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THE DEMAND FOR FERTILITY CONTROL IN SUB-SAHARAN AFRICA

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THE POPULATION COUNCIL

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### Abstract

Recent fertility surveys in Africa reveal that a striking majority of women want more children, even of those who use modern contraception, and that modern contraceptive prevalence is still low for women most motivated to avert pregnancy. The author finds that whereas there is little indication of change in conditions anticipated to shift the underlying demand for children, uncertainties attached to successful childraising due to risks of infertility, failure to thrive, disablement, and divorce strongly favor the traditional forms of regulation. The two major means of fertility regulation in Africa—avoidance of next pregnancy in reference to the last born child's survival and rearrangement of the timing and tempo of childrearing through fostering—are not equivalent to modern contraception in purpose or practice.

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This analysis was prepared as a background paper for a World Bank study of population strategies for sub-Saharan Africa.

All societies limit fertility as a result of customary restrictions on marriage and sexual behaviors, so much so that a maximum potential total of about 15 births per woman is never observed for a population. Accordingly, the total fertility rate of under 7 births per woman in sub-Saharan Africa is still below half of a theoretical maximum, even though that level of fertility is currently the highest for any region in the world.

Africa's level of fertility is the product of traditionally strong upward pressures on childbearing offset by customary behaviors that have powerful dampening effects on individual fertility. Not only below its maximum potential, Africa's fertility is also below levels of natural fertility that have been reached by other pro-natalist societies, such as the Hutterites. It is probable that because of high mortality in a hostile environment, African social patterns and reproductive behaviors came to settle at an equilibrium that traded-off the very highest fertility for rudimentary supports to child survival, such as protected breastfeeding. The full range and present levels of the proximate determinants of fertility in sub-Saharan societies are discussed in detail elsewhere (Boncaarts et al., 1984). The focus of this paper is on whether there is any evidence of demand for fertility control and for family planning in the region which may at present or could in the future lead to fertility levels lower than those determined by customary restrictions alone.

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This paper will first evaluate the high childbearing desires of African women, and their use of modern methods of contraception, then review the principal elements of the traditional system of fertility regulation, and finally draw inferences for the potential spread of modern contraception for purposes of limitation.<sup>1</sup>

#### Childbearing desires of African women

Since data on the expressed attitudes of African women to childbearing have specifically been collected in surveys, it is useful to begin by examining what women in the region state that they want in matters of childbearing. Table 1 provides an overview, from nine World Fertility Surveys conducted in sub-Saharan Africa, of childbearing desires in the late 1970s and early 1980s. The first observation one can make is that a striking majority of women in all countries say they want more children: the proportion of women expressing an unequivocal preference for more children ranges from about 70 percent in Kenya to over 90 percent in Ivory Coast. One can next see that among the minority of women who say they do not want additional children, that preference is sensitive to the number of children the women have had who survived. Accordingly, the proportions of women who want no more children increases in every country with each additional surviving child, so that among women with 4 surviving children, for example, from one in twenty or thirty mothers (Ivory Coast, Nigeria) to one in four (Lesotho) reports that she does not want more. The sensitivity of childbearing desires to the number of children surviving is consistent with the age pattern of fertility. If we were to have conducted a similar breakdown by age, we would find that similar proportions of women age 35 to

TABLE 1 Percent of currently married fecund women according to their desire for additional children by number of living children, age and type of response and percent currently married women according to desired family size, by selected types of responses, sub-Saharan African fertility surveys, various years.

Country and Year	Percent of currently married fecund women who:											Number of additional children wanted	Desired/ideal family size percent of currently married women who:								
	Do not want additional children												Of women who want more children, percent giving a nonnumerical response	Give a nonnumerical response	Have 9 or more surviving children	Desire a family size of 9 or more of women who give a numerical response					
	By number of living children:																				
	0	1	2	3	4	5	6	7	8	9+	Over- all	Age- 75-89					Age- <35	Of Women: Age- 35-49	Age- >35	Are un- decided	Want addi- tional child- ren
<b>West Africa</b>																					
Ivory Coast 1965-81	2	1	3	8	12	-	-	21	-	-	8	5	3	22	4	18	74	-	-	-	-
Ghana 1975-80	1	1	3	6	15	19	35	39	50	54	12	8	4	29	5	10	70	9	11	2	15
Nigeria 1981-82	0	1	2	3	4	6	11	16	14	37	4	2	2	11	2	5	90	19	26	2	49
Senegal 1970	4	2	2	4	5	7	5	8	27	16	4	2	2	10	2	12	84	-	-	-	-
Senegal 1970	2	0	3	5	8	18	22	53	100	75	8	-	-	-	-	5	87	-	29	2	54
<b>Central Africa</b>																					
Cameroun <sup>a</sup> 1978	1	2	4	3	3	8	9	15	26	41	3	1	2	15	3	18	79	-	33	2	45
<b>East Africa</b>																					
Egypt 1977-78	2	1	4	7	16	18	25	37	46	56	17	10	7	33	10	15	68	25	19	6	26
<b>Southern Africa</b>																					
Lesotho	0	3	8	16	27	41	46	54	57	71	25	7	8	29	10	1	84	5	2	0	15
<b>Arab Africa</b>																					
North Sudan 1970	1	5	8	11	16	23	32	32	39	59	17	8	9	28	12	6	77	12	18	4	22

<sup>a</sup> These questions were asked of very restricted samples of women in Cameroon, representing only a fraction of all eligible women in each case. For this reason they are not strictly comparable (see République Unie du Cameroun, 1983).

Sources: République Populaire du Bénin (1983); République de Ghana (1981); République de Côte d'Ivoire (1984); République Fédérale de Nigeria (1983); République du Sénégal (1981); République Unie du Cameroun (1983); République d'Égypte (1980); Royaume de Lesotho (1981); République Démocratique du Soudan (1982).

39, who have on average four or five surviving children, report that they want no more.

So far, these observations indicate that there is some desire not to have more children, which is apparently influenced by the number of living children a woman has and, because of the age pattern of fertility, her age. However, these data should be interpreted with caution, in the light of further, sobering observations.

First, one half to two thirds of the women reporting that they desire no more children are 35 or older (for example, 5.3 of 7.9 percent overall in Benin). This is reflected in the large difference between the proportions of women aged 35 to 49 and under 35 who want no more children (for example, 22.0 percent and 3.5 percent respectively in Benin). An unknown, but potentially large number of the older women may be responding on the basis of their more realistically low personal expectation of bearing additional children,<sup>2</sup> since only half of the currently married women aged 45 and over had disqualified themselves as fecund in the interview. (The mean age at birth of last child in natural fertility populations is 40). While this possibility diminishes the credibility of responses to questions regarding future fertility desires, more importantly, if one sets these women to the side, the proportion of women who report that they desire no more children, and who are still in the age groups where such an opinion would make a difference to overall fertility if acted upon, is seriously reduced.

Second, women who report that they do not know if they want additional children or not ("undecided") resemble women who report that they want additional children rather than those who report that they do not.<sup>3</sup>

In the light of these points, the proportions of women who are more

likely than not to bear additional children, the sum of the proportions who are undecided or want more, rises to a range of 83 percent to 96 percent, while the proportion of women who can have more children but say they would rather not declines to a range of 2 to 8 percent (women who are aged less than 35 and who want no more children as a percent of all currently married fecund women).

Finally, the difficulty that African women appear to have with requests to quantify their fertility goals tends to reduce the full face value of parity-sensitive responses. That is not to say that African women are indifferent to their family size, but that their responses might be more sensitive to the individual experiences of having and raising surviving families of different sizes, rather than to the actual numerical count of children. This tends to reduce the saliency of each parity boundary: eight or nine children would be more a relative than an absolute difference. Accordingly, up to one in three women of all ages did not provide numerical answers to the question on ideal or desired family size. Of those who did provide a numerical answer, between 15 and 54 percent gave a family size of nine or over, which indicates a range of unrealistic choices (up to 21 was recorded), given that a very small percentage of currently married women in these populations have surviving families of nine or more children (and none over 13). Lastly, up to one in three women who stated that they wanted additional children did not then provide a numerical estimate of the number of additional children they wanted.

