

Persistence of High Fertility in Tropical Africa: The Case of the Democratic Republic of the Congo

ANATOLE ROMANIUK

MOST COUNTRIES in the contemporary world have completed or are well advanced in the transition to low fertility. Only a few, most in Tropical Africa, have not yet begun this transition. Prominent in this latter category is the Democratic Republic of the Congo.* If any trend can be discerned, Congo's fertility was actually rising in the second half the twentieth century and may now have reached a plateau.

Why the fertility transition has thus far eluded Congo is the central question I try to answer in this article. To do so requires backtracking well into the past to identify features of the reproductive behavior of the population as they have evolved over the colonial era and subsequent half-century of independence. I give special attention to urban fertility as the supposed harbinger of what is likely to follow in the country at large. It is also useful to consider Congo's demographic course within the broader African context: there are many differences, but also commonalities. And lessons we draw from the Congolese case may shed light on processes taking place elsewhere in Tropical Africa. Reproductive behavior in much of this region is, metaphorically speaking, in a kind of no man's land, where tensions between the forces resisting the transition and those propelling it are at an impasse with no resolution yet in sight. Even though world experience and elementary reasoning tell us that fertility transition is inevitable, we can only speculate when and how it will actually happen in Congo.

*From 1971 to 1997 the country was known as Zaïre. I will refer to the country simply as Congo. The earlier name from the time of independence was *République du Congo*, a name also used by the (much smaller) neighboring former French colony to the west. The two countries were usually distinguished by calling them Congo-Kinshasa (and before that, Congo-Leopoldville) and Congo-Brazzaville.

