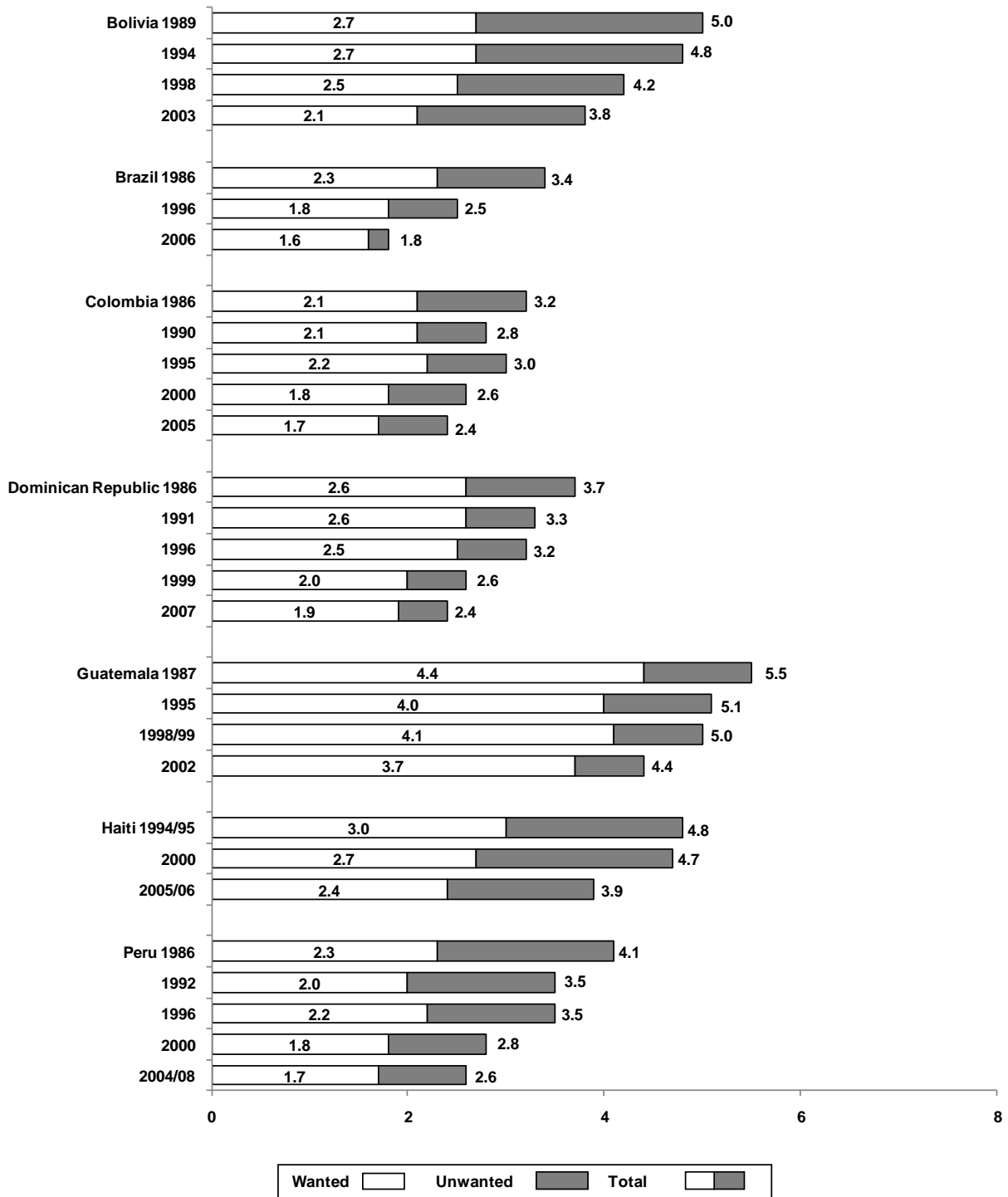


Figure 5.1 (continued). Trends in wanted, unwanted and total fertility rates for Western and Middle Africa.

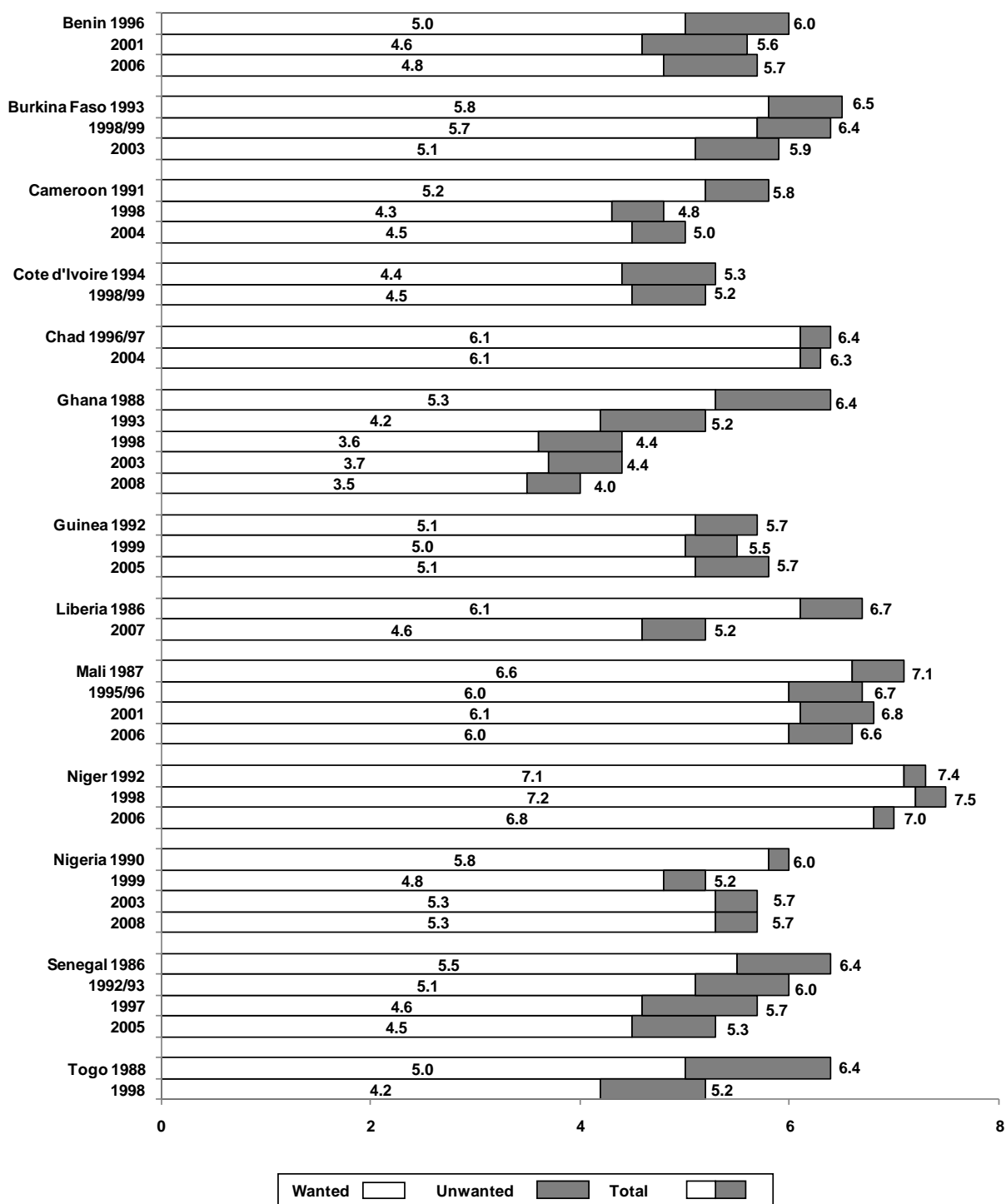


Figure 5.1 (continued). Trends in wanted, unwanted and total fertility rates for Southern and Eastern Africa.