These observations inform us more about the consistency and thinking of women who say they want additional children or have very high family desires than of those who say they do not want more children or desire few. In order

to find out more about the latter group, it is useful to examine the patterns of use of contraception--traditional or modern<sup>4</sup>--relative to expressed desire to cease childbearing.

Table 2 provides the broad picture of knowledge and use of contraception in sub-Saharan Africa as recorded by the World Fertility Surveys, and then focuses in on the group of interest here: use of contraception among women currently married, self-reported as fecund, and exposed to the risk of conception (not pregnant at the time).

Of the sample of all women in each country, from about 40 to almost 90 percent of women have ever heard of a method to avert pregnancy, and from about 13 to nearly 85 percent of women have heard of at least one modern or efficient method (36 percent or fewer everywhere) have heard of only a traditional method). But the proportion of these women who have ever used any method drops to a range of 10 to 65 percent, and in the majority of countries far fewer than 20 percent of women report having ever used a modern, efficient method.

Current use was measured on a smaller base of women - for the most part, those who were currently married and reported themselves fecund and not pregnant. Despite the smaller denominator, the proportion of women who were currently using any contraceptive method at the time of the surveys shrinks further to between three and 20 percent. Even these low levels of use are still buoyed by the use of non-modern methods (Benin in particular), and only one to seven percent of these women reported using a modern, efficient method.

Lastly, we examine currently married women who reported themselves fecund and not pregnant, but who in addition reported that they did not want

TABLE 2 Knowledge levels, ever-use levels and current use levels of modern and traditional contraception, sub-Saharan countries, various years.

	Among all women or ever-married women, percent:						Among exposed women, percent:			Among exposed women wanting no more children:			
	Knowing any method			Having ever-used any method			Currently using any method			Percent: Currently using any method			Numbers: Currently using modern methods
	All methods	Modern methods	Traditional methods only	All methods	Modern methods	Traditional methods only	All methods	Modern methods	Traditional methods only	All methods	Modern methods	Traditional methods only	
<b>West Africa</b>													
Benin	40	13	26	34	-	-	21	1	19	-	-	-	20 <sup>d</sup>
Ghana	68	59	9	38	18	20	12	7	5	23	17	6	67
Ivory Coast	87	20	62	65	3	62	4	1	3	11	4	7	5
Nigeria	-	-	-	14	-	-	6 <sup>b</sup>	-	-	16 <sup>b</sup>	-	-	-
Senegal	59	23	36	10	1	9	5	1	4	9 <sup>c</sup>	-	-	12 <sup>d</sup>
<b>Central Africa</b>													
Cameroon	36	29	7	11	3	8	3	1	2	6 <sup>d</sup>	6	0	2
<b>East Africa</b>													
Kenya	88	84	3	29	11	18	9	6	3	21	17	4	118
<b>Southern Africa</b>													
Lesotho	65	60	6	23	6	17	7	3	4	21	15	6	47
<b>Arab Africa</b>													
North Sudan	51	50	1	12	9	3	6	5	1	16	16	0	48

a A total of 20 women in the entire national sample surveyed were using a modern method of contraception at the time of the survey.

b Applies to all currently married fecund (not only exposed) women.

c Applies to all currently married fecund (not only exposed) women with a desired family size equal to or exceeded by number of surviving children.

d Applies to all currently married fecund (not only exposed) women with a desired family size equal to or exceeded by number of surviving children and who are currently using any method.

e See footnote a on Table 1.

Sources: République Populaire du Bénin (1983); Republic of Ghana (1983); République de Côte d'Ivoire (1984); Federal Republic of Nigeria (1983); République de Sénégal (1981); République (Née) de Cameroun (1983); Republic of Kenya (1980); Kingdom of Lesotho (1981); Democratic Republic of the Sudan (1982).

additional children. Current use of a contraceptive method was higher, rising to between six and 23 percent of these women, with the majority reporting use of a modern, efficient method. Seen in a different light, however, three quarters of these women in some countries, and up to over nine in ten of them are not following through on their expressed desires. Finally, it is useful at this point to note the absolute numbers of women involved. Thus, against the sizes of the national samples drawn in these surveys, which range from four to ten thousand women, the numbers of all the women who are at risk of conception who report that they wish to cease childbearing and are using a modern, efficient method of contraception range from 2 to 118 women. In Benin, only 20 women in the entire survey reported current use of any modern contraception.

All in all these very low levels of contraceptive practice among the most "motivated" women, as operationally defined, are consistent with the overall pattern of strong fertility desires in sub-Saharan Africa.

At the same time, however, the high fertility of this region could be perceived as surprisingly low, given the high fertility desires and the virtual absence of modern contraceptive practice. That is because fertility is being successfully regulated by other means. It is among these other means that we must now look for indications of a demand for fertility control, and ultimately for indications of declining family size desires that might be better served through modern, efficient means.

#### Fertility regulation in the African context

Any demand for fertility control in this region must be assessed from practices other than engagement in discrete and purposeful contraceptive

actions. Broadly viewed, fertility is regulated through behaviors ranging from avoidance of conception at particular points of a woman's reproductive life to reorganization of her childbearing schedule over her lifetime. The scope of these behaviors can be traced in the order in which they arise as options in a birth cycle, as follows:

- o Avoidance of pregnancy which first and foremost follows from extended breastfeeding, or results from the practice of extended abstinence or coitus interruptus in the postpartum period.

But also included here would be, of course, contraceptive practice of the modern types, and the election of voluntary surgical sterilization. Sterilization is critically different from other means of avoiding conception, since it implies de facto, a desire to limit as well as to plan fertility, whereas limitation, as we shall see, is not necessarily implied with the other forms of avoiding pregnancy.

- o Induced abortion to regulate the outcome of specific pregnancies.
- o Infanticide to regulate the survival of live born infants.
- o Child abandonment to regulate surviving family size.

- o Child fostering to regulate the timing and tempo of childrearing tasks associated with a surviving family size.

All of these behaviors may be used to regulate the total surviving number of children present at any point in a woman's life. For example, survival in infancy and early childhood is known to depend on the timing of the next birth by African women in the vast majority of sub-Saharan societies. But whereas lengthening the interval between successive births by avoiding conception through any of the means noted in effect lowers fertility, this is not true of all the means available to regulate the size

of the surviving pool of children. Particularly so with child fostering, which allows for considerable manipulation of family size, and is clearly intended at times to limit effective fertility, but does not and cannot lower it overall. The potential for these regulating behaviors to have further fertility-limiting effects therefore depends not only on their intended purpose, but also on the degree to which they effectively mitigate the need for fertility limitation.

#### Avoidance of pregnancy

In sub-Saharan Africa, methods of avoiding pregnancy are practiced almost exclusively in relation to an earlier birth, that is, in the postpartum period. They are therefore practiced after and only in reference to the birth of a thriving infant, and essentially for the purpose of continuing to guarantee its survival. All postpartum practices (extended breastfeeding, abstinence, coitus interruptus) are oriented to an infant's survival past a certain stage of development rather than to avoidance of a pregnancy per se. This differentiation is critical to a proper understanding of the nature of conception avoidance in sub-Saharan Africa.

Indeed although these practices serve to reduce fertility beneath levels that would pertain otherwise, they are rarely intended for fertility limitation.<sup>5</sup> Moreover, notwithstanding their overall influence on fertility, with the possible exception of coitus interruptus, they have little future potential as a chosen means of family limitation from all the evidence we have on hand. The trends in both postpartum abstinence and breastfeeding are towards declining, not increasing durations: postpartum abstinence is clearly disappearing throughout eastern Africa and at least in urban areas

across the rest of Africa. Breastfeeding durations tend to decline in urban areas, and even if they do not, lactational amenorrhea may be shortened by earlier and more intense supplementary feeding, which will lead to shortened birth intervals where there is no accompanying abstinence.