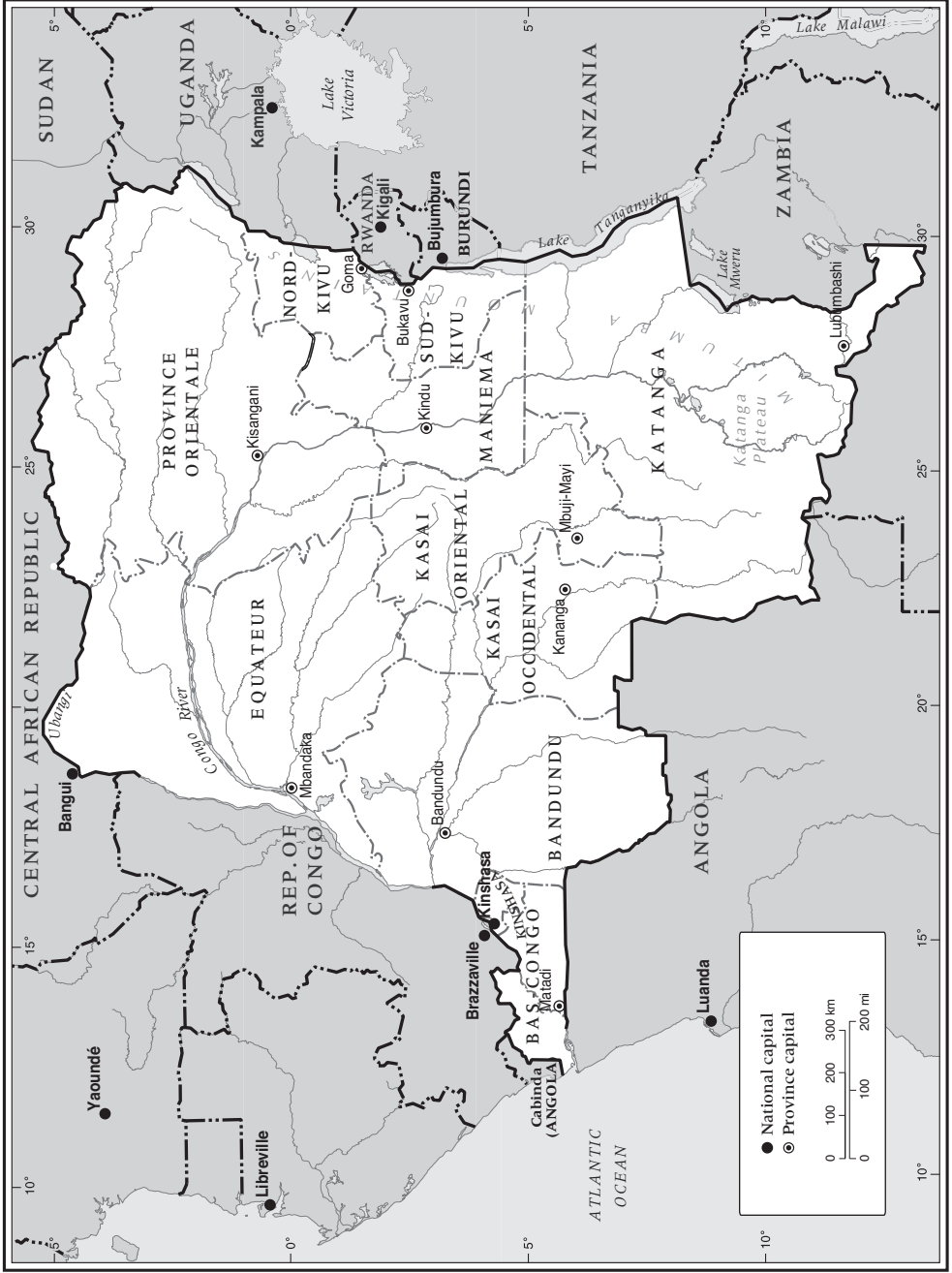
Historical and geographical background

Congo, widely known as a failing state, could equally be seen as a land of promise. It is four times the area of France—in Africa, a close second only to Algeria—with a current population nearing 70 million. (See Figure 1.) Straddling the Equator and all but landlocked (with 37 km of Atlantic coastline), its territory is largely tropical savanna. Other bioenvironmental conditions are also found: in particular, the country's eastern flank is mountainous and volcanic, with many lakes. The Congo basin, defined by the Congo River and its confluents (second only to the Amazon in the volume of water discharged), covers much of the country and holds half of Africa's forests. There are extensive mineral resources, especially copper (the principal export since colonial times), cobalt, gold, diamonds, and coltan (a source of tantalum), and large potential for hydro-electric power, as yet barely exploited. Wide scope also exists for expansion of agriculture.

The region's early contact with the outside world was shaped by a devastating three centuries of slave trading along the Atlantic coast, ending in the eighteenth century, and similar devastation in the east by Afro-Arab slave hunters in the second half of the nineteenth century. Congo's modern borders were set by the colonial powers at the Berlin conference of 1885, forming an artificial conglomerate of ethnicities and tribes, of fragile unity and vulnerable to external threats. Belgian colonial rule began in the late nineteenth century with the establishment of the Congo Free State—in effect, as the personal fiefdom of King Léopold II. This notoriously brutal regime was succeeded in 1908 by a more conventional colonial administration, Belgian Congo. Already by this time, large-scale resource exploitation and commercial development had started in earnest and their disruptive effects were being felt. The transfer of male workers from rural areas to the emerging centers of economic activity led eventually to a severe sex imbalance and family disruption in the affected villages. In the labor camps, single men predominated along with a contingent of so-called free women (*femmes libres*). Migration, social disorganization, marital instability, and relaxation of sexual control facilitated the spread of sexually transmitted infections (STIs). Such a state of affairs continued unabated, only to worsen, until World War II. There is evidence that in some regions sterility increased and fertility fell.

In the colonial period, the country experienced strong, though uneven, economic growth. This was accompanied by a continued rural drift to the cities: by the time of independence in 1960, 22 percent of the population was urban or semi-urban and many rural residents had been exposed to an urban environment through repeated stays. In its later phase, colonial rule shifted from mercantilism to a more welfare-oriented economic policy. Life improved markedly in the urban centers and to some extent in the rural subsistence