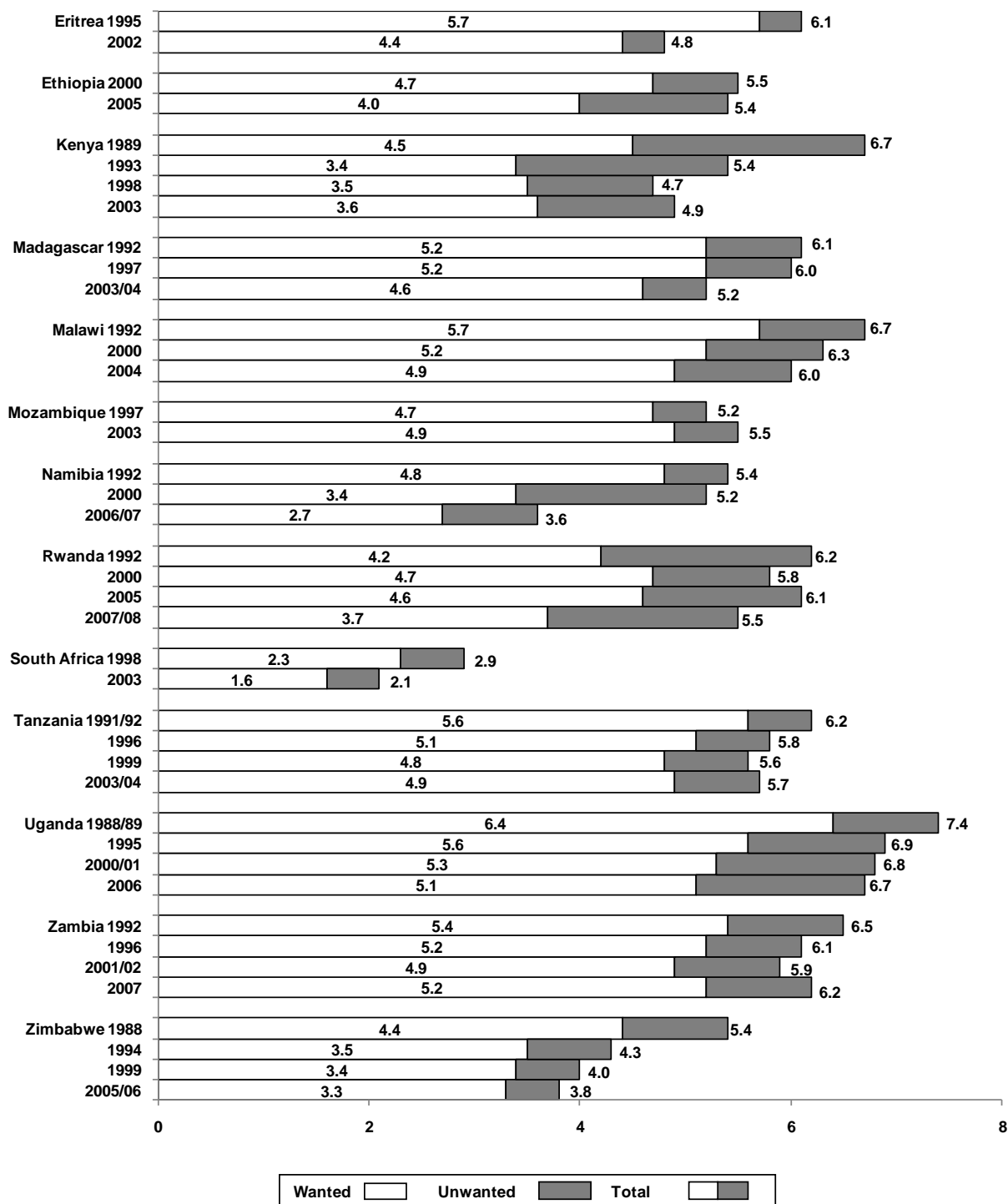


Table 5.1. Decline in the total fertility rate and in its wanted and unwanted components.

Country	Decline			Years Between Surveys
	Total Fertility	Wanted Fertility	Unwanted Fertility	
ASIA AND NORTH AFRICA				
Armenia	0.0	+0.1	0.0	5
Bangladesh	0.7	0.3	0.4	14
Cambodia	0.4	0.2	0.2	5
Egypt	1.7	1.2	0.5	20
India	0.7	0.7	0.0	14
Indonesia	0.5	0.3	0.2	20
Jordan	2.0	1.1	0.9	17
Morocco	2.1	1.5	0.6	17
Nepal	1.5	0.9	0.6	10
Pakistan	0.8	1.2	+0.4	17
Philippines	0.6	0.4	0.2	10
Turkey	0.5	0.2	0.3	10
Vietnam	0.4	0.3	0.1	5
LATIN AMERICA AND CARIBBEAN				
Bolivia	1.2	0.6	0.6	14
Brazil	1.6	0.7	0.9	20
Colombia	0.8	0.5	0.4	19
Dominican Republic	1.3	0.7	0.6	21
Guatemala	1.1	0.7	0.4	15
Haiti	0.9	0.6	0.3	12
Peru	1.5	0.6	0.9	19
WESTERN AND MIDDLE AFRICA				
Benin	0.3	0.2	0.1	10
Burkina Faso	0.6	0.7	+0.1	10
Cameroon	0.8	0.7	0.1	13
Chad	0.1	0.0	0.1	8
Côte d'Ivoire	0.1	+0.1	0.2	5
Ghana	2.4	1.8	0.6	20
Guinea	0.0	0.0	0.0	13
Liberia	1.5	1.5	0.0	21
Mali	0.5	0.6	+0.1	19
Niger	0.4	0.3	0.1	14
Nigeria	0.3	0.5	+0.2	18
Senegal	1.1	1.0	0.1	19
Togo	1.2	0.8	0.4	10

(Cont'd)

Table 5.1. – cont'd

Country	Decline			Years Between Surveys
	Total Fertility	Wanted Fertility	Unwanted Fertility	
SOUTHERN AND EASTERN AFRICA				
Eritrea	1.3	1.3	0.0	7
Ethiopia	0.1	0.7	+0.6	5
Kenya	2.0	1.1	0.9	15
Madagascar	0.9	0.6	0.3	12
Malawi	0.7	0.8	+0.1	12
Mozambique	+0.3	+0.2	+0.1	6
Namibia	1.8	2.1	+0.3	15
Rwanda	0.7	0.5	0.2	16
South Africa	0.8	0.7	0.1	5
Tanzania	0.5	0.7	+0.2	13
Uganda	0.7	1.3	+0.6	18
Zambia	0.3	0.2	0.1	15
Zimbabwe	1.6	1.1	0.5	18

6 Men's Reproductive Preferences

A description of the desired number of children and the intention to limit childbearing among men is possible for a large number of countries in which the DHS has included samples of men, mostly in sub-Saharan Africa. Moreover, many of the countries have by now repeated such surveys thereby enabling the analysis of trends in male preferences.

Table 6.1 presents the same data for men as for women in Table 2.1, with the focus on sub-Saharan Africa. The average number of children considered ideal by married men in this region shows a pattern similar to that for women. The highest numbers are for Chad (13.7) and Niger (12.6) with the lowest average in Swaziland (3.6). The average for the countries in west and middle Africa is 7.8 in contrast to 4.9 in southern and eastern Africa. Every one of the 17 countries in west and middle Africa, except Cape Verde, has a higher desired number than the average for the 10 countries in southern and eastern Africa.