Postpartum abstinence can be expected to disappear altogether in Africa in the long-term. With increasing exposure to education and to western values, sexual abstinence is increasingly onerous. One cannot conceive of policies to promote its continuing practice--to the contrary, policies to encourage the education of women, and to improve the level of health of mothers and children that can be expected to target certain customary practices for disappearance, such as female circumcision, may inevitably influence the erosion of others, such as postpartum abstinence, in their sweep.

Breastfeeding promotion is in the realm of the feasible, and the economic obstacles to growth in effective demand for breastmilk substitutes among the mass of African populations will probably markedly retard the abandonment of breastfeeding. Nevertheless, while long breastfeeding will continue to have dampening effects on fertility at population levels, it could not responsibly be promoted as a means of limiting fertility at the individual level, and certainly could not be expected ever to perform better in this regard than it does now.

In sum, although lactational amenorrhea (due to breastfeeding) and postpartum abstinence are powerful constraints on fertility in sub-Saharan Africa, they are generally not intended for limitation and have no further potential as fertility-limiting methods. Changes in these phenomena at present give no indication of a demand for fertility limitation--to the

contrary, the combined effects of their declining practice are becoming visible as measurable fertility increases, such as in Kenya.

Coitus interruptus, on the other hand, has considerable potential as a means of fertility control, and probably played a significant role in the secular European fertility decline. Unfortunately, information on its practice is rare, so that nothing can be said about whether increasing levels of practice indicate growing demand for fertility control or limitation in any parts of Africa. Traditionally, its practice has been reported as an alternative to abstinence in the postpartum period, particularly in Nigeria, and there is some evidence that groups who are abstaining less practice coitus interruptus more frequently in the postpartum period instead (Schoenmaeckers et al., 1981).

We now turn to the modern forms of contraceptive practice--contraception and sterilization--to attempt to determine the extent to which they presage a growing demand for fertility limitation.

### Contraception

Earlier, it was shown on the basis of World Fertility Survey findings that in effect few women who could be classified as exposed to the risk of conception used contraception, and the record was only slightly better among women who in addition reported that they wanted no more children. It is useful at this point to contrast the use of contraception by women who report that they do want more children with that of the women who said they wished to cease childbearing. Table 3 presents two variants of this comparison: the proportions of those women reporting that they want and those reporting that they do not want additional children who are using efficient and traditional

TABLE 3 Proportions of currently married fecund women currently using contraception by desire for additional children and relative size of their desired family; and distribution of women who are current users of any contraception according to desire for additional children and relative size of their desired family, sub-Saharan countries, various years.

Country	Among currently married fecund women:						Among currently married fecund women currently using contraception:					
	Percent currently using contraception who:			Percent currently using contraception of women whose desired family size:			Percent who:			Percent whose desired family size:		
	Want more children	Do not want more children	Are undecided	Exceeds the number of living children	Is below number of living children	Equals number of living children	Want more children	Do not want more children	Are undecided	Exceeds the number of living children	Is below number of living children	Equals number of living children
<b>West Africa</b>												
Ghana	10	19	6	11	26	18	73	21	6	83	2	15
Nigeria	5	16	7	-	-	-	74	12	14	-	-	-
Senegal	-	-	-	5	7	13	-	-	-	88	6	6
Ivory Coast	3	8	1	3	0	9	86	12	2	92	0	8
<b>Central Africa</b>												
Cameroon	2	3	0	3	3	8	93	5	2	82	7	11
<b>East Africa</b>												
Kenya	6	17	5	7	9	16	51	38	11	68	6	26
<b>Southern Africa</b>												
Lesotho	4	17	14	5	21	16	56	42	2	74	10	16
<b>Arab Africa</b>												
North Sudan	4	10	3	4	10	10	62	34	4	65	19	16

Sources: République Populaire du Bénin (1983); Republic of Ghana (1983); République de Côte d'Ivoire (1984); Federal Republic of Nigeria (1983); République du Sénégal (1981); République Unie du Cameroun (1983); Republic of Kenya (1980); Kingdom of Lesotho (1981); Democratic Republic of the Sudan (1982).

methods, and the proportions of women whose reported desired family size exceeded, was equal to or lower than their number of living children who were using any contraception (this latter comparison applied only to women who provided numerical responses). However, also presented in the table, is the distribution of all current users of contraception according to desire for additional children and the relative size of the desired family.

While it is among women who want no more children and among women whose desired family size is equal to or exceeded by their number of living children that one sees the highest levels of use, these women represent a minority of women who use contraception. Indeed, the majority of currently married fecund women who were using contraception at the time of these surveys either wanted more children or desired a family size greater than the total number of surviving children they had (or both). Finally, it should be added that the levels of use by number of living children do not show any distinctive relationship to parity in either group. Overall, these observations indicate that the predominant use of contraception among all currently married fecund women is for spacing purposes. Indeed, contraception is used comparatively little for stopping childbearing, simply because the desire to cease childbearing is so infrequently reported, while the coexisting desires both to bear children and to space the children one bears are far more broadly expressed.

If one then examines the current use only of modern, efficient contraception, however, and that use only among currently married women who are fecund and exposed to the risk of conception, the relative importance of contraceptive practice for women who do not want additional children is greater. Table 4 displays these data for the countries where they are

TABLE 4 Proportions (and estimated numbers) of exposed women currently using modern, efficient contraception by desire for additional children, and distribution of the same women who are current users according to desire for additional children, selected sub-Saharan countries, various years.

Country	Among exposed women:			Among exposed women currently using contraception:			Absolute numbers of exposed women who do not want more children and who use an efficient method of contraception
	Percent currently using contraception of women who:						
	Want more children	Do not want more children	Are undecided	Want more	Do not want more	Are undecided	
<u>West Africa</u>							
Ghana	7	17	2	70	27	2	67
Ivory Coast	1	4	1	73	23	5	5
<u>Central Africa</u>							
Cameroon <sup>a</sup>	1	6	0	75	17	8	2
<u>East Africa</u>							
Kenya	4	17	4	43	48	9	118
<u>Southern Africa</u>							
Lesotho	1	15	15	36	61	3	47
<u>Arab Africa</u>							
North Sudan	4	16	5	52	44	5	48

<sup>a</sup> See footnote a Table 1.

Sources: République Populaire du Bénin (1983); Republic of Ghana (1983); République de Côte d'Ivoire (1984); Federal Republic of Nigeria (1983); République du Sénégal (1981); République Unie du Cameroun (1983); Republic of Kenya (1980); Kingdom of Lesotho (1981); Democratic Republic of the Sudan (1982).

available. While the largest proportion of users of efficient contraception is still among the women who say they do want more children in Ivory Coast, Cameroon, Ghana and North Sudan, in both Kenya and Lesotho, there was greater use of modern contraception among women who reported that they did not want additional children. Nevertheless, it is again useful to recall (from Table 1) at this point in the analysis that the numbers of women involved are very small; from 2 to 118 women are in the categories of greatest interest. Their behavior is not likely to have any measurable influence on overall fertility until their numbers become quite more substantial. Lastly, despite the apparent overall indifference of these women to their number of living children, it is important to note that they had, on average, between 4 and 5 living children in Lesotho, about 5 in Ghana, between 5 and 6 in North Sudan and about 6 in Kenya.

One final point that can be made on the basis of this analysis is that the differential use of contraception tends to indicate that non-use of contraception is due less to lack of availability than to an apparent lack of motivation, since women who do not want additional children are outnumbered by the women who say they intend to continue childbearing among all women who use contraception.

### Sterilization

Voluntary surgical sterilization is a clear operational indicator of an unqualified desire to cease childbearing. The prevalence of sterilization can be gauged once again from the World Fertility Surveys. However, in addition, its incidence may also be gauged from information regarding clinical services currently being provided to African women.

The proportions of women sterilized in sub-Saharan Africa are minuscule, as can be seen in Table 5 which presents the findings from the World Fertility Surveys. However, while women who have been sterilized comprise quite negligible proportions of all broad groups of women, they represent a measurable proportion of women who are currently married and would be fecund and exposed otherwise, but who want no more children--in fact they comprise up to over half of the "exposed" women who are using modern contraception and report that they do not want more children.

