

Research Paper 28

**Contrast and Continuity in the
African Fertility Transition:
A Cultural Hypothesis**

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Abstract

Fertility transition in parts of sub-Saharan Africa now seems well under way, with reported total fertility rates in southern Africa now reaching between 4 and 5. Yet relatively little about the decline is understood, in particular how (or even if) it can be squared with previous analyses which emphasised the culturally unique forces sustaining high fertility in Africa. At the same time, much of West Africa still has high fertility and little use of modern contraception. This demographic contrast coincides with what has long been seen as a cultural contrast, between 'core' coastal West African societies with traditional social structures and East and Southern Africa where such structures have been eroded. This paper argues that there is an alternative, more coherent way of seeing current patterns, based on ethnographic work by Caroline Bledsoe in The Gambia. The interpretation of reproduction which Bledsoe and colleagues identified in The Gambia leads to particular patterns of fertility, family planning use by age and parity, conflict over resumption of sex and use of contraception after reproductive events and gender differences in interests in reproduction. Far from being radically different, there is considerable evidence that East and Southern African populations undergoing fertility declines share important 'Gambian' attributes. These persist through the transition to lower fertility, implying that the same basic conceptualisation of reproduction is shared more widely. Continuity over time and across the continent is as important a feature as differential trends in overall fertility levels. The question of whether this will continue is still open, but it suggests that the conventional distinction between spacing and stopping behaviour should be reconsidered. The arguments in this paper are preliminary: more systematic research would be needed to establish them firmly. The paper concludes by outlining a research agenda to do this.

Abbreviations

ASFR	Age-specific fertility rate
ASMFR	Age-specific marital fertility rate
ASUFR	Age-specific union fertility rate
BFHS	Botswana Family Health Survey
DHS	Demographic and Health Survey
PPR	Parity progression ratio
WFS	World Fertility Survey

Introduction

It is now well-established that fertility is falling in parts of Africa, notably Kenya, Botswana, Zimbabwe and South Africa, with some indications elsewhere¹. In a continent where reported total fertility rates (TFRs) have typically been between 6 and 7 for thirty years or more, they are now falling towards 5 or below in some of these countries, under 4 in urban areas². However, the big falls - the clear transition in fertility - appear to be concentrated in Eastern and Southern Africa, with West and Central Africa appearing still to have stable high rates. It is also in East and Southern Africa where contraceptive use rates are rising sharply.

Even before the start of fertility decline in East and Southern Africa, some social demographers argued that regional differences in various aspects of reproductive behaviour could be explained in terms of contrasts in 'culture', conceived of in terms of social organisation. Previous work on post-partum abstinence (Schoenmaeckers et al, 1981), marriage patterns (Lesthaeghe, Kaufmann and Meekers, 1989) and child fostering (Page, 1989) has shown large regional contrasts. Discussions in Lesthaeghe (1989) and Caldwell and Caldwell (1987) have argued that underlying these differences in demographic behaviour are contrasting regional cultures.

Four main regional types can be identified: (i) coastal West Africa, with high rates of polygyny, divorce and remarriage, high female labour inputs into agriculture, women's involvement in trading, separate budgets for husband and wife, long post-partum abstinence, and strong lineage organisation and traditional religions; (ii) savannah West Africa, which shares with coastal areas high levels of polygyny, divorce and remarriage, but is by contrast highly Islamised, and has very low levels of women's autonomy and involvement in farming; (iii) Southern Africa, with an economy relatively less based on agriculture and more on pastoralism, with a consequently lower valuation of women's labour, low levels of polygyny, very short periods of post-partum abstinence, late female marriage, traditionally little divorce, and extensive Christianisation and (iv) East Africa, an intermediate between Southern and coastal West Africa in terms of polygyny, pastoralism and women's role in the economy. Divorce is also relatively high, and Christianity and Islam are widespread.

These aspects of social organisation, it is argued, have in the past supported high fertility and resistance to the use of family planning in West Africa. Their relative absence in the East and South explains the current falls in fertility brought about by sharp rises in contraceptive use (Caldwell, Orubuloye and Caldwell, 1992).

Attempts to test the importance of variation in social organisation for variables such as child spacing, contraceptive use and marriage patterns have been made most comprehensively and rigorously by Lesthaeghe and Eelens (1989) and Lesthaeghe, Kaufmann and Meekers (1989). They conclude that regional contrast in social organisation does play a significant role in explaining variation in reproductive patterns.

These works suffer from a number of methodological problems³. Beyond these, however, are more profound issues of the meaning of 'culture'. The approach outlined above has been criticised for being based on a schematic, outdated anthropological approach. Consequently, it has engaged neither with problems of ethnographic knowledge, nor with recent developments in anthropology (e.g. Hammel, 1990; Greenhalgh, 1990, 1995; Lockwood, 1995a).

Within this debate, three problems stand out. First, approaching the cultural determinants of fertility and sexual behaviour in Africa through models of a cultural system does not lead very far in the direction of understanding *motivations of individuals* within that system - there is not much room for the agency of individuals (e.g. Lockwood, 1995a; Carter, 1995). This is particularly important when looking at situations where behaviour is changing, or where behaviour differs between different groups. A second issue is the analysis of *gender relations*, which has been rather schematic and static in the cultural system approach (see Greenhalgh 1995 esp. pp 23-26). Finally, some analyses of African reproduction build on a distinction between sub-Saharan Africa on the one hand, and Western Asia on the other originally made by the anthropologist Jack Goody (1976). This distinction focuses on differences in agricultural systems and associated kinship and marriage institutions between the two regions, and has been used to explain aspects of both fertility and sexual behaviour in Africa (e.g. Lesthaeghe, 1989, Caldwell, Caldwell and Quiggan, 1989). The point about these approaches is that they have taken social organisation, and especially kinship, as the lens through which to view fertility. This has abstracted from the processes of *pregnancy and birth as bodily experiences*, even though the analysis of reproduction in mainstream anthropology has moved on from 'kinship to bodies' (Bledsoe and Camara, 1995, esp. pp 2-5).

One anthropological account of reproductive behaviour in Africa which incorporates the features mentioned above - room for individual agency, a dynamic analysis of gender and a recognition of fertility as a bodily experience as well as a social process - has recently become available, in the work of Caroline Bledsoe, Allan Hill and associates. This research is described in some detail below, but in essence, it reveals a particular way in which women in The Gambia perceive reproduction, and connects that perception with consequent patterns of behaviour, measurable as outcomes in fertility and family planning use patterns.

This research has been aimed at understanding fertility behaviour in high fertility populations such as The Gambia, and at improving reproductive health services for women in such societies. However, it also provides a point of comparison. If fertility in East and Southern Africa is falling, whereas that in The Gambia remains high, one would expect clear differences in perceptions of reproduction and in patterns of behaviour between the two cases. However, in a first glance at the evidence, it is the similarities, rather than the contrasts, which are striking.

This evidence thus supports the hypothesis that within the change in fertility in Africa there is also continuity, and while there are regional differences in some respects, there may also be similarities, especially in the way in which individual women and men perceive reproduction. However, this is a *hypothesis* - a first stab at an issue with published data only. This paper is really about asking certain questions, and suggesting that there is a point to investigating them further.

Explaining Reproduction in the Gambia

Bledsoe and Hill worked in The Gambia on the West African coast. This is a very 'African' society and demographic regime, with high fertility and mortality, and a very rural, largely Islamic population. Gambia also has a low contraceptive prevalence rate, and a Ministry of Health family planning programme only got off the ground quite recently, in 1988.

Gambian fertility could, like much of Africa's population, be characterised as 'natural fertility' - i.e. regular birth intervals and a lack of parity-specific intervention to limit the number

of births. Natural fertility, with its characteristic age-specific schedule, is usually contrasted with 'controlled fertility'. However, Bledsoe et al (1994) argue against the idea that natural fertility in The Gambia is passively formed by biology or instinct. Rather they show that it is the outcome of very intentional action. This construction of what looks like natural fertility is achieved through short term use of both high-tech Western contraception and more traditional methods (p 83).