The same pattern appears for the proportion of married men who want no more children. On average only 15 percent say they want no more in western and middle Africa compared with 38 percent in southern and eastern Africa.

In the few countries outside of Africa that have recent data on men's preferences there is a narrow range in the ideal number of children mostly between 2 and 3. The proportion of men who want no more children averages 60 percent.

Table 6.1. Ideal number of children and percentage who want no more children* for currently married men in sub-Saharan Africa and several countries in other regions.

Country	Survey Year	Mean Ideal Number of Children		Percentage Who Want No More Children			
		All Married Men	Married Men with 2 Children	All Married Men	Number of Children		
					2	3	4
WESTERN AND MIDDLE AFRICA							
Benin	2006	6.9	5.5	24	6	15	27
Burkina Faso	2003	7.0	5.8	14	7	12	16
Cape Verde	2005	2.9	2.7	63	78	51	87
Chad	2004	13.7	10.7	6	1	7	5
Congo (Brazzaville)	2005	5.9	5.3	NA	NA	NA	NA
Congo Democratic Rep.	2007	8.2	6.9	18	6	13	18
Cote d'Ivoire	1998/99	7.5	5.7	20	10	23	13
Gabon	2000	6.8	6.1	24	16	17	30
Ghana	2008	5.1	4.2	31	22	34	50
Guinea	2005	8.8	7.4	7	1	4	5
Liberia	2007	6.3	5.3	20	11	17	21
Mali	2006	8.4	7.2	9	2	4	8
Mauritania	2000/01	8.7	8.0	8	5	6	9
Niger	2006	12.6	11.0	4	1	2	3
Nigeria	2008	8.5	7.1	12	5	10	21
Togo	1998	6.0	4.9	26	14	15	27
Sierra Leone	2008	6.4	5.4	18	6	17	20

(Cont'd)

Table 6.1. – cont'd

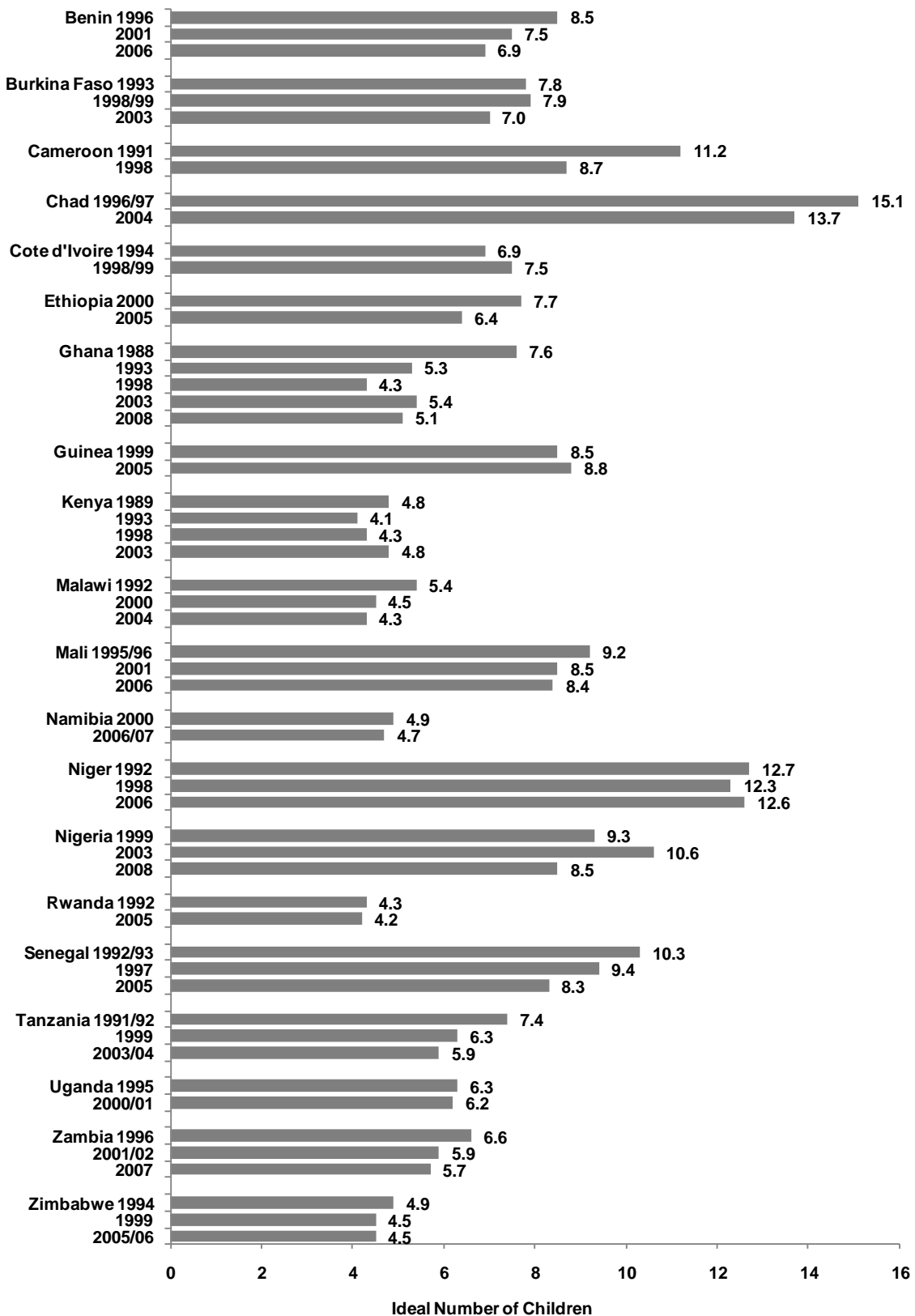
Country	Survey Year	Mean Ideal Number of Children		Percentage Who Want No More Children			
		All Married Men	Married Men with 2 Children	All Married Men	Number of Children		
					2	3	4
SOUTHERN AND EASTERN AFRICA							
Ethiopia	2005	6.4	5.2	34	16	28	35
Kenya	2003	4.8	3.9	39	25	39	57
Lesotho	2004	4.1	3.4	46	42	55	67
Madagascar	2003/04	5.7	4.8	35	24	36	45
Malawi	2004	4.3	4.1	38	22	32	52
Namibia	2006/07	4.7	3.4	47	49	53	53
Rwanda	2005	4.2	3.8	44	19	29	51
Swaziland	2006/07	3.6	3.2	52	43	59	62
Tanzania	2004/05	5.9	4.7	19	6	14	27
Zambia	2007	5.7	4.5	33	17	22	36
OTHER REGIONS							
Armenia	2005	3.1	3.0	62	71	87	95
Azerbaijan	2006	3.0	2.7	68	76	85	90
Moldova	2005	2.6	2.5	64	75	84	88
Turkey	1998	2.7	2.4	66	79	86	90
Ukraine	2007	2.1	2.2	49	75	80	74
Indonesia	2007	3.0	2.7	43	50	64	69
Nepal	2006	2.6	2.2	72	77	92	91
Philippines	2003	3.8	3.2	51	45	60	70
Bolivia	2003	3.2	2.6	67	63	75	84
Brazil	1996	2.9	2.5	71	78	87	91
Haiti**	2005/06	3.3	3.1	49	39	56	61