The numbers of women involved are presented in Table 5 not only to give perspective to the data, but also to provide a base for evaluating the data on surgical sterilizations being performed. Table 6 provides an overview of the voluntary surgical sterilizations performed through funding provided under the International Program of the Association of Voluntary Sterilization (A.V.S.) of New York in sub-Saharan Africa in recent years.

The A.V.S. has subgrants at present in 12 countries of sub-Saharan Africa (Benin, Kenya, Mali, Mauritius, Nigeria, Senegal, Sierra Leone, Sudan, Tanzania, Togo, Uganda and Zaire). In several countries, there are or have been several hospitals and family planning clinics whose activities are supported (Kenya, 3; Nigeria, 11; Senegal, 3; Sierra Leone, 2; Zaire, 6). Not all the subgrants are for providing services--some are for training physicians, providing equipment or providing information and education on voluntary surgical "contraception" (VSC). A good number of budgeted grants are not yet operational, and a few never got off the ground (in West Africa in particular). Further subgrants are being considered in at least three additional countries--Comoros, Madagascar and Burkina Faso (formerly Upper Volta)--for service provision. Data for the projects that have been

TABLE 5 Women sterilized as a proportion of all ever-married women, all "exposed" women, all "exposed" women who want no more children and all of those who use modern, efficient contraception, sub-Saharan countries, various years.

Country	Women sterilized as a percent of:				Estimated number of women sterilized
	All ever-married women	All "exposed" women	All "exposed" women who want no more children	All "exposed" women who do not want more children and use an efficient method of contraception	
<u>West Africa</u>					
Ghana	0.4	0.6	5.3	31	21
Ivory Coast	0.0	0.0	-	-	-
Senegal	0.0	0.0	-	-	1
<u>Central Africa</u>					
Cameroon	0.0	0.0	-	-	-
<u>East Africa</u>					
Kenya	0.8	1.2	7.2	42	50
<u>Southern Africa</u>					
Lesotho	0.7	1.1	8.1	55	26
<u>Arab Africa</u>					
North Sudan	0.3	0.4	2.7	17	8

Sources: République Populaire du Bénin (1983); Republic of Ghana (1983); République de Côte d'Ivoire (1984); Federal Republic of Nigeria (1983); République du Sénégal (1981); République Fédérale du Cameroun (1983); Republic of Kenya (1980); Kingdom of Lesotho (1981); Democratic Republic of the Sudan (1982).

TABLE 6 Numbers of voluntary surgical sterilizations performed, objectives, mean age and parity of women, selected sub-Saharan countries, various years (at July 30, 1984).

Country	Month/Year	Numbers of sterilizations:		Mean age of women	Mean parity of women
		Objective	Performed		
<u>Female procedures</u>					
Benin		500	5	36.2	4.6
Kenya	1981-1982	-	441	33.0	6.3
	1982-1983	360	390	34.3	6.3
	10/83-9/84	800	135	34.6	6.3
Mauritius		100	27	38.0	3.3
	4/83-9/84	100	29	33.5	3.5
Nigeria		200	67	38.7	6.7
		100	98	38.1	6.7
		200	290	35.1	4.9
	9/83-12/84	250	136	35.1	4.8
		250	65	35.8	5.4
Sierra Leone		200	147	35.6	6.0
		300	190	35.5	6.1
		400	278	35.2	5.6
	10/83-9/84	400	278	34.6	5.3
		100	14	-	-
Zaire		1000	175	36.2	6.6
		150	21	33.5	5.3
<u>Vasectomies</u>					
				Mean age of men	Mean parity of wives
Mauritius	1981-1982	240	30	41.5	4.0
	1982-1983	60	19	39.6	3.3
	1983-1984	75	16	40.8	2.9

Source: Association for Voluntary Sterilization

operational for one or more years are presented in the table.

It can be quickly seen that the total number of sterilizations performed over the course of about one year ranges up to 441. This number of procedures is very small by any standard. Although one can object that few stated objectives were achieved (only for one year each in Kenya and Nigeria was the objective exceeded by the number of procedures), even if the objectives were met in all the programs, the number of procedures would remain very small relative to the number of childbearing women in these countries. However, AVS does report that a few service sites are keeping waiting lists--in Kenya, in particular, waiting lists of up to 500 women are reported.

Finally, the average age and parity of women seeking sterilization deserve attention. The mean ages range between about 33 and 39 and average parity between 4.8 and 6.7, excluding the small sample from Benin and the island of Mauritius. In Kenya, the average parity of these women is somewhat below that we would expect from the mean number of living children of the women who reported having been sterilized in the World Fertility Survey (6.1), given that women aged 35-39 had an average of 5.6 surviving of about 6.8 ever-born children in Kenya in 1977-78. Contrasted with the total fertility rate of 8.1 in Kenya, their mean parity at sterilization would therefore be below their average expected completed fertility. In Nigeria, on the other hand, the average parity of women seeking sterilization exceeded the total fertility rate by one birth in two series (these women were also among the oldest, on average, of all series).

All in all, sterilization is clearly largely used by older women who wish to cease childbearing, and in this the prevalence data from the World

Fertility Surveys and the incidence data presented here are consistent. Both sources provide evidence of a demand for stopping childbearing at older ages and at high parity. However, the proportions of women involved are very small, and, more importantly, the small proportions, high age and parity of these women means that the effect on fertility rates is negligible at present.

### Induced abortion

After conception has occurred, the major means of controlling fertility is by terminating the pregnancy through induced abortion. In theory, induced abortion can be used by women to the point where fertility is highly controlled at the population level. In practice, abortion has been used by some societies at certain times as the major means of family limitation and has resulted in measurable widespread fertility decline. When recourse to induced abortion is not evident in fertility measures at the population level, as in sub-Saharan Africa, assessment of the nature of demand for fertility control on the basis of the incidence of induced abortion depends very largely on the characteristics of women using this method of birth control. A number of recent studies which are reviewed here allow for such a determination.

In sub-Saharan nations as a whole, abortion legislation is very restrictive. The laws currently in effect are for the most part unrevised statutes of the colonial regimes at the time the African nations became independent. As can be seen in Table 7, in nearly one third of African countries abortion is illegal. In a further third, abortion is legal on narrow medical grounds (pregnancy as a threat to a woman's life) and in the

TABLE 7 The legal status of abortion in sub-Saharan Africa, 1982.

Country	Illegal	Legal on specified grounds:				Legal, grounds unspecified <sup>a</sup>	
		Medical		Eugenic (Fetal)	Juridical (Rape, incest)		Social and socio-medical
		Narrow (Life)	Broad (Health)				
Benin		X					
Burkina Faso	X						
Burundi	X						
Cameroon			X				
Central African Rep.	X			X			
Chad		X					
Congo			X				
Ethiopia			X				
Ghana			X				
Guinea			X				
Ivory Coast		X					
Kenya			X				
Lesotho		X					
Liberia		X					
Madagascar		X					
Malawi		X					
Mali	X						
Mauritania	X						
Mozambique		X					
Namibia			X	X	X		
Niger	X						
Nigeria		X					
Rwanda	X						
Senegal		X					
Sierra Leone			X				
Somalia	X						
Sudan		X					
Tanzania			X				
Togo		X					
Uganda			X				
Zaire	X						
Zambia			X			X	
Zimbabwe			X	X		X	

<sup>a</sup> No applicable cases.

Source: Tietze, 1983

last third, it is legal on broader medical grounds (pregnancy as a threat to a woman's health). In only four of the last group of countries, representing about 12 percent of all countries, is abortion legal on any other grounds; in the case of a known genetic or other impairment of the fetus (eugenic) in Cameroon, Namibia, Zambia and Zimbabwe; in the case of rape or incest in Cameroon, Namibia, and Zimbabwe; and for social or social-medical reasons (such as poverty or an unmarried status, for example) in one country alone, Zambia (Tietze, 1983).