FIGURE 1 Democratic Republic of the Congo



economy. Education, though still only at elementary levels, was rapidly expanding. However, it was in the area of health that the most remarkable achievements were made. Many diseases, notably trypanosomiasis (sleeping sickness, transmitted by the tsetse fly and responsible for historically low population densities), were eradicated or brought under control. Mortality, particularly infant mortality, still high by Western standards, was rapidly declining. In the cities, single males, formerly dominant, gave way to families, a trend aided by large-scale housing construction, the introduction of family allowances for wage earners, and generally higher standards of living. STIs in traditionally endemic areas, including cities, were kept at bay, if not eradicated, through extensive prophylactic and curative campaigns. These developments were mirrored in the higher birth rate, rising from a national average of less than 40 per 1000 population in the inter-war years to about 45 per 1000 by the late 1950s. Urban fertility surpassed rural fertility by a significant margin (Metela Shuba 2010).

The half-century of independence has been marked by recurring civil unrest and political turbulence, the Katanga secessionist rebellion, the first and second Congo Wars (the latter drawing in eight other African states), and continuing sporadic armed conflicts in the country's eastern regions. Health services were hit early with the departure of the Belgian medical corps, a loss only gradually made up over subsequent years by home-grown medical personnel. The modern sectors of the economy collapsed, creating widespread urban unemployment. The formal economy was largely replaced by an informal economy—one that the Congolese have dubbed *l'économie de débrouille* (a wangling economy). In the aftermath, the government in effect abdicated much of its responsibility in the basic public spheres, leaving it to the ingenuity and creativity of individuals, families, and nongovernment organizations. Thereafter, the social safety net, if it can be called that, has been largely based on various forms of mutual assistance and on the solidarity between extended family and neighborhood and church associations. Theodore Trefon, in a book evocatively titled *Ordre et désordre à Kinshasa: Réponses populaires, à la faillite de l'État* (2004), describes in fascinating detail how individuals, their families, and society at large cope with everyday difficulties of survival. Kinshasa, with a population of some 9 million, is termed a jungle of a city: "*À Kinshasa la vie tient du miracle*" ("life in Kinshasa is a miracle").

But Congolese society is not static. Notwithstanding the social and economic adversities, many features of modern life have emerged: mortality has decreased, educational levels have risen, and these and other developments augur potentially more radical changes to come in reproductive behavior. But so far fertility has remained high, near its traditional level (Ngondo a Pitshandenge et al. 1992). As Daniel Sala-Diakanda (2002: 163) puts it, Congo has entered the third millennium "*sans quasiment avoir engagé sa transition démographique...*" ("without having truly engaged its demographic transition"). The population growth rate rose from 2 percent per year in the 1950s

to close to 3 percent in the last decade. A population of 12 million in 1950, by UN estimates, had reached 68 million by 2010. By 2050 according to the UN's 2008 medium projection series (which assumes steadily diminishing fertility), Congo's population will be 148 million.

Fertility trends and patterns

Congo's fertility trends can be tracked with reasonable confidence through a series of surveys beginning in the late (post-World War II) colonial period. These are detailed in the Appendix. The 1955/57 socio-demographic survey, covering a sample of 1.4 million (out of a then population of some 13 million) and considered to be generally sound, may serve as a baseline for the time series. The 1975/76 survey, carried out by a team of Belgian and Congolese demographers, was in many respects a replication of the 1955/57 survey in content and methodology, though it covered only western regions of the country. A full population census was undertaken in 1984: its quality has not been assessed but at least on fertility its data are consistent with the survey-based estimates. The two most recent major national surveys are the 2001 Children's and Women's Conditions Surveys (MICS2) and the 2007 Demographic and Health Survey (DHS). Both were directed by a group of seasoned Congolese demographers and both inspire confidence.

The fertility estimates over a 50-year period shown in Table 1 point to an increasing trend in the earlier part followed by a plateau and then, if the 2007 DHS is correct, by the beginnings of a downturn. The apparent reduction notwithstanding, Congo's fertility remains high.