The background to this use of fertility control strategies is the one familiar from the earlier 'cultural system' account outlined above: a belief in the necessity of regular and 'decently' spaced births, but at the same time, downward pressure on birth intervals, possibly related to increases in female schooling, a decline in polygyny, or less economic autonomy for women.

The biological framework for birth intervals is dominated by a pattern of long breast-feeding and thus lactational amenorrhea (the mean duration of reported amenorrhea is 15 months). Sexual abstinence is now found only in the first few months. After this, there is an increasing use of various forms of contraception, up until the weaning of the child, when contraception is stopped.

Contraception is therefore used in short slices of time: the pill is used on average for only 11 weeks; injections for 14 weeks. Over 50% of the use of western contraception is found within 18 months following a birth. This means that the aggregate statistics show high levels of knowledge about family planning, but low levels of current use. It also means that there is a high rate of 'turnover' recorded. However, this is because the identity of 'acceptors' is rapidly changing:

Conventional analyses...tend to interpret the small numbers of current contraceptive users in a 'natural fertility' population in static terms, as a tiny group of bold 'acceptors'. In situations where contraceptives are being used primarily for spacing, it is more accurate to visualise these results as the tip of a moving wave. (Bledsoe et al, 1994: 107)

The use of contraceptives starts quite early on in the post-partum period. There is thus a lot of what is conventionally called 'redundant use' : i.e. overlapping with amenorrhea, or the use of two methods at once. However, Bledsoe et al argue that this may be seen as a rational response to the uncertainty of the contraceptive effect of breast-feeding. Many women have experienced or know about the possibility of conception before resumption of menstruation. There is a steep rise in the use of family planning with the shift from full to partial breast-feeding, which again shows signs of intentional use of contraception to prolong the birth interval. However, after weaning, use of contraception falls off for most women: they want to go back to bear more children (at least until high parities are reached).

Within this general picture, however, contraceptive strategies depend on age and parity. There are two important patterns: (i) against expectations, younger women are more likely than older women to use 'traditional' methods, for example based on herbs; (ii) older women (and especially women at higher parities) are much more likely to use long-term Western methods (injectables), while younger women use the pill.

Bledsoe et al (1994:100-103) argue that the western distinction between 'traditional' and 'modern' contraception is not as relevant for the women using these methods as other characteristics in which they are more interested: namely effectiveness, confidentiality of use, speed of resumption of fecundity, and risk of long-run fertility impairment. Thus young women are particularly wary of injectables, because their effects tend to 'spill over' delaying return of

fecundity for long periods. They are seen as effective but very strong, and young women do not want to risk permanent impairment of their fertility.

By contrast, older women, who have to weigh the possible benefits of having one more child against the dangers of a high-parity pregnancy, are happier to use injectables. They are thus interpreted as 'pausing', partly because the permanent option of sterilisation is not at all common.

As Bledsoe and colleagues note, elements of this approach have been around for some time (see for example Ware, 1976 and Handwerker, 1986). Equally, it may be seen as sitting within the frame provided by earlier systemic accounts which emphasised the centrality of birth spacing. Indeed, the argument that African fertility decline will occur initially through the adoption of family planning for spacing is made in Caldwell, Oruboloye and Caldwell (1992) (see also Ware, 1995). However, The Gambian research is much more concerned with the motivations and behaviour of individual women, and different kinds of women, within the system.

But the work of Bledsoe and associates goes further than this. In a number of more recent papers, they have grounded their account of contraceptive use within birth intervals in a wider ethnography of reproduction (Bledsoe et al, forthcoming; Bledsoe and Camara, 1995).

The Gambian material threw up a number of anomalies that were not easily explained by the spacing account described above. It was found that women used contraceptives after miscarriages and still births, exactly when, in a high fertility society, they would be expected to try for another conception as soon as possible. They also found women who were only in their late thirties but who said they were 'too old' to continue with childbearing. Finally, they found that, despite the existence of ideas in rural Gambia about the properness of long birth intervals, husbands often did not support their wives in the use of family planning or abstinence. Bledsoe and Hill (1994) give a detailed account of struggles between husbands, wives and in-laws, using a range of normative resources, ranging from Islamic rules to Gambian traditions, over when to resume sexual contact after post-partum abstinence.

Bledsoe and colleagues believe that they have identified a way of thinking about reproduction in The Gambia which not only explains these anomalies, but also fits very well with their earlier work on spacing:

Closer inspection of these anomalies led to a startling realisation. Although western culture gauges the limits of fertility by the passage of time, the demise of the ability to conceive is far less important to women than their eroding bodily capacity to bear a child safely. (Bledsoe and Camara, 1995 p 8)

Again, what is apparently going on is not the same as what is actually going on: what is being controlled in The Gambia is not so much fertility, in the sense of the production of children through live births, but rather the control of *reproductivity*, through the control of pregnancies. According to Bledsoe, Gambian women see their ability to bear children successfully as depending on three factors: reproductive 'muscle'; 'strength'; and 'blood'.

'Strength' is also used up in day to day work and is related to diet. Recovering 'strength' after labour therefore depends partly on a woman's burden of domestic and agricultural labour,

and access to protein rich foods. Being 'strong' at a delivery is important, however, since it is believed that a woman can avoid unnecessary exertion of her reproductive 'muscle'.

Reproductive 'muscle' is seen as irreversibly used up through reproductive events. The main danger for a woman is that after several pregnancies, deliveries begin to be more prolonged and painful, and it takes longer to recover strength between deliveries. Her reproductive muscle or capital is becoming increasingly 'spent' or 'depreciated', and further pregnancies become positively dangerous.

The implication of this is that women will seek to deploy their reproductive capacity in 'good' reproductive events - i.e. normal childbirth - as far as possible. They fear prolonged deliveries which lead to injury and use up a great deal of 'muscle'; miscarriages which involve loss of 'blood'; and still births which waste muscle on events which do not produce living children. This explains why they use contraceptives after these events, to have time to recover strength and blood. Thus women themselves are (and demographers should be, Bledsoe and colleagues suggest) monitoring pregnancies, rather than simply live births.

Within the context of a marriage, however, a woman faces a constant balancing act between meeting the demands and expectations of her husband and his family, and managing her own reproductive muscle and strength. Men desire many children, and do not face the same type of dilemma as women. But their support, in terms of providing a good diet, and perhaps in providing an older woman relief from daily work by bringing in a younger wife, is both helpful to women in reproductive management, and a reward for having led a 'good' reproductive life (Bledsoe and Camara, 1995: 10). The dilemma facing women becomes particularly sharp when they are divorced, and must build up a new family with another man quickly even if muscle and strength are low, or if many of her children die..

This way of seeing fertility thus makes a distinction between pregnancy and its outcomes (which include live births) on the one hand, and children on the other - a distinction usually not seen as significant in demographic accounts. The approach sees the use of family planning as part of a strategy to manage reproductivity, rather than as a way of shaping family size.

Applicability of the framework to 'transitional' countries

One issue raised by this framework is whether it is applicable more widely in Africa. What does this mean? Two specific questions arise. One is whether the basic approach to reproductivity seen in The Gambia is shared by African women in other countries, especially outside of coastal West Africa. The second is what happens when, as is apparently the case in East and Southern Africa, the use of contraception starts to rise rapidly. That is, is the fertility transition taking place *within* a basically unchanged perception of reproduction, or is that perception itself changing? These questions are of course of interest in themselves, but they also have considerable ramifications for the delivery of family planning services. If we want to know how to meet demand for family planning, we need to understand the nature of that demand, and the perceptions lying behind that the demand in the minds of women (and men).