* Includes men reporting sterilization

** Estimates of the percent who want no more in Haiti based on the 2000 survey

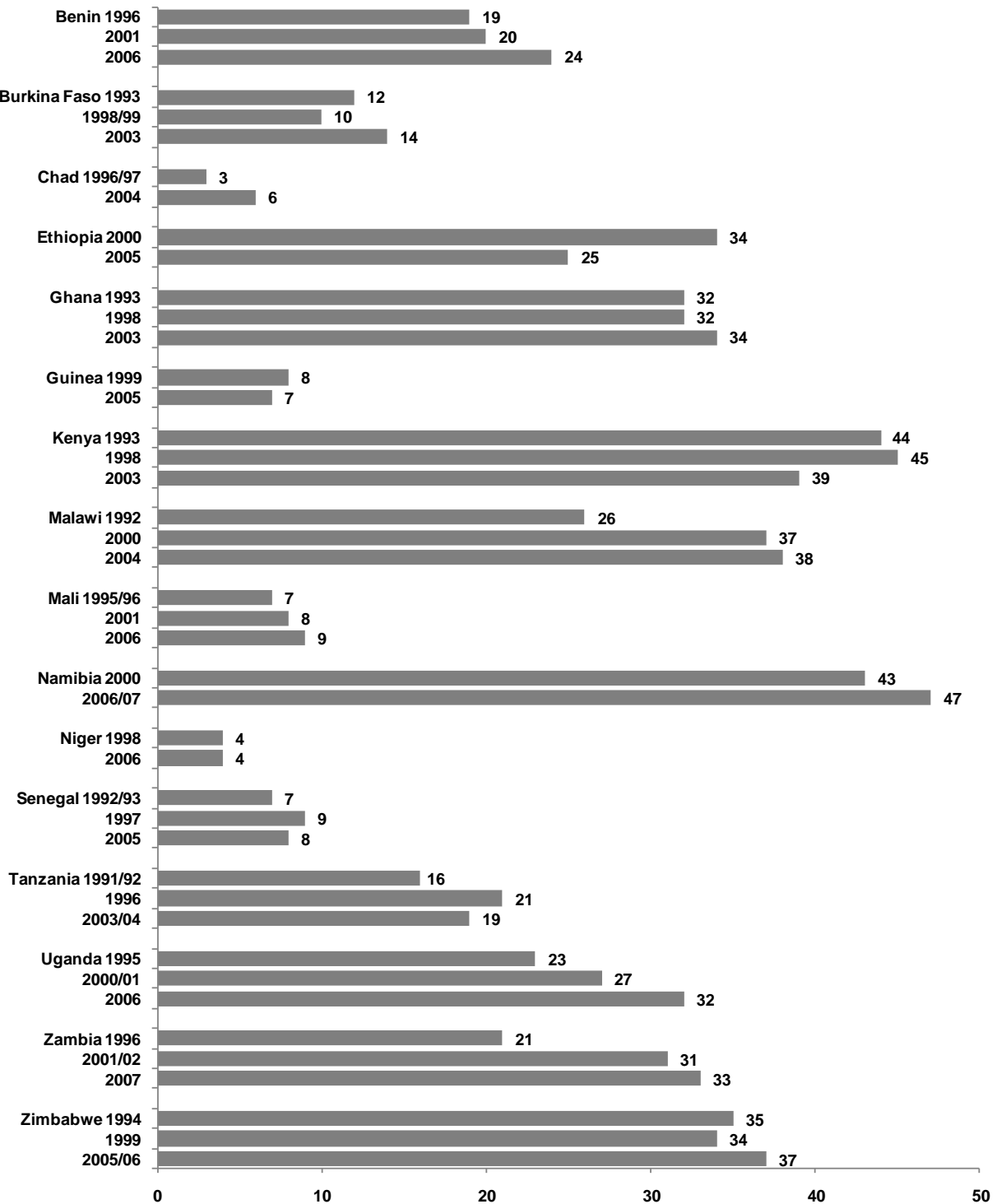
Although the number of children desired by men is declining in some of the sub-Saharan African countries included in Figure 6.1, there are numerous exceptions. In Kenya, the average increased from 4.3 in 1998 to 4.8 in 2003, returning to the level for 1989. This is consistent with the observed stall in related contraceptive and fertility in that country by 2003. Also, in Ghana the mean number that men desire increased from 4.3 in 1998 to 5.1 in 2008 following a decline from 7.6 in 1988. Nonetheless, there have been continuous declines in Benin, Malawi, Senegal, Tanzania and Zambia, and small declines in other countries.

Figure 6.1. Trends in mean ideal number of children for currently married men in sub-Saharan Africa.



A similar mixed picture appears with the trend in the proportion of married men who want no more children (Figure 6.2). There are clear signs of an increase in this proportion in Benin, Malawi, Uganda, and Zambia. The reversal in Kenya is consistent with the trend in the ideal number of children.

Figure 6.2. Trends in the proportion of married men in sub-Saharan African countries who want no more children.



As discussed in the 2002 DHS Comparative Report (Westoff and Bankole, 2002) men report a higher number of children desired than women, with the sole exception of Rwanda (Table 6.2). This difference continues in the latest surveys. There may be a trend emerging toward a reduction in the magnitude of the difference but there are numerous exceptions.

Table 6.2. Recent trends in differences in male-female average number of children desired in sub-Saharan African countries.

Western and Middle Africa					Southern and Eastern Africa				
Country	Survey Year	Male	Female	M-F	Country	Survey Year	Male	Female	M-F
Benin	1996	8.5	5.8	2.7	Ethiopia	2000	7.7	5.8	1.9
	2006	6.9	5.2	1.7		2005	6.4	5.1	1.3
Burkina Faso	1998/99	7.9	5.9	2.0	Kenya	1998	4.3	4.1	0.2
	2003	7.0	5.8	1.2		2003	4.8	4.3	0.5
Chad	1996/97	15.1	8.5	6.6	Malawi	1992	5.4	5.3	0.1
	2004	13.7	8.1	5.6		2004	4.3	4.3	0.0
Côte d'Ivoire	1994	6.9	6.0	0.9	Rwanda	1992	5.0	4.3	0.7
	1998/99	7.5	5.9	1.6		2005	4.2	4.5	-0.3
Ghana	2005	5.4	4.8	0.6	Senegal	1997	9.4	5.7	3.7
	2008	5.1	4.6	0.5		2005	8.3	5.7	2.6
Guinea	1999	8.5	5.9	2.6	Tanzania	1999	6.3	5.7	0.6
	2005	8.8	5.9	2.9		2004/05	5.9	5.4	0.5
Mali	1995/96	9.2	6.5	2.7	Uganda	2000/01	6.2	5.1	1.1
	2006	8.4	6.4	2.0		2006	6.4	5.3	1.1
Niger	1998	12.3	8.5	3.8	Zambia	2001/02	5.9	5.1	0.8
	2006	12.6	9.1	3.5		2007	5.7	5.1	0.6
Nigeria	2003	10.6	7.3	3.3	Zimbabwe	1999	4.5	4.3	0.2
	2003	8.5	6.7	1.8		2005/06	4.5	3.8	0.7

7 The Influence of Education and Development

The education of women is clearly and close to universally associated with their reproductive preferences. The proportion of women who want no more children increases with the level of education. A related question is whether the increase over time in this proportion is connected with education. The situation in sub-Saharan Africa is particularly interesting because there are still many countries in the region in which significant proportions with no formal schooling can still be observed, ranging from close to zero to as high as 85 percent. It is therefore possible to determine whether the trend toward higher proportions of women that want no more children is influenced by education. Is this general trend confined to women with some education or can it also be seen among those with no education?

We have examined time trends in the proportion of women with no education who want to cease childbearing in 25 sub-Saharan African countries and observe that the increase in the proportion who want no more children can also be detected among women with no education in about one-third of the 25 countries (see Figure 6.1). This trend is especially evident in eastern and southern Africa. Among women with some primary or with secondary or higher education, the trend is evident in about half of the 25 countries (not shown here).