Urban/rural fertility differences are shown in Table 2. The 1955/57 survey recorded higher urban than rural fertility, the reverse of the usual differential, probably reflecting the improved employment, health, and living conditions in the cities during the late colonial period, referred to earlier. Higher fertility in rural areas appeared only in the 2001 and 2007 surveys. Urban fertility has fallen significantly, especially in Kinshasa. The question

TABLE 1 Selected fertility measures, Congo, 1955/57–2007

	1955/57	1984	1995	2001	2007 ^a
Birth rate (per 1000)	45.2	48.1	NA	48.5	44.1
Total fertility	5.9	6.7	7.3 ^b	7.1	6.3
Children ever born (45–49)	4.0	NA	7.0 ^c	7.3	6.6
Mean age of childbearing (years)	27.0	26.9	28.2 ^b	30.1	NA

NOTE: NA = not available.

^aBirth rate and total fertility are based on births reported over the three-year period preceding the 2007 survey.

^bTotal fertility and mean age of childbearing are inferred from the average number of children born to women, adjusted for age misclassification (see footnote c).

^cThe average number of children ever born for ages 35–39, 40–44, and 45–49 have been adjusted for age misclassification. (See Ministère du Plan et Reconstruction Nationale 1996, Tables T.4.14 and T.4.15.)

SOURCES: 1955/57 National Socio-demographic Survey; 1984 Census; 1995 and 2001 Study of Children's and Women's Conditions (respectively, MICS1 and MICS2); 2007 Demographic and Health Survey. (See Appendix.)

TABLE 2 Total fertility in urban and rural areas, Congo, selected years, 1955/57–2007

Area	1955/57	1975/76 ^a	1984	1995	2001	2007
Rural	4.8	6.0	NA	7.2	7.4	7.0
Urban	6.1	6.6	NA	7.4	6.3	5.4

NOTE: NA = not available.

^aThe 1975/76 survey covered only western regions (Bas-Congo, Bandundu, and Kasai Occidental provinces and Equateur and Tshuapa districts in Equateur province).

SOURCES: as for Table 1, and Tabutin (1982) (for 1975/76 survey).

of whether these urban dwellers are adopting norms of childbearing consistent with modernity or are merely responding to the exigencies they face is taken up below.

The picture gets more uneven when we look at the regional breakdowns (Table 3). Aside from Kinshasa, fertility appears to have fallen appreciably in Katanga, the most industrialized region, and in Bas-Congo, the most “Westernized” province; meanwhile it remained steady or even increased in other provinces, at least since the 1980s.

Striking features of these estimates are the degree of dispersion of fertility rates in 1955/57 and the subsequent narrowing of regional differences. Both the initial variation and the convergence are even more pronounced if we look at smaller territorial units, such as districts. The main apparent explanation is the changing incidence of sterility. (Another contributing factor is the shortening in duration of postpartum abstinence, discussed later in this article.)

TABLE 3 Total fertility rates by province, Congo, 1955/57–2007

Province	1955/57 ^a	1984	2001 ^b	2007 ^c
Kinshasa (city)	7.5	7.7	5.0	3.7
Bas-Congo	7.2	7.7	7.3	5.9
Bandundu	6.7	7.0	6.9	6.7
Equateur	5.0	6.1	6.7	6.2
Province Orientale	4.0	4.8	6.5	6.7
Nord-Kivu	8.0	} 7.4	7.3	7.0
Sud-Kivu	8.5		7.8	7.4
Maniema	4.5		7.6	6.7
Katanga	8.2	7.8	7.2	5.9
Kasai Oriental	5.7	7.4	7.3	7.6
Kasai Occidental	6.4	7.0	9.5 ^d	7.7

NOTES: Data for 1955/57 and 1984 have been adjusted to reflect current provincial boundaries.

^aTotal fertility rates are estimates using Coale–Demeny stable population model (see Romaniuk 1968a, Table IL13).

^bFigures for 2001 are based on the MICS2 special tabulation.

^cBased on births reported for the three years preceding the survey.

^dEstimate probably distorted by sampling error.

SOURCES: See Table 1.