How much can existing data help us to look at the regional question of how far the approach makes sense in East and Southern Africa? Earlier work on cultural and institutional fertility

determinants emphasised contrasts between West Africa on the one hand and East and Southern Africa on the other. This tendency has been strengthened by recent trends in countries such as Botswana, Zimbabwe and Kenya. If there were common elements between these countries and The Gambia, then the likelihood that the model could be applied in other West and Central regions would be fairly high. On the face of it, however, there appear to be many contrasts, so looking to apply a single framework may seem foolhardy. However, a merely casual perusal of published data from recent multi-country Demographic and Health Surveys⁴ and a few other studies shows otherwise, suggesting that a research project making full use of existing data would be a useful exercise.

To recap, the approach finds the following patterns of fertility and contraceptive use occurring in The Gambia:

- an age-specific fertility pattern associated with “natural fertility” (i.e. showing no clear signs of limitation only in later years);
- associated with this is a lack of ‘preferred’ family size, and birth intervals which are roughly constant over age and parity;
- distinctive age patterns of use of pill and injectables, and of ‘traditional’ vs “modern” contraception;
- high rates of adoption and discontinuation
- combination of high levels of knowledge and low levels of current use
- high levels of “redundant use” in post partum period
- absence of sterilisation
- strong disagreements between husband and wife over use of family planning.

Bledsoe et al (1994: 104-5) already showed that age patterns of traditional vs modern and pill vs injectables in Africa generally supported the wider applicability of their model. Here I attempt to evaluate each of the elements above.

The shape of the fertility schedule

A preliminary point to note is that there are continuing debates about the extent of fertility decline. In the East and Southern African countries which have been identified as undergoing transition, fertility levels are still well above replacement level, and analyses subsequent to the release of Demographic and Health Survey (DHS) data have suggested that declines have not been so dramatic as at first appeared, (and may indeed be reversing in one case). However, the latest data confirm downward movement, and there is a growing consensus that the trends are real⁵.

Whatever the changes in the level of fertility in these three countries, the shape of the fertility schedule over the reproductive span is a pattern of key interest. Are women in East and Southern Africa still 'constructing' natural fertility even at much lower overall levels?

It is striking from the DHS reports for all these countries that the age-specific fertility pattern appears to have remained fairly constant (see the 1988 BFHS-II Figure 3.2; the 1994 Zimbabwe DHS, Figure 3.2; and the 1993 Kenyan DHS Figure 3.3). It is possibly only in the 1987-89 South African data (which are of unknown quality), that there are signs of a radically changing age distribution.

However, a better test of whether these patterns approximate natural fertility would be to compare relative levels of age specific marital fertility with a characteristic schedule which Coale and Trussell observed was found across a wide range of natural fertility populations (Coale and Trussell, 1974). This allows us to clearly distinguish natural fertility age-specific patterns from those where stopping behaviour is evident, i.e. in much lower relative age-specific marital fertility rates (ASMFRs) at higher ages, as seen in Asian populations during the fertility transition. For example, Figure 1 shows relative levels of ASMFRs for different ages, normalised at 100 for the age group 20-24, for both the Coale-Trussell standard and Sri Lanka in 1986. At that date, the overall total fertility rate (TFR) was 4.2 children per woman. It can be seen that the levels of fertility within marriage at later ages, relative to the level for the 20-24 year-olds, is much lower for Sri Lanka in 1986 than for the standard. This is a clear sign of family limitation, using contraception, in the older age groups.

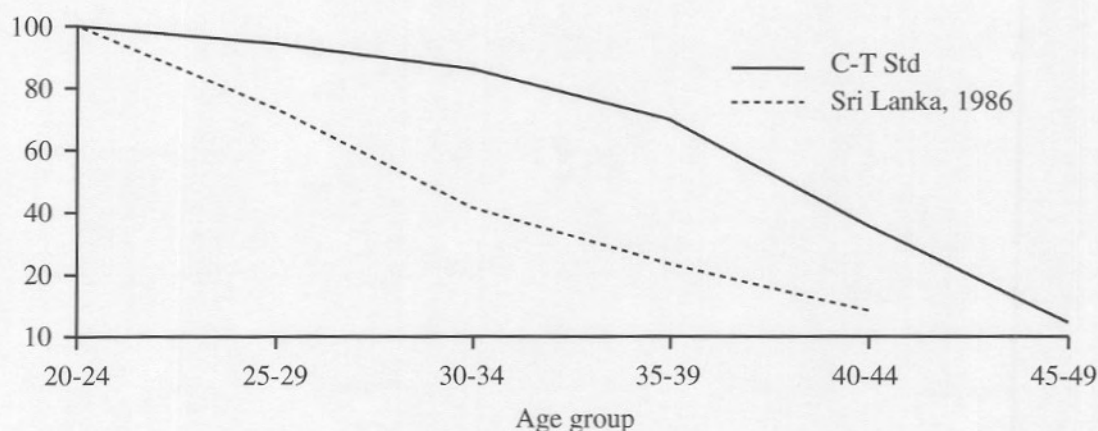


Figure 1. Relative ASMFRs - Sri Lanka 1986

At first sight, it would appear that Kenya, Botswana and Zimbabwe are following a similar pattern during their own transitions, with pronounced 'concave' distributions of ASMFRs as compared with the 'convex' Coale-Trussell (Figures 2-4). The problem with these schedules is that they are based on measures of proportions of women currently married, which in Africa, as opposed to Asia, underestimates the proportions of women in stable sexual unions. To take an extreme example, the 1988 Botswana BFHS-II records only 49.7% of 25-29 year old women as married and living together. Thus to get a better measure of exposure requires some information about sexual unions, whether or not they involve cohabitation.