In countries outside of sub-Saharan Africa, there are 12 surveyed countries with a sufficient number of women with no education to pursue the same question. There is clear evidence that the proportion of women with no education who want no more children has risen appreciably in virtually all of these countries (Figure 6.1). For example, in Nepal the proportion who want no more children among uneducated women has risen from 60 percent in 1996 to 76 percent in 2006; in Cambodia from 36 percent in 2000 to 61 percent five years later; in India from 54 percent in 1992/93 to 73 percent in 2005/06. Similar trends among women with no education are observed for Morocco, Bangladesh, Indonesia, Pakistan, Guatemala and Haiti. These increases reduce the educational differential in the desire to cease childbearing. In these countries outside of sub-Saharan Africa, at the primary or secondary and higher education levels, the proportion of women who want no more children shows little change (not shown).

It is relevant to note that as the proportion with no education decreases over time, as it has in recent years, those remaining in this category may be more selective on other characteristics associated with reproductive preferences. These could include rural residence and low economic status, a selectivity that would ostensibly obscure the trend toward a desire to cease childbearing.

The increase in the proportions of uneducated women wanting no more children that is particularly strong in the countries outside of sub-Saharan Africa probably involves a demonstration effect. Uneducated women are living in communities where most women have some education. These more educated women are having fewer children and small family norms may be evident in the mass media and elsewhere. Family planning programs also may play an important role in this population. Moreover, although education is a strong determinant of reproductive preferences, there are other influences operating, such as urban residence, religion, declining child mortality, changes in the status of women and improvements in income and wealth.

An earlier analysis (Rutstein, 1998) also documented declines in the number of children desired among women with no education. He concluded that: "Even women with no education have changed their desired number of children over time – contrary to the belief of some scholars that rises in education are essential for declines in fertility." (p. 14)

Figure 7.1 Trends in the percentage who want no more children among married women with no education for selected countries.

SUB-SAHARAN AFRICA

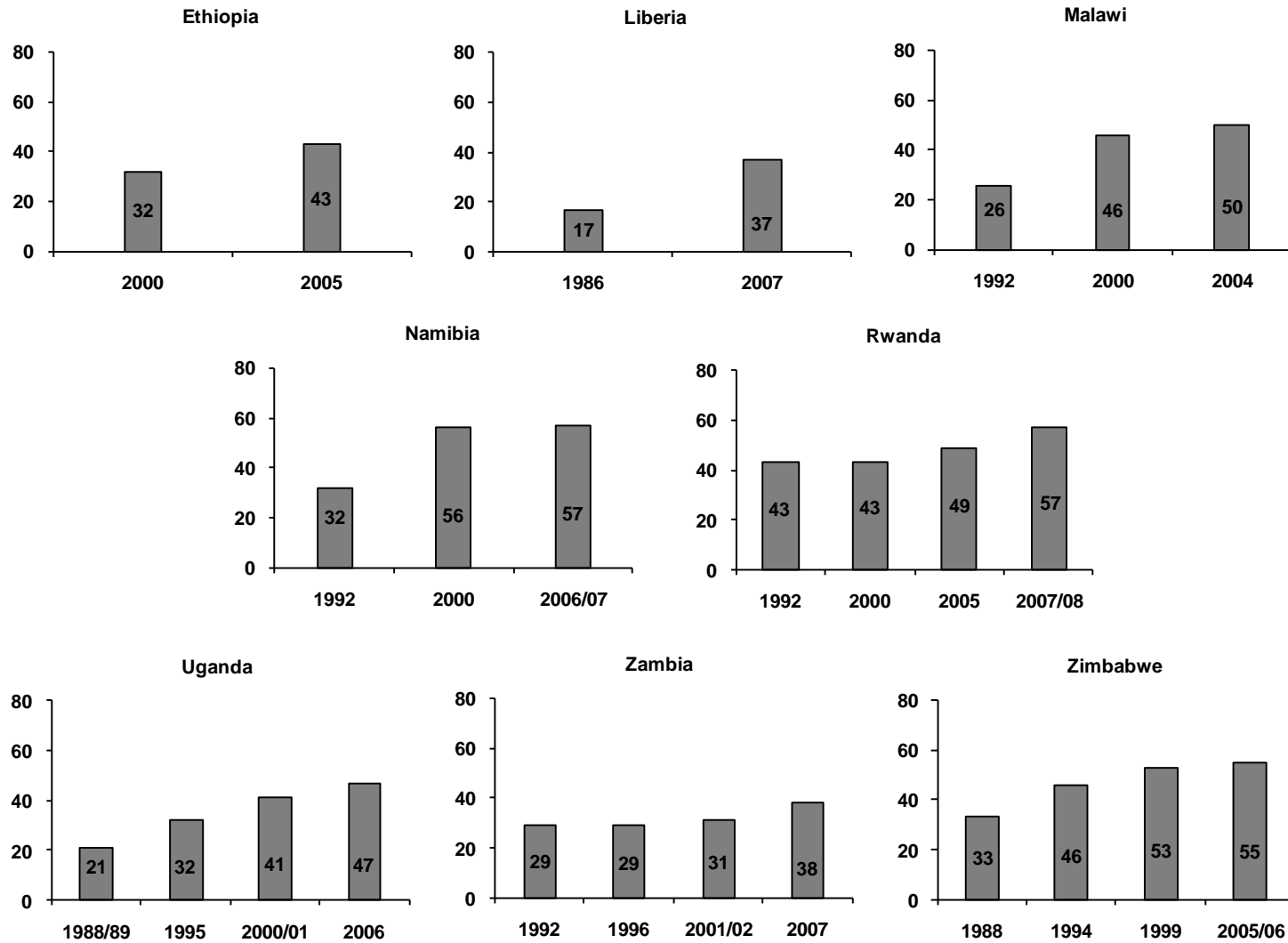


Figure 7.1 (continued). Trends in the percentage who want no more children among married women with no education for selected countries.