Any data on induced abortion in sub-Saharan Africa on a demographically meaningful scale therefore relate to illegal abortion, since cases of legal abortion are nil in the vast majority of countries, and insignificant in number in all others. For example, Akinla reports that there were 7 cases of legal abortion in Freetown, Sierra Leone during all 1965, 1966, and 1967, and 3 cases at the Lagos University Teaching Hospital, Nigeria, in 1967, while 4 to 5 legal procedures were carried out at Mulago Hospital in Kampala, Uganda, per year in the 1960s (Akinla, 1970). In Zambia, where legal abortion is the least inaccessible (since 1972), the number of legal abortions recorded in the University Teaching Hospital of Lusaka was 48 in 1972, 88 in 1973, 133 in 1974, 165 in 1975, and 173 in 1976, whereas the number of admissions related to illegal abortion in the same hospital is estimated to have been around 1000 in 1976 (Liskin, 1980).

However, because abortion is illegal virtually throughout the continent, estimates of the incidence of induced abortion of any reliability are nonexistent. Statements regarding the increased incidence of induced abortion in sub-Saharan Africa have most generally been made on the basis of a rise in the number of admissions for abortion-related complications to a

hospital, by assuming that the incidence of spontaneous abortions is constant, and attributing the increase to induced events. Even when the proportions of induced and spontaneous abortions in hospital admissions for abortion complications are known, this provides very little information on the incidence of induced abortions. An unknown proportion of women who have an illegal abortion have a range of complications that do not require hospitalization, or have no complications. A further unknown is the proportion who become ill, or die, without seeking medical assistance. Lack of knowledge of the incidence of abortion sequelae, and the broad unavailability of medical services make the numerator indeterminate.

Even so, a number of recent studies of abortion in Africa do provide valuable information regarding induced abortion. These studies essentially allow for a fairly clear characterization of groups of women having had an induced abortion. Three types of studies have been useful in this regard: studies of women presenting at hospitals with abortion-related complications where the type of abortion is determined and social and demographic information on these patients is collected; surveys of young women in which their abortion history is determined; and studies of obstetric patients in which their abortion history is determined.

Table 8 summarizes the data from seven studies--in Ghana, Nigeria, Mali, Uganda and Zaire--of hospitalized patients with abortion complications. On the basis of these studies, a majority of patients who are hospitalized with complications following induced abortion can be characterized as young, single, urban, educated women who were as yet childless. The two studies in Mali and Zaire show clearly that they differ in all these characteristics from women with complications due to spontaneous

TABLE 8. Characteristics of women with complications following induced abortion, in five sub-Saharan countries.

Country	Site and Year	Total number of women in series	Information on patients with an induced abortion:							
			Number of women <sup>a</sup>	Age (years)	Parity <sup>b</sup>	Marital Status	Education	Previous induced abortion	Contraceptive use	Residence
Ghana	Korle Bu Hospital, Accra, n.d.	330	83					50% had primary education 36% were enrolled students		urban site
	Korle Bu Hospital, Accra, 1970	n.a.	116	75% aged 15 to 24	60% were nulliparous	48% single	50% had primary education - 43% were enrolled students		13% had ever heard of family planning	urban site
Mali	11 hospitals (all Mali), 1981-1982	1031	113	43% aged 15-19 mean age 22.1	61% had no live birth	81% single, widowed or divorced	45% with secondary or university education - 18% were enrolled students	16% reported previous induced abortion	19% had used contraception	85% with an urban residence
Nigeria	Lagos University Teaching Hospital, 1967	146	31	66% under 24	48% primigravid	76% single			12% had used contraception	urban site
	University of Benin Teaching Hospital, 1974-1975	140	59	86% under 22 95% under 26	81% nulliparous	93% single or divorced	64% were secondary school students or graduates 69% had completed primary school	39% reported previous induced abortion 15% more than one		urban site
Uganda	Mulago Hospital, Kampala, 1973-1974	1377	52	92% 25 or younger	79% had no living children	-	60% were students	2% reported previous abortion		urban site
Zaire	10 hospitals in Kinshasa, Matadi, Bukavu, 1982-83	808	206	77% under 25 - 17% 12 to 17 mean age 22.2	50% had no living children	62% never-married 88% never-married under 18 77% never-married 18 and 19			19% had used contraception	urban sites

<sup>a</sup> Determination was made conservatively in most of these studies. The number of cases omitted as indeterminate was 19 in Lagos and 21 in Benin, Nigeria, 144 in Mali, and 112 in Uganda.

<sup>b</sup> Terminology varies according to the use of medical or demographic definitions. Primigravid is the status of being pregnant for the first time. Nulliparous indicates no live births (a woman may have been pregnant, but may or may not have had a stillbirth). No live birth excludes stillbirths. No living children implies the possibility of the live birth of a child who died.

Sources: Akinlo, 1970; Amefo, 1970a; Amefo, 1970b; Akinlo, 1976; Leanos, 1977; Nichols and Rungele, 1981; Rankin et al., 1984.

abortion, who are older (mean age 26.6 and 26.4 respectively), most often married (only 12.6 were single, widowed or divorced and 17 percent never-married respectively), of higher parity (only 22.2 percent had had no live births in Mali, despite the fact that 45.7 percent had had at least one prior spontaneous abortion), less educated (71.6 percent in Mali had never been to school), and, most importantly, had no history of induced abortion (less than 3 percent had ever had an induced abortion).

A number of surveys on the sexual experience, contraceptive behavior and fertility of young unmarried adults being carried out currently in Africa by Family Health International and associated institutions provide confirmation of such recourse to induced abortion. The results of one of these surveys apply to 841 young unmarried women in Ibadan, Nigeria and are presented in Table 9 (Nichols et al., 1984). Over half of these women aged from 14 to 25 had begun to have sexual relations (the singular mean age of entry into sexual relations calculated from these data is 17.4 years). Of the women who were exposed, a large proportion were current users of contraception (principally oral hormonal contraception and intra-uterine devices). However, of those who were not currently using contraception, apparently virtually all had had at least one pregnancy. For the overwhelming majority, the first pregnancy was terminated by induced abortion. In sum, fully half of this unmarried group of women were sexually active, about half again were exposed to the risk of pregnancy, and became pregnant, and almost all the pregnancies were terminated. These findings suggest that induced abortion experience is frequent for young unmarried women in urban areas, most particularly among the educated.

In order to broaden the information base in the definition of groups who

TABLE 9 Sexual experience, pregnancy outcome and use of contraception of 841 unmarried women aged 14-25 years, by educational/occupational group, Ibadan, Nigeria, 1981-1982.

Group	Mean age (years)	Number of women	Of all women:		Of exposed women:			
			Proportion ever exposed <sup>a</sup> (percent)	Proportion never pregnant (percent)	Proportion of pregnancy outcomes:			Proportion using contraception (percent)
					live births (percent)	abortions:		
					spontaneous (percent)	induced (percent)		
University students	19.9	285	66	63	2	-	35	59
Polytechnic students	19.5	128	52	45	2	2	51	42
Secondary students	16.8	346	38	56	9	-	35	56
Working women (low status occupations)	21.5	82	91	32	1	11	56	45
Overall	18.7	841	55	53	6		41	53

<sup>a</sup> Ringulate mean age of exposure is 17.4 years.

Source: Nichols, et al., 1984.

have recourse to induced abortion, it is useful to look at the history of a sample of women that is at least a little less unrepresentative, in this case, women who delivered in hospitals and from whom detailed histories were elicited. One such study of obstetric patients was recently conducted in a hospital of Accra, Ghana, by Janowitz (1984). Of 12,000 obstetric patients hospitalized over twelve months between 1981 and 1982, 4,990 were interviewed.

The preliminary results of this survey allow for two relevant observations. First, of the women who were delivering after their second pregnancy, and who had been pregnant only once before (17.5 percent of the sample), about one in three had had an induced abortion following their first conception. However, 73 percent of these women were educated to the secondary or university level, and 81 percent had had at least primary schooling. Of all the educated women, about 40 percent had terminated their first pregnancy. Of all women with no schooling, less than five percent had terminated their first pregnancy.