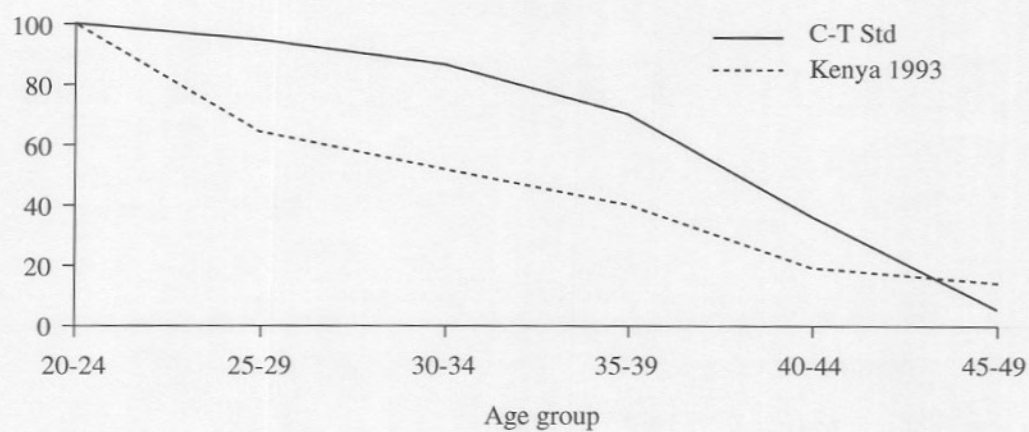


Figure 2. Relative ASMFRs - Kenya 1993

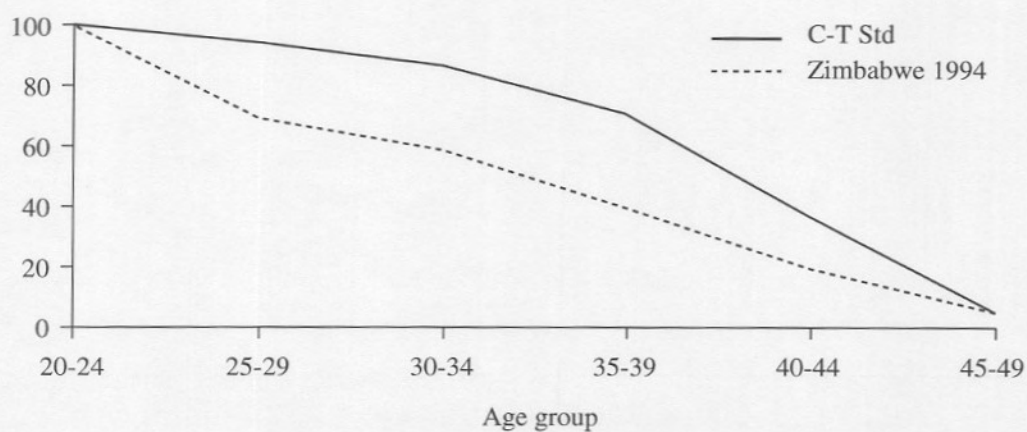


Figure 3. Relative ASMFRs - Zimbabwe 1994

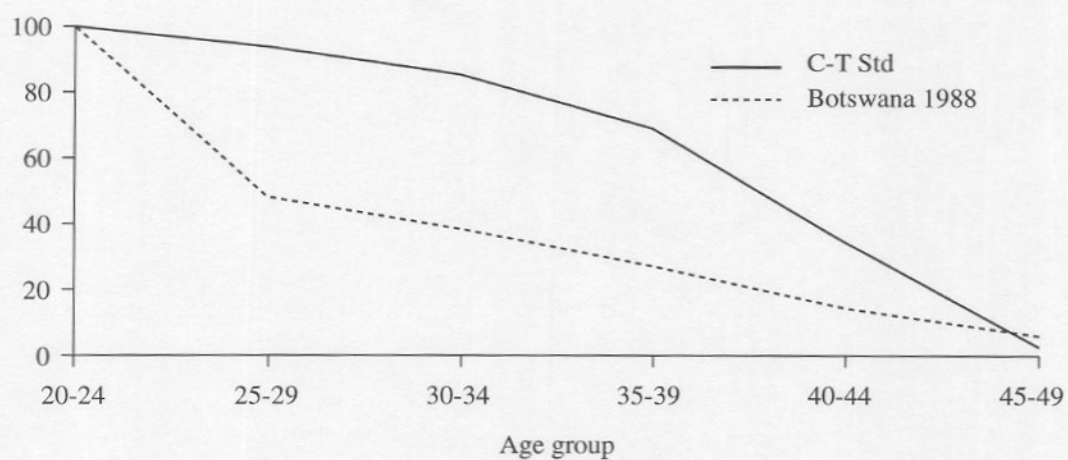


Figure 4. Relative ASMFRs - Botswana 1988

I could find this information only for Botswana in the 1984 BFHS-I, which gives information not only about marriages but also about all consensual unions. I applied these proportions to the 1988 ASFRs from the BFHS-II, on the assumption that the proportions of women in unions would not have changed radically in four years. Using this information to derive "age specific union fertility rates" (ASUFRs) gives an age-specific schedule remarkably close to the Coale-Trussell standard (Figure 5).

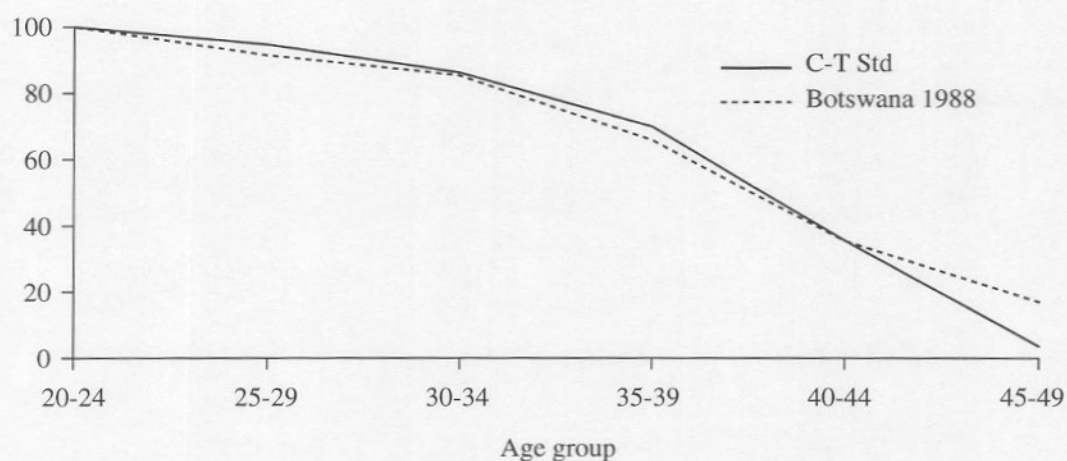


Figure 5. Relative ASUFRs - Botswana 1988

Clearly, much more detailed work needs to be done here to establish what is going on with ASUFRs. It should be noted, however, that if there is radical movement away from the Coale-Trussell standard, it has to be coming from changing age patterns in the formation of sexual unions. This is because overall ASFRs do not diverge significantly from the Coale-Trussell schedule - i.e. they are not changing shape over time. Thus the ASFR schedule for Kenya has changed very little between 1978 and 1993 (Figure 6).

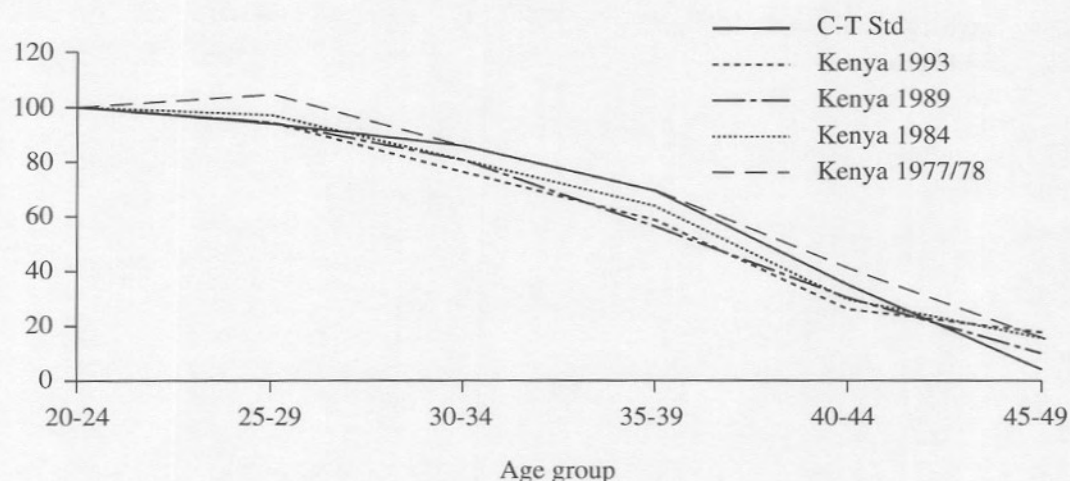


Figure 6. Relative ASFRs - Kenya 1977-93

A further check on the nature of fertility decline is whether preferred family sizes are identifiable by rapidly falling parity progression ratios at certain parities. Parity progression ratios (PPRs) are defined as the ratio between the number of women in a group (for example, a birth cohort) having at least $(n+1)$ children and those having at least n children. Thus, for example,

the PPR from 1 to 2 is the ratio of those with two or more children to those with one or more, and so on. PPRs have been used as particularly sensitive indicators of changes in fertility behaviour, especially parity specific fertility behaviour (Feeney, 1988). PPRs can be accurately reconstructed for older women based on their past fertility experience. However, for younger women who will go on having children after the date of a particular survey, it is necessary to extrapolate from past to future fertility behaviour, using a technique known as P+F synthesis (for details see Brass, 1985 pp 69-73).