OTHER COUNTRIES

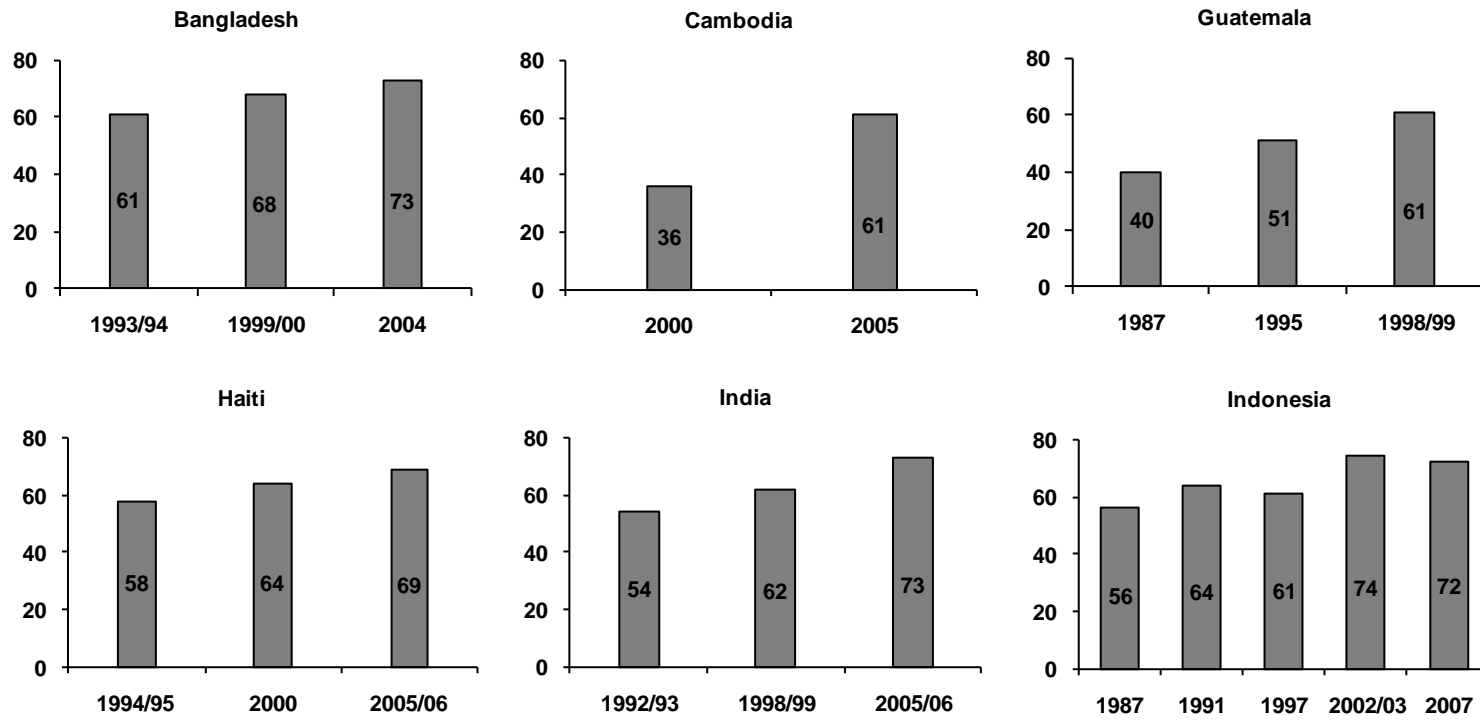
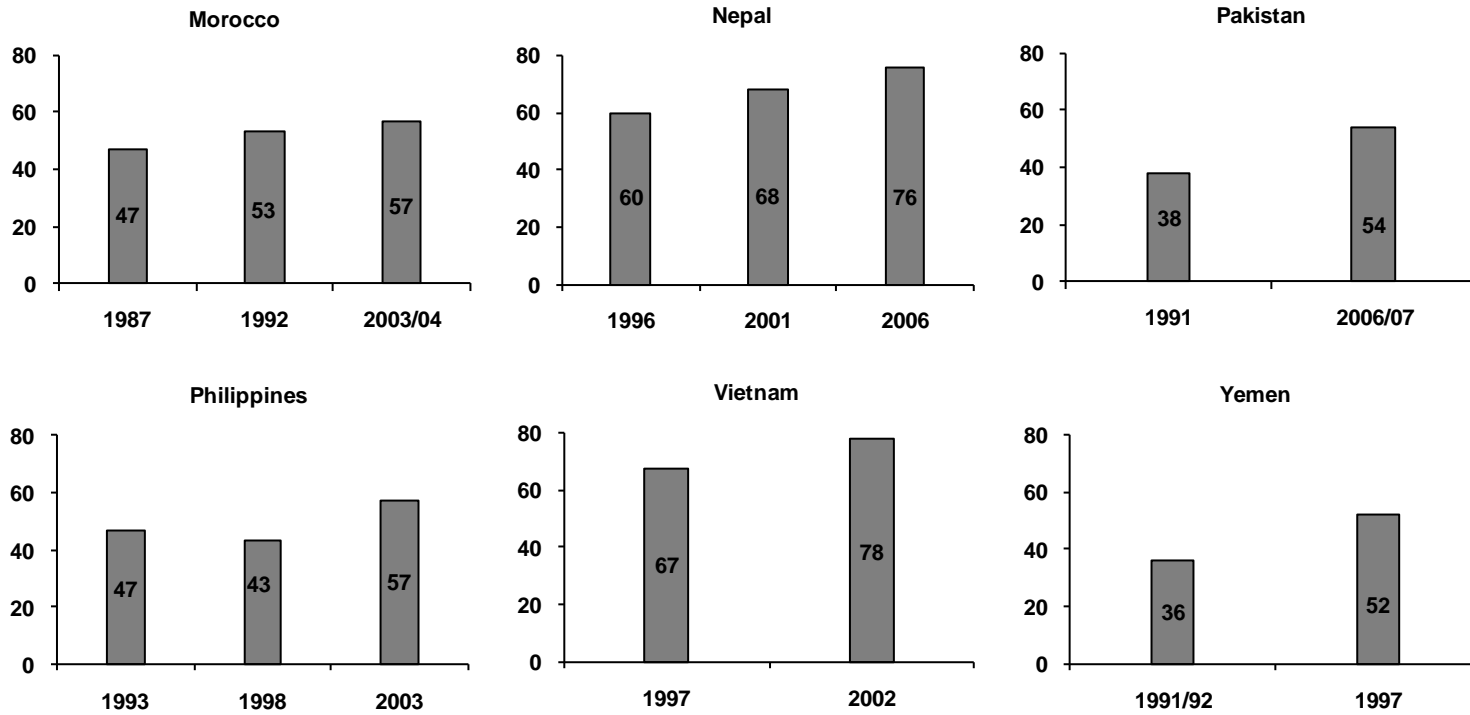


Figure 7.1 (continued). Trends in the percentage who want no more children among married women with no education for selected countries.

OTHER COUNTRIES, continued.



There is a clear and strong association of wanted fertility with general socio-economic development. This is shown for developing countries in Table 7.1 with the use of the Human Development Index (HDI), a composite of various international agency indicators (UNDP, 2008). The HDI consists of measures of life expectancy at birth, literacy and school enrollment, and gross domestic product. The association of this Index with the WFR and with the proportion of women who want no more children is strong and negative. The WFR ranges from 2.6 at the highest end of the HDI to 5.9 at the lowest extreme. Similarly, the proportion of women who want no more children ranges (among women with 3 children) from an average of 17 to 75 percent.

Table 7.1. Wanted fertility and socio-economic development in developing countries.

Human Development Index	Wanted Total Fertility Rate	Percentage Want No More Children*	Number of Countries
Least developed	5.9	17	11
Next to least	4.9	38	15
Middle	4.4	50	10
Next to most	3.2	75	12
Most developed	2.6	75	13

* Among women with three children

8 Reproductive Preferences and Unmet Need

In general, both the number of children desired and unwanted fertility are associated with unmet need for family planning. This is not surprising since preferences are part of the index of unmet need which essentially estimates the proportion of women who are not using contraception but who want no more children or want to delay the next child.

Low levels of unmet need are typically associated with populations in which women are mostly using contraception and have largely achieved low fertility. However, there is an important exception to this connection in that there are some countries with little unmet need (especially for limiting births) where contraceptive prevalence is also very low, for example in Chad, Niger, Nigeria, Guinea, and Mozambique where the WFR ranges from 5.1 to 6.8. The simple explanation for the combination of low contraceptive prevalence and low unmet need is that women in these countries want as well as have high fertility. Most of the existing unmet need in these countries is for the spacing, not limiting of births, a pattern observed throughout most of sub-Saharan Africa.

Curiously, policy reflections on countries with low contraceptive prevalence and high fertility focus mainly on access to family planning services and ignore the large family size preferences (UN Population Division Policy Brief, 2009). Altering these preferences is more complex than providing family planning and it is far from clear that the existence of services alone will lower fertility desires.