Sterility and childlessness

High rates of infertility in central Congo, and more specifically among the Mongo, Azande, and Maniema peoples, to mention the most important groups, was observed early in the last century. Its causes were subject to speculation, some of it seemingly outlandish such as self-inflicted denial of maternity caused by the shock of colonialism. All too quickly the “*dénatalité*” and “*dépopulation*” of the Congo became buzzwords in the colonial discourse (Hunt 2004; Sanderson 2010). Later research has clarified the situation: both medical and epidemiological studies point to sterility of a pathological origin, specifically caused by gonorrhea and syphilis (Romaniuk 1968a,b,c; Adadevoh 1974; Retel-Laurentin 1974; Frank 1983, 1992; Larsen 1989; Akam 1990).

Only with the collection of data on childlessness by age from the 1955/57 survey could the scale and regional incidence of infertility be determined. The contrast between regions of high fertility (i.e., low sterility) and the main regions of low fertility (high sterility) is striking. High sterility was concentrated in central and northeast Congo, regions devastated by the slave trade in the second half of the nineteenth century. Thus Maniema province, the first region to be ravaged by slave hunters, showed a mid-1950s childless rate of 34 percent among women aged 55 and older. In Sud-Kivu, a province in the far east of the country, the corresponding rate was 4 percent. As slave hunting extended westward, so too did sterility—seen in an increasing incidence at younger ages. While high sterility rates predate the Belgian takeover (the 55-and-older age group in the 1950s was mostly born in pre-colonial times), the greater geographic mobility that came with colonial rule facilitated the spread of STIs. (There is some evidence of a distinctly ethnic configuration in this spread, influenced by prevailing sexual mores. See Romaniuk 1968a; Sala-Diakanda 1980.) Average female childlessness for the population aged 30 and older in the country as a whole in the 1950s was estimated at about 20 percent, whereas in a healthy, non-contracepting population one would expect it to be around 6 percent.

The next several decades witnessed a sharp drop in sterility, apparent in both survey and census results. In Maniema province, for example, average childlessness at 30 years and older decreased from 27 percent in 1955/57 to 5 percent in 2007 and its total fertility rose from 4.5 to over 7. The 2001 and 2007 surveys indicate a national sterility rate of about 4 percent. Moreover, in the former high-sterility areas fertility remains below the national level, suggesting that there is room for further improvement.

The causes of this decline in sterility are not fully agreed upon. Likely contributing explanations are the large-scale anti-venereal disease campaigns during the later colonial period; lessened virulence of sterility pathogens over time (particularly for syphilis); and, among younger generations,

greater awareness of STIs and greater readiness to seek medical help. While STIs, now with HIV/AIDS included, remain a public health problem in Congo, sterility no longer plays the major demographic role it once did.

Determinants and correlates of fertility

More than fifty years ago, Frank Lorimer, in his seminal work, *Culture and Human Fertility* (1954), pleaded for deeper cultural understanding of reproductive behavior in Tropical Africa. Lorimer placed the prevailing corporate kinship system at the center of his explanation of the region's high fertility. Yet only a few demographers, notably John Caldwell (Caldwell and Caldwell 1987) in his numerous writings, followed Lorimer's lead; many more chose to focus almost wholly on the forces of modernization. A balanced approach to understanding fertility transition would explore both sides: what hinders as well as what promotes the break from prevailing norms of childbearing.

Forces of tradition

Tradition-related factors important enough to warrant our attention in this setting are kinship, polygyny, and lactation.

Kinship systems. Anthropologists usually describe the kinship systems of Tropical Africa according to the prevailing rules of descent and residence (Murdock 1949). Based on a survey in Congo that I conducted in 1958, the majority of inhabitants, slightly over 60 percent, were found to be patrilineal and virilocal (mostly in the forest regions), over 20 percent matrilineal and virilocal (mostly in the south savanna regions), and only 3 percent uxori-local (in the southeastern corner of Katanga). The remaining fraction was undetermined.