The case of Kenya can be seen in Figures 7 and 8, showing PPRs constructed by P+F synthesis, by age group for the 1979 census and 1989 KDHS. Both graphs give the proportion of women in different age groups progressing from first birth to second birth, from second birth to

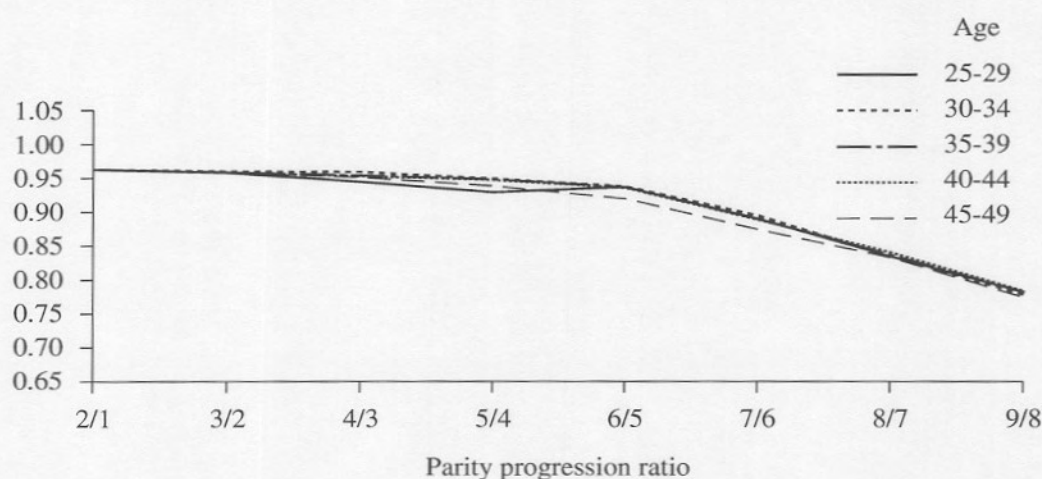


Figure 7. PPRs - Kenya 1979

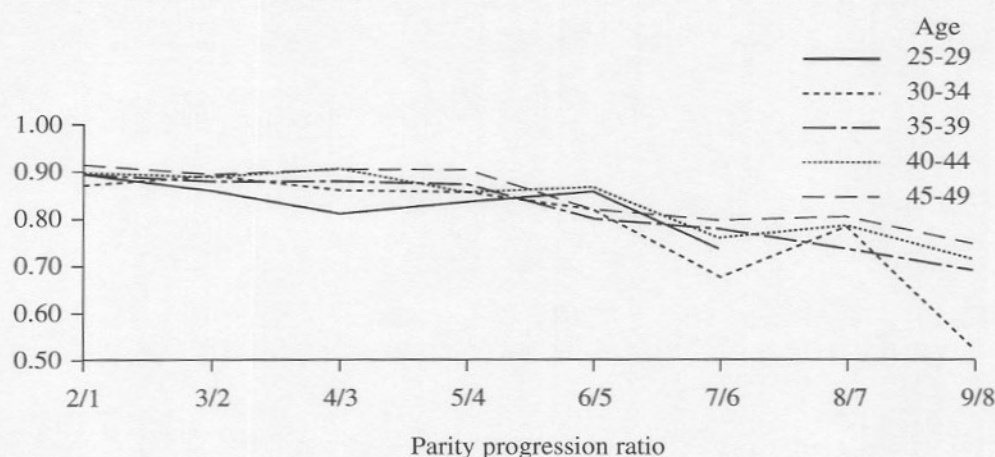


Figure 8. PPRs - Kenya 1989

third birth, and so on. The values for low birth order PPRs are quite high, above 0.95, meaning that almost all women who have a first birth have gone on to have a second one. A sign of strong patterns of family limitation would be a sharp drop off in the higher order PPRs, to well below 0.5. If this were an innovation, it would be seen for younger age groups but not for older age groups. However, the graphs for the 1979 census and the 1989 KDHS show that there is no sharp drop off in PPRs at particular parities, and that there is a slight decline in fertility between 1979 and 1989 spread over all parities. Overall, one may conclude that there is no sign of parity-specific stopping behaviour.

These patterns are replicated in Botswana and Zimbabwe (Cleland, Onuoha and Timaeus, 1995, Figure 1.1). The finding of absence of parity-specific stopping behaviour is also confirmed in an analysis of a number of African countries by Brass, Juarez and Scott (n.d.)

The absence of evidence for parity-specific stopping should not be taken to mean that there is no desire amongst women in East and Southern Africa to stop child bearing at all. Indeed, over 50% of women with 4 or more children in Botswana, Kenya and Zimbabwe say that they do not want any more children. But if concerns of reproductive 'muscle' predominate, then stopping would be associated with being 'too old' or worn out from a reproductive perspective, rather than reaching a particular family size. Thus the combination of large numbers of women wanting to stop and the absence of parity-specific stopping behaviour is itself suggestive that 'The Gambian model' might be relevant⁶.

To summarise, fertility appears to be declining not through a marked limitation of higher order births, leading to a big change in the ASFR pattern, but rather through a maintenance of 'natural fertility' patterns at lower levels. This observation is not particularly new, but is intriguing in the present context, if only because it does not immediately rule out the applicability of the basic model presented above to populations even where fertility is declining.

Many questions are raised here, pointing to several avenues of research. A proper analysis of fertility rates within unions is needed to explore the patterns of age specific fertility over the course of the transition. More detailed information on whether patterns of birth spacing are sensitive to age and parity would also repay investigation.

Age patterns of contraceptive use

Patterns of current contraceptive use by age and parity fit with "The Gambian model" to a varying extent in different countries. In the 1988 Zimbabwean DHS, the pill was more heavily used by younger women than older, but there was very little use of injectables - the option of older women being sterilisation. However, this latter pattern may reflect the fact that Depo Provera was banned for a period from 1981, shortly after the fall of the white minority government (Lee and Walt, 1995). By the time of the 1994 DHS the situation had changed. While the proportions of women choosing sterilisation and the pill in the two samples had remained constant over the previous six years, use of injectables had seen a large proportional rise in the 30-45 age group. Traditional methods, including withdrawal, however, were more used by older than younger women, which does not concur with the model. In the 1993 Kenyan DHS, pill use is again concentrated in the 20-30 year old age groups, but again sterilisation is more used than in The Gambia. Some younger women are also using injectables. In Kenya, unlike Zimbabwe, traditional methods are more used by younger women than older. By parity, 'The Gambian' pattern of pill

at the lower parities and injectables at the higher parities is clear. In Botswana in 1988, pill use was once again concentrated in younger age groups, and again sterilisation was more heavily used than injectables. Here, use of traditional methods appeared to be negligible. Data on contraceptive use by age are not available from South Africa, but aggregate figures for the black population show that four-fifths of modern contraceptive use is concentrated in the pill and injectables. In contrast to other groups in South Africa - whites, 'Indians' and 'coloured' - the black population has shunned sterilisation (Mostert, 1990: 65).

Generally, the age pattern of use is similar to that in The Gambia, in that pill use is concentrated in the younger groups and more long-term (or permanent) methods are used more by older women, but there are anomalies. These include the much greater use of sterilisation in Kenya, Zimbabwe and Botswana, the use of traditional methods by older women in Zimbabwe, and their reported near absence in Botswana. Any serious investigation of the applicability of the model would have to investigate these anomalies.

Current levels of knowledge of contraception in Kenya, Botswana and Zimbabwe are now universally high. While levels of use are now increasing, knowledge preceded practice by some years. Thus in Kenya during the 1970s, the pattern of high knowledge but low use was much more like The Gambia's today. This pattern is also found in other East African countries which have not yet entered the fertility transition, such as Uganda (e.g. Ageyi and Migadde, 1995). This suggests that a useful research avenue might be to try to reconstruct the development of the transition, and assess how far Kenya, Zimbabwe and Botswana twenty years ago were like The Gambia today.