Second, of the women who were delivering after their third pregnancy (about 15 percent of the entire sample), about 27 percent of those with primary education, 55 percent of those with secondary-level education, and 63 percent of those with university-level experience reported a previous induced abortion while only 9 percent of women with no education reported any previous induced abortion. The proportion of women who had terminated both previous pregnancies rose also with education (1 percent with no schooling, 7 percent with primary, 21 percent with secondary and 31 percent with university-level education).

Although all the data reviewed here are based on samples of women that

are unrepresentative, either on the basis of their access to medical care and their self-selection for hospitalization, or because of the research objectives, together they provide a consistent profile of the groups using induced abortion in Africa. These data strongly suggest that induced abortion is highly limited among women, and is utilized primarily by young women in urban areas, who are unmarried and very often in an educational stream, and who are trying to delay marriage and the onset of childbearing.

Because of this particular pattern of abortion behavior in sub-Saharan Africa, it is safe to conclude that abortion does not now indicate so much a demand for fertility limitation as much as a demand for controlling entry into childbearing, or for changing the starting pattern of fertility. The fact that it occurs mostly among a group that we know to represent a very small minority of African populations indicates that even the delay in starting childbearing is not the product of broad changes, but of specific needs, most often to continue and complete an educational program.<sup>6</sup> Moreover, it is far from clear whether the delays in beginning childbearing in effect lead to or are associated with lower fertility, which in theory they could. The preliminary results of the World Fertility Survey in Nigeria, for example, show that while the fertility of the youngest women is lower among those with primary and middle education than those with no education because those with education marry later, the pace of childbearing is higher after marriage among the educated group, and their total fertility rate is higher. The increased fertility after marriage of the educated women is due to their reduced practice of spacing (through abstinence and breastfeeding) which is uncompensated by their level of practice of contraception. It is only among women who have secondary school or higher education that entry into

childbearing is delayed long enough that even rapid childbearing within marriage still produces lower overall fertility. Also, these women report having ever used contraception at far higher levels (Federal Republic of Nigeria, 1983).

In sum, data on induced abortion in sub-Saharan Africa evidently signal foremost a grave medical and public health problem, but have little relevance as indicators of demand for fertility limitation. Young women in pursuit of secondary and higher education are highly motivated to delay marriage and childbearing, and often use induced abortion to terminate pregnancies. Not surprisingly, the women who eventually reach the highest levels of education are the most frequent users of contraception within marriage and many of them may limit their fertility eventually. Nevertheless, they represent a very small minority of African populations. Abortion behavior in Africa is essentially only a reflection of the stronger commitment to fertility control that we would expect to result from high levels of exposure to educational opportunities, which are absent for the vast majority of African populations.

#### Infanticide and child abandonment

Both infanticide and abandonment are means of regulating family size. Historically, both have been used, and they have probably both been used at least occasionally in all societies. The highest recorded incidence of these practices occurred in the cities of Western Europe in the 18th and 19th centuries.

In Africa, infanticide has probably been used occasionally in all societies, but there is no documented evidence that it has ever been used on any scale that would approach demographic significance. Reports of

traditional African practice of infanticide clearly relate to exceptional cases--such as multiple births, malformed infants, births to uninitiated girls, breech deliveries, or births following a very short interval--and give no indication that infanticide was in any case mandatory (Lorimer, 1954; Carr-Saunders, 1922; Sai, 1974; Wrigley, 1969; Levine and Levine, 1981).

Abandonment of children probably did not and does not exist in traditional Africa, because alternative homes for children are easy to find in virtually all African societies, and wet-nursing is practiced. The widespread institution of fostering similarly provided for the welfare of orphans until very recently.<sup>7</sup>

However, abandonment of children is now appearing in the cities of Africa: press reports in Zimbabwe suggest increases in abandoned children in Harare as well as cases of rural abandonment, and after the recent establishment of S.O.S., a facility for abandoned children in Lome, Togo, the number of child abandonments may have increased (Enrich, 1983; Locoh, 1982).

Nevertheless, reports of child abandonment are still sparse and anecdotal and it is highly unlikely that it is occurring on any appreciable scale. What the appearance of this phenomenon points to rather is the social (and ethnic) dislocation of individuals and families in urban areas, particularly among the poorest segments, and the consequent disappearance of traditional support systems that provide relief in times of stress.

#### Child fostering

A system whereby alternative homes for children are available for a number of years of childhood in effect provides a means of regulating family size, through manipulation of the number of children present at any one time.

In sub-Saharan Africa, the institution of fostering<sup>8</sup> provides just such opportunities to individual women (Frank, 1984). From the anthropological evidence available, and, especially, from the demographic estimates that are available, child fostering is a notably widespread phenomenon. The proportions of women who make alternative arrangements for their childrens' upbringing for several years of childhood exceed by far the combined proportions of women who practice modern contraception, or who seek sterilization or abortion. In the framework of this analysis, fostering is not evidence of a new demand for fertility regulation, so much as a widely available and longstanding option for making high fertility manageable, thereby mitigating the demand for all other types of fertility control. Fostering opportunities can fulfill demands to delay, space, or cease childbearing, by providing the means to delay, space or remove the childrearing consequences of reproductive events. It also can fulfill demands for fertility limitation, since women can place their children in quasi-permanent alternative homes, in which, for one reason or another, there had been fewer children.

It is not possible to get direct quantitative data on child fostering from any national data source, simply because fostering is not measured. However, three forms of indirect estimates of the extent of fostering are available in the literature - the proportion of children (of specified ages) who are living in households other than their parents' households, the proportion of children born to women (of specified ages) who are not living with them, and the proportion of women (of specified ages) who have children living away. All the same, estimates of this type for national populations are available for only three countries: Ghana, Liberia and Sierra Leone.

Isiugo-Abanihe has estimated from household data that in Ghana, in 1971, 18 percent of all children below the age of 11 (aged from birth to 10 years) were foster children, since they did not have parents in the household (Isiugo-Abanihe, 1983). Similarly, from census information, Isiugo-Abanihe estimated that the proportion of children born to mothers aged 15-34 who were away in Sierra Leone in 1974 ranged from 29 percent for mothers aged 15 to 19, to 46 percent for mothers 30-34, and the proportion of mothers aged 15-34 who had children away in Liberia in the same years was 40 percent, with little variation by age (39 percent at 15-19; 32 percent at 20-24; 39 percent at 25-29, and 46 percent at 30-34) (Isiugo-Abanihe, 1983).

Outside of these three countries, data are available only for subnational groups or areas. For example, in south-eastern Togo, 14 percent of children born to women aged 30-34 were not living with their mothers in 1976 (Locoh, 1982). Similarly, in his analysis of Caldwell's Changing African Family Surveys, Isiugo-Abanihe estimated the proportion of women aged 15-34 with children away to be 22 percent in Ibadan and 24 percent in Western (now Ondo, Ogun and Oyo) State and Lagos State in 1973.

Beyond this, many small studies document the practices of child fostering in a number of ethnic groups and suggest its widespread prevalence--among the Hausa of Nigeria in Sokoto, Kano, Zaria and Ibadan (Smith, 1981; Smith, 1955; Trevor, 1975; Cohen, 1969; Schildkrout, 1983; Jackson, 1985), the Kanuri of Nigeria in Bornu (Cohen, 1961, 1967); the Mossi in Upper Volta and in urban Ghana (Skinner, 1960, 1961, and 1964; Lallemand, 1976; Gruenais, 1981; Schildkrout, 1973); and the Baule of Ivory Coast in Bouake (Etienne, 1979a, b, 1983). The practice has also been observed in Senegal (Garenne, 1981), and in several countries of central and east Africa: including Uganda

(Serbajwe, 1977), Tanzania (Richards and Reining, 1954), Sudan (Modawi, 1965), and Zaire (Guest, 1978).