In order to gain more insight into the forces supporting high fertility preferences, we turn to a more detailed analysis of these five countries. Table 8.1 summarizes some of their relevant characteristics. As mentioned, both unmet need and contraceptive prevalence are low and the desired number of children is high. Only small proportions of last births were regarded as never wanted although there is some level of mistimed births. Of particular interest are the high proportions of women who both have never used any method of contraception and do not intend to use any in the future. The TFR ranges in these five countries from 5.5 to 7.0. Most of these births are wanted as indicated by the small differences between the TFR and the WFR. Child mortality rates are high. Most of the women live in rural areas and very high proportions have had no education at all. Most women are Muslim except in Mozambique.

Table 8.1. Characteristics of five African countries with low unmet need and high reproductive preferences.

Characteristic	Chad 2004	Guinea 2005	Mozambique 2003	Niger 2006	Nigeria 2008
Unmet need, total	23	21	18	16	20
Unmet need for spacing	19	13	11	13	15
Unmet need for limiting	4	8	7	3	5
Contraceptive prevalence	3	9	16	11	15
Percent using modern methods	2	6	12	5	10
Percent never used any method and do not intend to use	75	55	29	60	47
Number of children desired	9.2	5.9	5.7	9.1	6.7
Last birth mistimed	17	10	15	9	6
Last birth unwanted	1	4	4	1	5
Wanted total fertility rate	6.1	5.1	4.9	6.8	5.3
Total fertility rate	6.3	5.7	5.5	7.0	5.7
Percent with child that died*	40	39	36	45	40
Percent with no education	75	77	41	83	36
Percent urban	21	31	37	20	36
Percent Muslim	57	85	22	99	44

Note: Unmet need, contraceptive use, and number of children desired are based on currently married women

* Based on women with at least one live birth

These are the background characteristics against which we now turn to multivariate analyses of factors associated with the desired number of children in these five countries (Table 8.2). Standardized partial regression coefficients are shown with controls for the number of living children and current age. The remaining covariates are more substantive, some of which are sensitive to programs and policies. The results for each of these covariates follow. They are based on currently married women but the picture is the same for all women.

Women who have experienced the death of one or more children (40-50% of women in these countries who have had at least one live birth) are more likely to desire greater numbers of children. The significant effect of child mortality on reproductive preferences here controls for the number of living children (as well as all of the other covariates listed in Table 8.2).

Age at marriage shows the expected negative effect on the number of children desired in only three of the five countries. Living in rural areas shows a direct effect with preferences in two of the countries.

The number of years of schooling is negatively and significantly associated with the number of children desired in all five countries but wealth is inconsistently related. In the four countries where comparisons are possible, Muslim women show a significant positive association with the number of children desired.

Exposure to the mass media, especially television, is typically negatively correlated with desired fertility. This is a somewhat stronger effect than observed with reproductive preference in earlier years (Westoff and Bankole, 1997)

Women's empowerment, as measured here² shows some association with the desired number of children. The index includes women's decision-making authority in areas of health care, daily and large household purchases, what to cook, and visits to friends and relatives. It shows if these decisions are exclusively the man's then a greater number of children is desired.

In sum, the main determinants of a large desired number of children that are generally consistent across all five countries are experience with child mortality, low education, Muslim affiliation, lack of exposure to mass media, and low women's empowerment.

The same general pattern of results in Table 8.2 is also evident in a logit regression analysis of the covariates of the proportion of women who want or do not want more children (not shown here).

² The index of decision-making is the sum of five items on who has the final say, each dichotomized with a score of one if it is the husband alone and zero for all other responses. These measures are discussed at length in Kishor, 2005.

Table 8.2. Multivariate analysis of factors associated with the number of children desired by married women (standardized partial regression coefficients).

Characteristic	Chad 2004	Guinea 2005	Mozambique 2003	Niger 2006	Nigeria 2008
Number of living children	.178	.165	.222	.273	.206
Number of child deaths	.108	.135	.137	.199	.126
Age (years)	(.027)	(.018)	.104	-.116	-.055
Age at first marriage (years)	(-.016)	-.030	-.051	(.014)	-.024
Rural residence	.139	(.034)	(-.020)	.084	(.013)
Years of education	-.117	-.070	-.089	-.105	-.120
Muslim	.231	.125	.072	—	.153
Wealth	.118	-.041	-.117	(-.027)	-.114
Read newspapers, magazines	(-.030)	(-.024)	(-.018)	-.039	(.005)
Listen to radio	-.057	-.040	.028	(-.023)	(.004)
Watch television	.048	-.048	-.069	-.032	-.046
Decision making ¹	NA	.067	(.017)	.056	.071
Number of women	3,827	5,448	8,207	6,340	20,254
R ²	.170	.141	.221	.165	.251

() not significant at the .05 level

¹ Scaled with plus value indicating male dominance

Given that many women in these five countries have never used any contraception and do not intend to use any in the future, it is interesting to examine the covariates of this intention among the never users. In Table 8.3, a logit regression analysis shows the odds ratios of intending to use contraception among women who have never used any method. Younger women and those who married at older ages are more likely to intend to use a method. Both the number of living children and the number of child deaths are positively associated with intention to use a method among these women who have never used one while the number of children desired is negatively correlated. If the last birth was unintended (not included in Table 8.3), there is a strong intention to use a method. Women with some education are more likely to intend to use a method while being Muslim is negatively and strongly associated (Muslim women are less than half as likely to intend to use a method than non-Muslim women). Regularly listening to the radio and watching television predict intention to use as well as having heard radio messages about family planning.

Table 8.3. Multivariate logistic regression (odds ratios) of factors affecting intention to use contraception among married women who have never used any method.

Characteristic	Chad 2004	Guinea 2005	Mozambique 2003	Niger 2006	Nigeria 2008
Number of living children	1.19	1.66	1.47	1.19	1.15
Number of child deaths					
0	1.00	1.00	1.00	1.00	1.00
> 0	1.24	1.55	1.39	1.58	1.09
Age	0.92	0.88	0.89	0.89	0.94
Age at marriage*					
< 18	1.00	1.00	1.00	1.00	1.00
≥18	1.28	1.35	1.86	1.55	1.49
Number of children desired	0.88	0.82	0.86	0.94	0.92
Residence					
Urban	1.00	1.00	1.00	1.00	1.00
Rural	(0.83)	(1.13)	1.68	(0.95)	(1.06)
Education					
None	1.00	1.00	1.00	1.00	1.00
Some	1.53	1.26	1.49	(1.17)	1.62
Religion					
Non-Muslim	1.00	1.00	1.00	—	1.00
Muslim	0.46	0.47	0.48	—	0.68
Wealth	(0.97)	(0.94)	1.28	0.81	(1.04)
Reads newspapers, magazines	(0.83)	(0.99)	(1.25)	(0.93)	(0.97)
Listens to radio	1.27	1.30	(1.16)	1.28	1.11
Watches television	(0.78)	1.34	1.83	1.36	(0.95)
Family planning messages on:					
Radio	1.44	2.14	1.80	2.61	0.89
Television	(1.43)	(0.87)	0.63	(0.79)	1.23
Newspaper	(0.68)	(1.22)	(0.77)	1.64	(0.88)
Decision making	NA	0.96	(0.99)	0.91	(0.99)
Number of women	3,404	4,184	3,541	4,474	14,630
R ²	.110	.149	.173	.105	0.08

() not significant at the .05 level

* The dichotomy for Guinea and Mozambique is < 17 and ≥17

9 Summary and Conclusions

The main objective of this report is to review the most recent estimates and trends of reproductive preferences from the large number of surveys in the countries included in the DHS project. This is an update of earlier DHS comparative reports with the same focus but includes some new directions as well.

The number of children desired or considered ideal remains highest in western and middle Africa with an average of 6 children desired. About 70 percent of women who have 4 children still want more children in this region. In southern and eastern Africa, the picture is significantly different with an average of 4.5 children desired and an average of 42 percent of women with 4 children who want more. The desired number of children is much lower in countries in North Africa, Asia, Latin America and the Caribbean, ranging from 2 to 4.