Discontinuation and turnover

Evidence on further relevant aspects of contraceptive use comes from other sources. One issue is the high rate of "turnover" of users, shown in rates of adoption and discontinuation. A recent source here is a prospective study of two locations in rural Kenya (Ferguson, 1992). These two locations have contrasting levels of contraceptive use (20% and 50% contraceptive prevalence rates (CPRs) in 1990 respectively), with contrasting ranges of methods. In the high contraception area, over 70% of use was of pills and injectables, whereas in the other area there was a wider range of methods, including more traditional ones. As in The Gambia, post-partum abstinence was much shorter in duration than breast feeding and amenorrhea in both sites. Most interestingly, the study found that while the overall number of women using the pill stayed fairly constant, this was the "result of a large, but almost equal, volume of adoption and discontinuation" (Ferguson, 1992: 26). The pill and barrier methods had high proportions of discontinuation in both areas, and in the site where they were used, natural methods also had high rates of discontinuation. As the author notes:

The high discontinuation rates of these methods suggest that they are mainly used for short-term birth spacing. Much longer periods of continuous use are recorded by IUD and injectables users, as would be expected. (Ferguson, 1992: 263)

Almost 50% of those using the pill discontinued within 12 months. As in the national survey for Kenya, mean parity for pill users is lower than that for injectables and sterilisation. In reasons given for discontinuation, overall one-third of women said that it was because they wanted a child, but for injectables, side-effects was the reason that pre-dominated.

Redundant use

Another important pattern is the high level of 'redundant' use of family planning in the East and Southern African countries. Zimbabwe, Botswana and Kenya all have CPRs that are high relative to their TFRs (as does South Africa) (Figure 9)⁷.

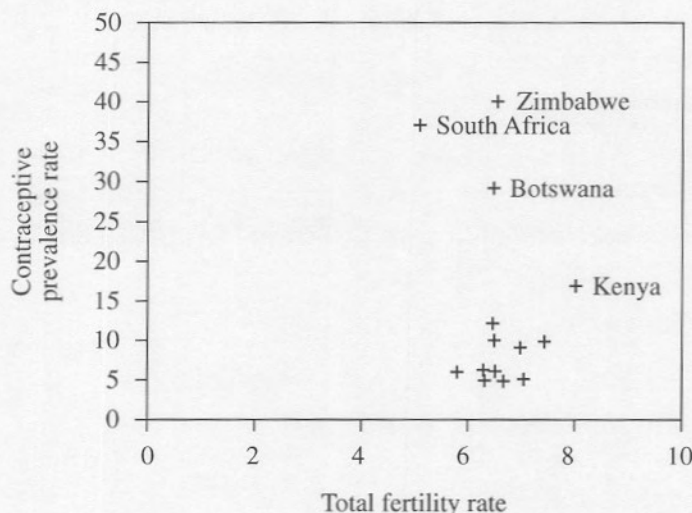


Figure 9. Fertility and contraceptive use, selected African countries

The redundant use this implies is explored by Adamchak and Mbizvo (1990) for Zimbabwe, following up on an earlier study:

E.Boohere and T.Dow indicated that modern contraceptive methods are used in Zimbabwe primarily for spacing, rather than for limiting births. Furthermore, they hypothesised that there could be an extensive overlap between contraceptive use and post-partum amenorrhea... (Adamchak and Mbizvo, 1990: 103)

In their survey, Adamchak and Mbizvo found evidence to support this view. Use of the pill after a birth formed 90% of modern contraceptive use in their sample. Most use of family planning started within 6 months of a previous birth, and almost 40% started within 3 months. This early start to contraceptive use, together with substantial periods of amenorrhea, suggested that an estimated 30% of the use of contraception was 'redundant' because of its timing after births.

Comparing the 1994 and 1988 Zimbabwe DHSs, there has been a further fall in the TFR without much movement in the CPR. This apparent increase in 'efficiency' of use raises the question of what is happening: is the average period of lactational amenorrhea getting shorter, or is pill use being extended much further beyond the cessation of amenorrhea?

High levels of 'redundant use' might be one reason why contraceptive use is so high in East and Southern Africa. As we will see below, it is much higher levels of use of the pill which mark out these three countries. However, it is also clear from comparative analyses (e.g. Lesthaeghe and Eelens, 1989) that post-partum abstinence is much shorter in Southern and East Africa than in the West. Thus while Gambian women may have a struggle in their deployment of long abstinence norms with their husbands, at least they have those norms to deploy.

Spousal conflict over use of contraception

In the area of conflict between husbands and wives over abstinence and the use of contraception, there is mixed evidence. A comparative study using DHS data from 11 African countries shows that male-female differences in fertility intentions are wider in West Africa than in East Africa, and wider at higher parities than at lower parities (Ezeh et al, 1995). Mhloyi's study, described below, provides evidence that some men in Zimbabwe are resolutely pro-natalist and anti-modern contraception (Mhloyi, 1987: 145). However, an assessment of the Zimbabwe Male Motivation Project implies that there is widespread male approval for family planning, especially for spacing (Piotrow, 1992: 365). Age or generation may be one factor in differences between male attitudes here. In Kenya, a number of studies suggest that the kinds of antagonism to family planning from men and the struggle over abstinence seen in Gambia may also be present (see Dean, 1994: 1576; Bradley, 1995; Ferguson, 1992: 265).

Perceptions of reproduction

A final set of suggestive data comes from studies looking more directly at perceptions of spacing and reproduction in Kenya and Zimbabwe. Mhloyi (1987) presents the results of a large survey from two areas in Zimbabwe. She finds considerable age differences in abstinence behaviour, with much shorter durations amongst younger women. Abstinence was related to a state of pollution in women after childbirth. However, this prohibition has lost its strength amongst the young. Mhloyi (1987: 135) reports that younger women are rejecting long abstinence partly because of fear that a husband will seek other partners, which may lead to polygynous marriage and risk of venereal disease. The only reason still reported as valid is the recovery of the mother after delivery.

The shortening period of abstinence means that people view breast feeding as the most important post-partum variable. The overlapping of pregnancy and breast-feeding is seen as harmful to both breast-feeding infant and mother (pp 136-7). Women are aware of the contraceptive effect of breast-feeding, but also realise that the exact duration of amenorrhea varies a lot between individuals, and that they can become pregnant again before their periods resume (p 139). Consequently, attempts at contraception until a breast-feeding child reaches a particular developmental stage are long-standing.

In West Pokot District on the Kenyan border with Uganda, Dean (1994) conducted a series of focus group discussion on child spacing in a number of villages. There was a range of access to family planning services within these villages, and knowledge of modern contraception varied a lot. However, a child spacing concept appeared to be virtually universal. A tradition of abstinence was identified by some groups, but it appears to have been abandoned. There was also a perception of a much reduced birth interval, which was judged to be bad. A general impression emerges of a society in which an interest in family planning is combined with still high levels of desired fertility (p 1581).

What is interesting about these studies of perceptions is that they show how, even in countries where use of family planning has risen sharply, and where fertility appears to be falling, ideas about birth spacing remain central to discussions of fertility. Similarly, contraception can be seen to be taking the place of abstinence, based on a knowledge of the biology of amenorrhea similar to that displayed in The Gambian study.

Implications

In summary, there is quite a lot of circumstantial evidence that there are key similarities between The Gambian case and countries where fertility is falling and CPRs have risen sharply. This should not be read as a conclusion that the Bledsoe and Hill framework can be universally applied - rather, it suggests that it is a hypothesis worthwhile pursuing in a more thorough research project.

Why does it matter whether or not the framework can be widely applied? The matter is of more than academic interest, for two inter-related reasons.

One is that the framework has several implications for the delivery of family planning, in terms of types of delivery, method mix and managing the contact with the user. If reproductive health policy makers want to provide the genuinely best possible service for women, it is essential to understand the nature of demand for different types of service, and the perception of reproduction lying behind that demand.