It is interesting that for Ghana, where both national and small survey estimates of the prevalence of child fostering are available, there is good consistency across the estimates. Goody found the prevalence of fostered children for all ages to be 18 and 26 percent in two of the four areas of Gonja in the Northern Region of Ghana which she studied in the late 1950s and early 1960s (18 percent in central Gonja, 1956-7; 26 percent in eastern Gonja, 1964)(Goody, 1982). Similarly, nine small studies of other Ghanaian ethnic groups yielded estimates ranging from 15 percent to 36 percent (Goody, 1982; Azu, 1974; Fiawoo, 1978), most of these applying to children of all ages.

In effect, this "redistribution" of children takes place not only between women at one point in time, thus providing more children to women who have fewer children or whose children are grown, but occurs also over women's lifetimes, thus reducing the concentration of the task of raising large families in the childbearing years. Young girls will become involved in raising their elder sisters' or their mothers' young children for years before they bear their own, and older women will continue childrearing, of grandchildren for example, for years after having ceased their own childbearing.

Fostering also provides the major solution in crisis situations where children require other caretakers, as in the case of divorce, or the disability or death of a parent. As an available option in these contingencies, it greatly relieves individuals of a number of fears regarding potential obstacles to successfully raising large families.

At present, the institution of fostering is thriving in sub-Saharan Africa, and is probably an important support structure for the maintenance of high fertility desires. Evidence that it is no longer always there when needed, as in the case of abandoned children in urban areas, is as yet very scant. Past high fertility assures a pool of alternative caretakers, while the patterns of traditional spacing of births and the consequent staggered childbearing of siblings and close kin means that within extended families opportunities for fostering or reciprocation continually arise.

It is not conceivable that the kind of perturbations and dislocations necessary for this institution to break down would come about in these societies, nor is that the direction in which to look. Rather, the institution is likely to be undermined as smaller family ideals are acquired through other changes. Smaller families are likely to be associated with broadly changed conceptions of kinship obligations, as well as result in the reduced availability of alternative parents. In particular, nucleation of families has been associated with increased investment in a smaller number of own children, reducing the need for and the value placed on other caretakers, as well as raising the costs, and the resentment, of taking responsibility for others'.

Overall, therefore, any evidence of declining practice of fostering is not likely to portend demand for fertility limitation, so much as to follow upon and confirm already recognizable changes in family structure and family size desires. In the meantime, unless and until changes in desired family size occur, fostering will continue to facilitate high fertility, diluting the meaning and the utility of other forms of regulation.

In summary, fertility regulation in sub-Saharan Africa is achieved through two means: foremost is avoidance of next pregnancy through abstinence (or coitus interruptus) in association with lactational amenorrhea subsequent to live births, and second is rearrangement of the timing and the tempo of raising liveborn children who survive through fostering. Contraception, abortion and sterilization are all used to a lesser extent among more or less well defined groups of women. The utilization of all these means (with the possible exception of contraception among more educated, urban women) is generally within a frame of high fertility desires. Even sterilization is used only when few potential births will be averted<sup>9</sup>, and conforms with expected "stopping" patterns rather than suggesting unusual limitation. Moreover, it is possible that women opting for sterilization, who must have access to the financial and medical resources for the procedure (in Kenya, for example, a sterilization was reported to cost \$438 in 1983—the GNP per capita was \$390 in 1982 [Enrich, 1983; World Bank, 1984]), have a better than average proportion of surviving children.

Turning now to issues of child survival, and to the possible other obstacles to the attainment of large surviving families, allows us to consider more broadly the constraints on contraception as a substitute for the traditional forms of fertility regulation.

#### Constraints on the adoption of modern contraception to regulate fertility

Even within the context of high fertility desires, one might expect that contraception would be adopted as a substitute for traditional forms of regulation. This is apparently not happening, as even while women are abandoning traditional spacing behaviors in urban areas, the uptake of

contraception is slow and lagging. There are clearly constraints on the adoption of contraception, quite apart from problems of availability of supplies and services that might play a role, but which are in any case not a focus of this analysis. The constraints have to do with the fact that contraception is in the realm of forward planning, rather than after-the-fact management, which is not an easy matter in the environment of sub-Saharan Africa.

There are a number of real uncertainties associated with the achievement of large, healthy families in sub-Saharan Africa. First, there is the risk of primary sterility, which varies greatly, but is still present almost everywhere (Frank, 1983a). After having some liveborn children, there is still the risk of secondary sterility which in fact affects an even larger proportion of women (Frank, 1983b). Second, there is the risk that an infant will die after birth, or after weaning, or yet later in early childhood. Third, there is the risk that children will be handicapped or disabled, through a variety of unforeseeable events, such as accidents, poliomyelitis, and loss of sight. Fourth, there is the risk of loss of children following divorce, particularly among women in patrilineal societies, where husbands and their lineages have pre-eminent claims to the children borne by a woman during a marriage, whether or not they are biologically his. In practice, this means that in most cases women will leave a fertile marriage at best with the very small unweaned children, whom they have to return later, or with one child whom they can keep.<sup>10</sup> Finally, spontaneous abortions ("miscarriages") and stillbirths are further risks. They cannot be mentioned as special risks in the African context, since there is no evidence that they occur at higher rates than anywhere else (see Bongaarts et al., 1984).

Nevertheless, the possibility of miscarrying or delivering children who are stillborn compounds all the other threats to successful family building.

An operational uncertainty is attached to all these real risks, whether they are correctly perceived or not. The uncertainty is not translated into conscious individual weightings of childbearing alternatives, but into normative reproductive behavior, where high fertility is firmly bound within a network of supporting institutions.

In this environment of risk, a conception is averted only in reference to a successful live birth, and the avoidance is directed by consideration of the infant and its nurturance rather than by negative appreciation of a new pregnancy. In societies where the uncertainty attached to successful conception, a healthy pregnancy and the survival of a child is relatively low, the risks are better defined, and means to overcome them are available, individuals can afford to hold conceptions in reserve (and even to bank sperm and ova). The uncertainty of building a healthy family in the African context is not conducive to the notion of holding fertility in abeyance, and the exigencies of the process of successfully producing a number of healthy children dwarfs the importance of discrete fertility events. Under these circumstances, averting individual conceptions does not serve fertility objectives well, since losses at different post-conceptual stages are anticipated and occur. Such conditions favor the "banking" of liveborn children over potential children, and the apparent hoarding of children through fostering.

#### Summary, prospects and policy implications

In summary, fertility is regulated throughout African societies,

principally through the postpartum behaviors of abstinence or coitus interruptus in association with the lactational amenorrhea due to breastfeeding duration and intensity, but also through manipulation of the actual number of surviving children raised. At the same time, childbearing desires are universally high, a minority of women do not want additional children, and a smaller minority take measures to avoid further childbearing.<sup>11</sup>

The demand for additional control of fertility is evident among some groups of women. Young educated women who wish to delay their entry into childbearing often resort to induced abortion, and among older women, there is a group that evidently takes action to engage the end of childbearing by opting for surgical sterilization. Nevertheless, neither of these groups is thereby necessarily seeking or achieving parity-specific fertility limitation. It is only among the most highly educated groups of women, in urban areas, that fertility is effectively lowered by delayed entry into marriage and contraceptive use after a comparatively brief but rapidly paced period of family building.

Against this, declines in the use of traditional spacing methods have led to increasing fertility among young women of moderate education, particularly in urban areas, largely uncompensated by the rate of adoption of modern family planning methods.