In most of the countries in Asia and North Africa, there is a clear trend toward wanting no more children while in Latin America and the Caribbean intention to avoid further childbearing has already reached high levels with the exception of Guatemala and Haiti. This trend toward a desire for fewer children is also evident in southern and eastern Africa but the trends are mixed in western and middle Africa with numerous countries showing little indication of moving toward family limitation.

The prevalence of unwanted births is highest in Latin America and the Caribbean with an average of 24 percent of recent births and lowest in western and middle Africa at 6 percent on average. The Wanted Total Fertility Rates are the lowest in Asia and North Africa with more than half of the surveyed countries below replacement levels. At the opposite extreme, 7 of the 17 countries in western and middle Africa have WTFRs above 5.0. In almost all countries with repeat surveys, the decline in the TFR is due to the reduction of the number of children wanted rather than to unwanted fertility.

Analysis of the reproductive preferences of men is focused here on the countries of sub-Saharan Africa where male surveys have become common. The estimates of the number of children desired by men show the same pattern of country differences as among women with the highest in western and middle Africa and lowest in southern and eastern Africa. As observed in an earlier report, men desire more children than women with only some suggestion that this gender difference may be decreasing over time.

One of the new directions pursued in this report is to study the trend of reproductive preferences among women with no education. How indispensable is the well-known association of women's education with the number of children desired? There is evidence that in about one-third of the sub-Saharan African countries studied the proportion of uneducated women who do not want any more children is increasing. In some of the Asian countries, this trend among the uneducated sector of the population is very evident.

Analysis in this report of the association of reproductive preferences with unmet need for family planning was prompted by the observation that although low levels of unmet need in most countries reflect increases in family planning use, some countries with low unmet need also have very low contraceptive prevalence. These are countries where very high proportions of women simply want more children and where the average number of children desired ranges from 5.9 to 9.1. In Chad, Guinea, Niger and Nigeria most women have never used a contraceptive method and say that they do not intend to use one. The covariates of both the number of children desired and intention to use a method in these countries were analyzed. The strongest predictors are the Muslim – non-Muslim distinction, low education and experience with child mortality. Mass media exposure is also relevant.

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Appendix A: Measures of Reproductive Preferences

This study has used four measures of reproductive preferences for each country: the desired or ideal number of children, the related Wanted Total Fertility Rate, the proportion of women who want no more children, and the proportion of births unwanted in the past five years. These measures have been used in surveys for the past 25 years of DHS history and before that in the World Fertility Survey for an additional 13 years. They originated in nation-wide surveys in the United States going back to 1955 and earlier on more local scales and in developing countries in the Knowledge, Attitudes and Practices (KAP) surveys. It is no exaggeration that some of these measures have a history of perhaps 65 years.

Despite their longevity, these indices have been repeatedly questioned by researchers (Bongaarts, 1990; Hakkert, 2001; Casterline and El-Zeini, 2007; Westoff, 1990) and other critics. Are the measures valid? Do they predict behavior? Are they reliable? Are the survey questions understood in countries with low levels of numeracy? Do women report the wantedness of recent births accurately or is there a tendency with the passage of time to rationalize unwanted births as wanted?

The most relevant research on some of these questions (Bankole and Westoff, 1998) is based on a panel study of women in Morocco who were initially interviewed in 1992 and re-interviewed in 1995. The second interview included the same questions about reproductive preferences at both times as well as questions about the planning status of the same births reported in the earlier survey. Without going into the details of that study, we can summarize the results as follows:

The consistency of reporting the same number of total children desired is weak at the individual level but virtually perfect in the aggregate. This measure is thus seen as useful for indicating general population norms but not for individual predictive purposes.

The consistency of reports on whether additional births are wanted is much higher at the individual level and also significantly predicts subsequent fertility.

There are serious inconsistencies in the reporting of whether births were wanted or unwanted that indicate a process of post-factum rationalization of unwanted births as wanted, with a tendency for this process to increase with the duration of time since the births.

It seems safe to say that these conclusions have been largely accepted by researchers and have been buttressed by other findings. One qualification is in order about the rationalization of unwanted as wanted births. If this process is true, one might expect to see a higher proportion of births in cross-sectional data reported as unwanted that are closer to the date of the birth. Data from several recent surveys have been examined in which the planning status of the last birth is tabulated over a five-year period but no evidence at all appears that the proportion unwanted diminishes with time. Thus, there is still some question about all of this but the longitudinal design is clearly the superior approach (Bankole and Westoff, 1998).

The important consensus that has emerged is that the intention to have or not have more children is the superior measure. On this premise, Casterline and El-Zeini (2007) have proposed an interesting new approach to the estimation of unwanted fertility that utilizes reproductive intentions in combination with childbearing within the past 36 months. The authors kindly provided estimates for most of the DHS countries compared with the direct survey estimates. From these data, based on 54 of the most recent surveys, the mean percent of unwanted births is 28 with their procedure compared with 13 percent based on the standard DHS measure and 16 percent based on the difference between the actual and ideal number of births. This significantly higher estimate has been noted by the authors. Several countries show extreme differences between the Casterline – El-Zeini estimates and the standard DHS planning status

measure. Bolivia is the most extreme difference at 60 percent of births unwanted compared with the DHS estimate of 39 percent; in Swaziland, the estimates are 55 and 37 percent respectively. Differences of this magnitude are not negligible. The judgment here is that although the DHS estimates of unwanted births may be somewhat low, they seem more plausible.

Another perspective on the various measures of reproductive preferences is their intercorrelations. Are they all capturing the same dimension or are there major differences? In Table A1, these intercorrelations among several of the main measures are shown for the 54 recent country surveys. The correlation between the standard DHS measure of unwanted births and the Casterline – El-Zeini measure is .83, indicating that the rank order distribution of the countries by the proportion of recent births unwanted is fairly similar (even though the mean values are quite different as noted above). There are similar correlations of both measures of unwanted births with the measures of desire for no more children, ideal number of children and the WTFR. There are very high correlations among the proportion who want no more children, the ideal number and the Wanted Total Fertility Rate. This does not mean that the DHS measures are more valid but only that they are more on the same dimension. Both measures of the proportion of unwanted births yield lower correlations with the other measures of preference which is to be expected since they capture a somewhat different though related dimension of reproductive preferences.

So, the question of the comparative validity of the two approaches to the measure of unwanted births remains unanswered from this analysis although there is clear evidence that the other measures lie on a similar dimension. One possible criterion of validity might be the association of the unwanted births measures with abortion rates which are certainly an indicator of unwantedness. A recent measure of abortion rates has been developed (Westoff, 2008) which has been added here to the survey data to explore this connection with the two measures of unwanted births. The results for the 54 countries show very similar but low correlations of the estimated Total Abortion Rate with the Casterline – El-Zeini method (estimated at -.29) and with the standard DHS measure (-.35), a result that does not settle anything. If this test is applied to the 30 sub-Saharan African countries in this report, the difference is greater: -.28 with the Casterline – El-Zeini method (not statistically significant) and -.51 with the standard DHS method. This would seem to favor the DHS measure but on very limited evidence.

Table A-1. Correlations of indicators of reproductive preferences (N = 54 countries).

	Casterline E-2	DHS unw	WNM	IDEAL	WTFR
Casterline	1.00				
DHS percent unwanted	.83	1.00			
Percent want no more	.63	.64	1.00		
Mean ideal number	-.64	-.59	-.95	1.00	
WTFR	-.57	-.54	-.90	.93	1.00

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