Family planning organisations in Africa have often been created and led by an educated urban elite group. The mode of service delivery has been directive. With this model, there is little chance that women's perceptions of reproduction, and hence of their reproductive needs, will be recognised. At a basic level this means the willingness on the part of family planning 'front line' workers to listen, and the resources to allow them the time to do so. Services should be geared to recognising the different types of demand for contraception, and not to assess success or failure by conventional measures, such as discontinuation rates. On this model, family planning services could offer women a resource to better manage their reproductive capital and to regulate their bodily expenditure.

At the same time, there is a widespread tendency amongst donors in the family planning field to think of women in Africa as exercising very little choice over reproductive events and outcomes. For example, the ODA's document on family planning policy is called "Choice not Chance". It is clear that donors need to think again on this issue, and learn to recognise that high fertility and low levels of contraceptive use do not really represent the absence of intentional management of reproduction. The problem is that women are exercising types of choice which policy makers do not recognise.

A second issue is how low fertility will go. If women are seeking to use family planning to space births and manage reproductivity, rather than limit family size, one view is that the drops in fertility so far observed may not go much further. This is argued, for example, by Diamond and Rutenberg (1995), and implied by the analyses of Udjo (1996) and Thomas and Muvandi (1994). Bledsoe and colleagues emphasise that women in The Gambia see family planning as about helping to maintain their fertility, rather than reducing it.

However, fertility in Kenya and Zimbabwe does appear to be continuing in its downward path. Does this mean that managing reproduction is being abandoned for more direct limitation? If so, what is happening to the model of reproduction women are working with? Who is leading this fundamental shift?

One way to approach the issue is to focus more on the differences between The Gambia on the one hand, and Kenya, Botswana and Zimbabwe on the other. Apart from trends in fertility,

outstanding differences are in the much higher overall levels of contraceptive use in the Southern and East African countries. DHS reports show that use of contraception in these countries began to rise very sharply in the 1980s, and that most of the rise in use was made up of pill use by younger women. This pattern raises the question of what all these (younger) women are using the pill for. Can we identify a single reason, such as the protection of reproductive muscle, or limiting family size? A study focusing on young women using the pill may help to provide an answer.

A related issue is education. One interpretation of The Gambian model put together with the material on high CPR countries is simply that where women are more educated they know more about modern contraception and are more willing to use it. Thus higher CPRs in Kenya, Botswana and Zimbabwe - with their much higher levels of female education - merely reflect a greater ability to think about substituting family planning for abstinence. However, this interpretation does not sit very easily with the age patterns of contraceptive use. Perhaps a more useful approach is to ask how educated -especially secondary educated - and non-educated women might be situated differently within the model. The CPR differential between secondary educated and non-educated women is very large in most countries. They also marry later on average than uneducated women. Because the expansion of education has been relatively recent, educated women are on average relatively young, which means that they are likely to be using the pill. Are they as a group still fitting into the pattern of constructing natural fertility? Again, a study focusing on the attitudes and behaviour of secondary educated women would be of interest.

Looking at this group in depth may also cast some light on how the limits of the model might be reached. The concern with reproductive muscle in a pro-natalist society is understandable where a woman expects to have many pregnancies over a life of hard manual work. But with later marriage and more widely spaced births, an educated woman living in an urban area might expect to have four live births and maybe one miscarriage. Considerations of conserving reproductive muscle may begin to fade somewhat, as better health facilities and states of health mean that the bodily aspects of pregnancy and birth become less dominating. In the 1994 Zimbabwe and the 1993 Kenyan DHS reports, urban TFRs are less than four. In South Africa, the fertility of the black population in metropolitan centres may be below three. These estimates are based on small samples, but it indicates that fertility transitions in African countries are moving towards fertility levels not much higher than those in the industrialised North⁸. Recent work historical on England and Wales during the transition suggests that it was a decrease in the pace of childbearing, (i.e. later starting and longer spacing), which was the mechanism at work in the fertility decline, led by the professional classes (Garrett and Reid, 1995). In Africa it is female educational groups which have the clearest differentials in contraceptive use and fertility. Research on educational differences and trends in birth spacing by education, controlling for age and birth order, would clarify the role of spacing in these differentials.

In addition to the countries where fertility transitions are well under way, contraceptive use is rising in other countries - e.g. Ghana, Senegal, Tanzania, Uganda, Zambia - although it is still relatively low. Can these countries be seen as 'intermediary' between Gambia and Kenya or Botswana? Certainly they also share some of the 'Gambian' features, such as high levels of knowledge together with low levels of current use (see Ageyi and Migadde, 1995 for Uganda). There is also the question of how far Kenya twenty years ago was like these countries now, in relation to the patterns identified above. This question could be pursued through the use of World Fertility Survey and census data.

Notes

¹ For evidence on these changes see Cleland, Onuoha and Timaeus, 1994, Cohen, 1993, and the contributions to Lockwood, 1995. Recently available Demographic and Health Surveys, such as the 1993 Kenyan and 1994 Zimbabwean surveys, confirm the trends.

² As discussed below, there have been debates over the accuracy of these total fertility rate estimates. However, it is nevertheless clear that the change is occurring and the direction of trend is downwards.

³ An extended critical discussion of the methodological approach taken by Lesthaeghe and colleagues is to be found in Lockwood (1995b).

⁴ The Demographic and Health Surveys are a set of internationally comparable surveys covering fertility, mortality and health behaviour across much of the developing world. They are effectively a continuation of the World Fertility Surveys conducted in the 1970s and early 1980s, and are a primary high-quality demographic data source for Africa. The surveys are largely funded by USAID, but are designed and carried out by national governments, in collaboration with the Macro International group.

⁵ For Botswana, Diamond and Rutenberg (1995) argue that although there was a decline in TFR during the 1980s, this was less dramatic than is implied by official data, since the TFR of 7.1 for 1981 was overestimated (they adjust it downwards to 6.7). They further argue that fertility in the late 1980s is rising. For Zimbabwe, Udjo (1986) adjusts official rates up, so decline is less than at first estimated. However, it appears that both the later and earlier estimates are underestimates, so that the trend as measured by DHS is real, but the levels are higher (I. Timaeus, personal communication). Blacker (1994) raises doubts about the comparability of successive DHS surveys in Kenya. However, the 1993 DHS and analysis of the 1989 census confirms further fertility decline. Other evidence, such as the analysis of parity progression ratios from census data, also suggests that in all of these countries, the trends towards lower fertility is real (Brass, Juarez and Scott, n.d.).

⁶ I am grateful to Ian Timaeus for pointing this out to me.

⁷ The data for Figure 9 come from Mauldin and Segal (1988). Published DHS reports give the following data:

	TFR	CPR(%)
Botswana 1988	5.0	29.7
Kenya 1993	5.4	32.7
Zimbabwe 1988	5.53	43.1

According to Adamchak and Mbizvo (1990), modelling by Maudlin and Segal (1988) suggests that the CPR for Zimbabwe in 1988 should be around 23%. While the disparity is greatest for Zimbabwe, it would appear to be significant for Kenya as well. Ferguson (1992) also suspects redundant use in Kenya. There may also be significant redundant use in South Africa. Lucas (1992) cites estimates for 'Black' populations of a very high CPR (60%) for a moderately high TFR (4.2).

⁸ Interestingly, new analyses of historical data from England and Wales suggest that the usual contrasts drawn between spacing and stopping may not be so valid. Garrett and Reid find from their analysis of fertility from 1981-1911 (based on newly-released records from the 1911 census) that:

"There is evidence to suggest that lower fertility was achieved by dint of spacing, particularly amongst the middle classes, but only after one child has been born. Among the middle classes the one child seems to have sufficed in many cases and 'stopping' behaviour then ensued, but it is unclear whether this was actually protracted spacing behaviour." (Garrett and Reid, 1995: 97).