A number of implications can be drawn from this analysis and several policy directions are suggested. To begin, for the region as a whole, a "take-off" in the adoption of modern contraception will probably not occur until there is an underlying shift in the demand for children. Stability of the current total fertility level of 8 children in Kenya in conjunction with

infant mortality below 100 per thousand suggests that with even more children born and surviving in the region than on average at present, the supply of children is still not perceived as excessive. There is little reason to expect the demand for children to decline in the absence of any change in economic, social or cultural conditions, since it is solidly founded in African institutions. Yet there is little indication that the types of change--in food production, incomes, education and healthy survival--hypothesized to have ultimately had anti-natalist effects in demographic transitions elsewhere, are occurring, or will occur in the immediate future, in Africa. To the extent that conditions are in fact worsening for many African societies, the prospect of an anti-natalist shift accordingly recedes. Most particularly, the uncertainties attached to raising families discussed earlier are unlikely to be diminished substantially, so that constraints to contraception will remain largely unaltered for some time. Against this general conclusion, a number of tasks could be usefully undertaken in the area of modern family planning that would contribute to a foundation for later demographic transition.

First, the evident interest in delaying first pregnancy that comes with commitment to educational pursuits in urban areas can be addressed, by focusing family planning services, and information and education activities, in, say, educational facilities. To many governments at present, the provision of contraception to schoolgirls and unmarried women is not acceptable. Nevertheless, there is also widespread preoccupation with the incidence of induced abortions in urban areas, and the problem is discernible to policymakers in capital cities. Also, increasing access to legal abortions to reduce the high morbidity and mortality consequent to induced

abortion should be given serious consideration.

Second, it makes sense at present to concentrate family planning activities more generally first in urban areas, where most women who have had schooling and/or are employed in the modern sector reside. It is not the case in Africa as elsewhere, obviously, that in the face of high demand for these services, a common strategy is to reserve foreign assistance for rural programs, because government efforts are already providing sufficient coverage (and may in fact be concentrated) in urban areas. Foreign assistance for family planning may be necessary in urban areas in Africa because scarce resources may not be directed to any family planning activity otherwise.

Third, in combination with efforts to broaden knowledge, availability and use of contraception in urban areas, efforts to promote breastfeeding could be attempted. While the influence of breastfeeding promotion may in the end be difficult to evaluate, broadly publicized support may help to slow its rate of abandonment.

Fourth, specific family planning services in the urban areas, and in large market towns could be designed to draw interest essentially only from older women who have large healthy families and can anticipate the end of childbearing with equanimity. The types of contraceptive services made available need not be limited to sterilization, and they may for some time have little fertility effect. Notwithstanding, they introduce the notion of engaging the cessation of childbearing, and daughters who will have experienced less child loss may see its purpose at earlier ages.

Fifth, infertility and the incidence of gonorrhoea that is its major cause must be addressed at the level of a public health problem. Less can be

done through the treatment of cases in clinical settings, which can absorb important resources, whereas public education and mass medication campaigns have been shown to have a substantial influence on infertility in the past. The direction of education and of broadly and easily available treatment towards men is very important in this regard.

Sixth, and finally, research needs to proceed apace, on almost every aspect of the present traditional regulation of fertility and its potential future control in modernizing settings. While this range is broad, a few particular areas of work can be singled out. First, coital frequency and, especially, coitus interruptus should be more often and more carefully included as subjects of enquiry in fertility research, because underlying sexual behaviors may signal an interest in more effective methods that ignorance alone precludes recognizing and addressing. Second, special attention needs to be paid to the kinds of contraceptives that are offered in African settings. For example, many oral hormonal contraceptives are incompatible with successful breastfeeding. Also, intra-uterine devices have been variously implicated as vectors in the development of upper genital tract infections. Against the level of infertility in this continent, due in large part to pelvic infection with gonorrhoea, intra-uterine devices may do more harm, directly and indirectly, than good.

In conclusion, there is little evidence of a generalized demand for contraception and fertility limitation in sub-Saharan Africa. Nevertheless, particular groups can be identified who have an interest in controlling fertility at specific points in their life-cycle, or who do demonstrate that they are limiting their fertility. During the period of time, of unforeseeable duration, that will be required for the basic social and

economic changes to take place that will raise the relevance of fertility limitation to the populations at large, a range of focused but worthwhile activities can be undertaken to address these identifiable needs.

## Notes

1. Fertility regulation is used here to denote all behaviors that deliberately shape and control fertility-related and family size outcomes, one of which may or may not be number of births: fertility will be restrained by regulation, even in the absence of any numerical imperative. Fertility control refers to the regulation of fertility that is more specifically aimed at parity reduction, or limitation: in fertility control, the numerical criterion comes to outweigh all other considerations.
2. Indeed, not wanting additional children could also be simply a direct translation of the desire to cease the process of childbearing rather than a reference to the limitation of births to one's current fertility status.
3. See, for example, the Ghana Fertility Survey, volume 1, page 56, the Kenya Fertility Survey, volume 1, page 508, Enquête Ivoirienne sur la Fécondité, volume 1, p. 108 as well as Tables 3 and 4 below (Republic of Ghana, 1983; Republic of Kenya, 1980; République de Côte d'Ivoire.)
4. Traditional contraception is used here to refer to all non-modern or "secondary" methods reported in the African surveys and it generally includes postpartum abstinence, coitus interruptus, periodic abstinence, douches and sundry local methods. Modern contraception includes male and female sterilization, the intrauterine device, oral hormonal contraception, condoms, and other unspecified modern methods (e.g. injectable hormonal contraception). Exceptionally, douches were classified under efficient or modern methods in the Benin survey. In this analysis, the Benin data were modified to conform with the other surveys.
5. The only other conception-limiting practice, terminal abstinence (abstinence in the later years of childbearing), which is practiced because of age or grandmaternal status, is not fertility-limiting in purpose and is, in any case, infrequently reported in Africa.
6. The specific purpose of avoiding to abandon a program of study is often explicitly articulated by young African women. See Ampofo, 1970a and b. Recourse to abortion in this context is probably as much enabled by education, which fosters individual initiative and broadens options, as it is a means of maintaining educational pursuits.
7. The first appearance of "orphanages" in Nigeria, for example, followed on the chaos, dislocation, and mortality of the Civil War (Ifekwunigwe, 1970).
8. Fostering is the preferred term for the African phenomenon, because the circumstances of this movement of children are very similar to those of "fostering" in western societies. It very generally involves the

relocation, on request by foster parents, of children who are weaned or older, into a family of close kin--of the grandparental, parental or the child's generation--where the child is raised for a period of years, or until adulthood and marriage. Very rarely are these children adopted, either informally or formally: their biological parents do not relinquish rights over them because of such transfers.

9. The mean weighted age of all samples in Table 6 is 34.9 years. Since 40 is the mean age at birth of last child, with a 30-month interval, 2 potential births are averted, at best. The mean age and parity allow however, for the possibility that some women were sterilized unnecessarily, demographically speaking.
10. They also leave with any children they are fostering, which is a powerful incentive for women to take on foster children in patrilineal (and patrilocal) societies where the risk of divorce is high. The husbands and their lineages are far better served by keeping surviving children from a family than exposing themselves to all the risks that "starting over" would entail. As products of a process fraught with risk and waste, surviving healthy children are a valuable good.
11. At the time of the final revision of this chapter, preliminary findings were being reported for the Zimbabwe Contraceptive Prevalence Survey suggesting a current use level of any contraception in that country in 1984 among currently married women of 39 percent, and a current use of modern methods (mostly oral hormonal contraception) of 27 percent (Government of Zimbabwe: National Family Planning Council, 1985). Such a level of prevalence suggests that a much faster pace of adoption of contraception may be possible in some sub-Saharan countries. Notwithstanding, it should be noted that a total fertility rate of 6.5 births per woman is reported from the same survey: on the basis of Bongaarts' regression line for total fertility rates and contraceptive prevalence levels of 83 countries in 1980 ( $R^2 = 0.85$ ), one would expect a total fertility rate of well below 5 (4.4 by calculation) to be associated with a contraceptive prevalence level of 39 percent (Bongaarts, 1984). Similarly, on the basis of the prevalence level for modern contraception alone (27 percent), a total fertility rate of somewhat over 5 births per woman (5.2 by calculation) would be expected. Even the lower total fertility rate estimated from the 1981 census of 5.8 births per woman is too high to correspond to these prevalence levels. Interpretation of the implications of the Zimbabwe survey must await final determination of its findings.

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