References

- Adamchak, D. and M. Mbizvo (1990) 'The relationship between fertility and contraceptive prevalence in Zimbabwe' *International Family Planning Perspectives* **16**, 3: 103-106
- Ageyi, W. And M. Migadde (1995) 'Demographic and socio-cultural factors influencing contraceptive use in Uganda' *Journal of BioSocial Science* **27**: 47-60
- Blacker, J. (1994) 'Some thoughts on the evidence of fertility decline in Eastern and Southern Africa' *Population and Development Review* **20**, 1: 200-205
- Bledsoe, C. And A. Hill (1994) 'Social norms, natural fertility and the resumption of postpartum "contact" in The Gambia' Paper presented at a conference on Anthropology and Demography, Barcelona
- Bledsoe, C., A. Hill, U. D'Alessandro and P. Langerock (1994) 'Constructing natural fertility: the use of western contraceptive technologies in rural Gambia' *Population and Development Review* **20**, 1: 81-113
- Bledsoe, C. with F. Camara (1995) 'Numerators and denominators in the study of high fertility populations: past and potential contributions from cultural anthropology' Paper presented at a seminar on The Continuing Transition, in honour of J.C. Caldwell, Australian National University
- Bledsoe, C., F. Camara, A. Hill and T. Marchant (forthcoming) 'Body expenditure and maternal depreciation in rural Gambia'
- Bradley, C. (1995) 'Women's empowerment and fertility decline in Western Kenya' in S. Greenhalgh (ed.) *Situating Fertility: Anthropology and Demographic Enquiry* Cambridge
- Brass, W. (1985) 'P-F synthesis and parity progression ratios' in *Advances in Methods for Estimating Fertility and Mortality from Limited and Defective Data* Centre for Population Studies, London School of Hygiene and Tropical Medicine
- Brass, W., F. Juarez and A. Scott (n.d.) 'An analysis of parity dependent fertility falls in tropical Africa' mimeo, CPS
- Caldwell, J.C. and P. Caldwell (1987) 'The cultural context of high fertility in sub-Saharan Africa' *Population and Development Review* **13**, 3: 409-437
- Caldwell, J., P. Caldwell and P. Quiggan (1989) 'The social context of AIDS in sub-Saharan Africa' *Population and Development Review* **15**, 2: 185-234
- Caldwell, J.C., I.O. Orubuloye and P. Caldwell (1992) 'Fertility decline in Africa: a new type of transition?' *Population and Development Review* **18**, 2: 211-242
- Carter, A. (1995) 'Agency and fertility: for an ethnography of practice' in S. Greenhalgh (ed.) *Situating Fertility: Anthropology and Demographic Enquiry* Cambridge: Cambridge University Press

- Cleland, J., N. Onuoha and I. Timaeus (1995) 'Fertility change in Sub-Saharan Africa: a review of the evidence' in T. Locoh and V. Hertrich (eds.) *The Onset of fertility decline in Sub-Saharan Africa* Liege: IUSSP/Ordina
- Coale, A. and J. Trussell (1974) 'Model fertility schedules: variations in the age structure of childbearing in human populations' *Population Index* **40**: 195-258
- Cohen, B. (1993) 'Fertility levels, differentials and trends' in K. Foote, K. Hill and L. Martin (eds.) *Demographic Change in Sub-Saharan Africa* Washington, D.C.: National Research Council
- Dean, N. (1994) 'A community study of child spacing, fertility, and contraception in west Pokot District, Kenya' *Social Science and Medicine* **38**, 11: 1575-1584
- Diamond, I. And N. Rutenberg (1995) 'Recent trends in fertility in Botswana' *Journal of International Development* **7**, 1: 145-161
- Ezeh, A., M. Seroussi and H. Raggars (1995) 'Men's fertility, contraceptive use and reproductive preferences' *DHS Comparative Studies*, **18** (draft)
- Feeney, G. (1988) 'The use of parity progression models in evaluating family planning programmes' in *Proceedings of the 1988 African Population Conference*, Vol. 3, Dakar: IUSSP
- Ferguson, A. (1992) 'Fertility and contraceptive adoption and discontinuation in rural Kenya' *Studies in Family Planning* **23**, 4: 257-267
- Garrett, E. and A. Reid (1995) 'Thinking of England and taking care: family building strategies and infant mortality in England and Wales' *International Journal of Population Geography* **1**, 1: 69-102
- Greenhalgh, S. (1990) 'Towards a political economy of fertility: anthropological contributions' *Population and Development Review* **16**, 1: 85-106
- Greenhalgh, S. (1995) 'Anthropology theorises reproduction: integrating practice, political economic and feminist perspectives' in S. Greenhalgh (ed.) *Situating Fertility: Anthropology and Demographic Enquiry* Cambridge: Cambridge University Press
- Hammel, E. (1990) 'A theory of culture for demography' *Population and Development Review* **16**, 3: 433-454
- Handwerker, W. P. (1986) "'Natural fertility.'" as a balance of choice and behavioural effect: policy implications for Liberian farm households' in W. P. Handwerker (ed.) *Culture and Reproduction*
- Lee, K. and G. Walt (1995) 'Linking national and global population agendas: case studies from eight developing countries' *Third World Quarterly* **16**, 2: 257-272
- Lesthaeghe, R. (1989) 'Production and reproduction in sub-Saharan Africa: an overview of organising principles' in R. Lesthaeghe (ed.) *Reproduction and Social Organisation in Sub-Saharan Africa* Berkeley, California: University of California Press

Berkeley, California (1988) *The components of Sub-Saharan reproductive regimes and*

Lockwood, M. (1995a) 'Structure and behaviour in the social demography of Africa' *Population and Development Review* **21**, 1: 1-32

Lockwood, M. (ed.) (1995b) *Journal of International Development* **7**, 1 Special Issue on Demographic Transition in Africa

Locoh, T. and V. Hetrich (eds.) (1995) *The Onset of Fertility Transition in Sub-Saharan Africa* Liege: IUSSP/Ordina

Lucas, D. (1992) 'Fertility and family planning in Southern and Central Africa' *Studies in Family Planning* **23**, 3: 145-158

Mauldin, W. P. and S. Segal (1988) 'Prevalence of contraceptive use: trends and issues' *Studies in Family Planning* **19**, 6: 335-353

Mhloyi, M. (1987) 'The proximate determinants of fertility and their socio-cultural determinants: the case of two rural settings in Zimbabwe' in J.Ebigbola and E. Van de Walle (eds.) *The Cultural Roots of African Fertility Regimes* Ile-Ife, Nigeria/Philadelphia

Mostert, W. P. (1990) 'Recent trends in fertility in South Africa' in W.P.Mostert and J.M.Lotter (eds.) *South Africa's Demographic Future*

Page, H. (1989) 'Child rearing versus childbearing: co-residence of mother and child in sub-Saharan Africa' in R.Lesthaeghe (ed.) *Reproduction and Social Organisation in Sub-Saharan Africa* Berkeley, California

Piotrow, P. et al (1992) 'Changing men's attitudes and behaviour: the Zimbabwe Male Motivation project' *Studies in Family Planning* **23**, 6: 365-375

Schoenmaeckers, R. I. Shah, R. Lesthaeghe and O. Tamashe (1981) 'The child-spacing tradition and the post-partum taboo in tropical Africa: anthropological evidence' in Page, H. and R. Lesthaeghe (1981) *Child Spacing in Tropical Africa* London: Academic Press

Thomas, D. and I. Muvandi (1994) 'The demographic transition in Southern Africa: another look at the evidence from Botswana and Zimbabwe' *Demography* **32**, 2: 185-207

Udjo, E. (1996) 'Is fertility falling in Zimbabwe?' *Journal of BioSocial Science* **28**, 1: 25-35

Ware, H. (1976) 'Motivations for the use of birth control: evidence from West Africa' *Demography* **13**, 4: 479-494

Ware, H. (1995) 'Thoughts on the course of fertility transition in sub-Saharan Africa' in Locoh, T. and V. Hetrich (eds.) (1995) *The Onset of Fertility Transition in Sub-Saharan Africa* Liege: IUSSP/Ordina