The kinship system can influence procreative behaviors both directly, by creating a culture of high fertility, and indirectly, through effects on marriage. In traditional African societies there has been, and to a lesser degree still is, great pressure on couples to produce as many children as possible in order to enhance the power and ensure the continuity of the lineage. (A notable feature, however, is the absence of sex preference: boys and girls are equally desired.) As a result of children's integration into their father's kin group and because of the strong emotional bonds that exist between mothers and their children, a woman is more firmly tied to her husband's family under the patrilineal than under the matrilineal rule of descent. This has at least three implications for marriage. First, because of the transfer of reproductive rights to the husband's kin in return for a (relatively high) bride price paid to the wife's kin, a greater stability of marriage among patrilineates can be expected (Mitchell 1961; Gluckman 1964). Second, the levirate and similar practices are much more frequent under patrilineal than matrilineal

regimes. A woman by virtue of her marriage may become so thoroughly tied to her husband's kinfolk that even his death will not end the union. She may be required to continue bearing children for her deceased husband with his male relative who inherits her. Third and most important from the point of view of this study, patrilineates as guardians of children will find it more lucrative to invest in polygyny as a means of enhancing their kin's reproductive capacity and therefore their own wealth and public influence. Although kinship pressure on couples may have lessened and some traditional practices such as the levirate have waned, corporate allegiance remains a factor in marriage and childbearing.

Polygyny. As spouses, polygamous women on average are less prolific than monogamous ones. This, however, is largely a result of the selection process whereby childless or less fertile spouses end up in polygamous unions; to a lesser extent, it is also due to the lower frequency of coitus and greater age difference between spouses in such unions. The fertility shortfall at the individual level is largely compensated at the population level through a more complete mobilization of women into marriage and reproduction. Deeply rooted in the social fabric of traditional African society, polygyny remains a significant factor in marital and procreative behavior: in effect it serves to maximize the reproductive capacity of the lineage (Ngondo a Pitshandenge 1982; Goldman and Pebley 1989; Pebley and Mbugua 1989; Pison 1988; Timaeus and Reynar 1998).

Were polygyny no more than a means of achieving male sexual gratification and the economic exploitation of women, and were it not so tightly enmeshed in kinship networks and the culture of a society that is heavily procreation-oriented, it is doubtful whether it would have survived into the present. Yet in Tropical Africa it has survived (Westoff 2003). It withstood the colonial order, the zeal of Christian missionaries, and reform-minded post-colonial regimes (Romaniuk 1988). While there can be no doubt that the countervailing forces of modernization have been undermining the institution, its adaptability to the changing social climate should not be underrated (Hertrich 2006). As recently as 2007, according to the DHS, 21 percent of reproductive-age women in Congo declared themselves to be co-spouses—24 percent in rural areas, 16 percent in urban areas. The ability to afford multiple marriages, however, is shifting from older to younger males, a likely effect of the redistribution of wealth and influence brought about by economic and social change since independence (Ngondo a Pitshandenge 1994). In towns, poverty drives women to become co-wives of more affluent men. Fear of AIDS leads promiscuous men to confine their sexual activities to a small quasi-polygynous circle of women.

Postnatal abstinence and breastfeeding. Extended postnatal sexual abstinence associated with breastfeeding is a longstanding and widespread practice in Tropical Africa (Adegbola, Page, and Lesthaeghe 1977; Caldwell and

Caldwell 1977; Sala-Diakanda et al. 1983; Mhloyi 1988; Lesthaeghe et al. 1989). In Congo this custom is pervasive, though varying in duration and more prevalent in the savanna regions (Bas-Congo and southern Bandundu, former Kwango district) than in the equatorial forest zones. It is largely absent in the mountainous pastoral regions of the east (Kivu).

The current situation is captured by the 2007 DHS (see Table 4). The median birth interval is 30.5 months, moderately short, indeed typical of a regime of *natural* fertility—one without significant use of birth control. Excluding Bas-Congo (34 months) and Kinshasa (35 months), inter-provincial variation is in the range of 29–32 months, another indication of regional homogeneity in reproductive behavior. Clearly, there is significant scope for reduction in birth intervals should lactation and abstinence be substantially reduced without a countervailing spread of birth control.

Postnatal abstinence is losing ground, particularly in cities. On average, women in the 2007 DHS reported resumption of intercourse 8.8 months after the birth of a child. Prolonged breastfeeding, however, continues to hold sway. In the DHS, the median duration of breastfeeding was 21 months for the country as a whole (20 months in the urban population and 16 months

TABLE 4 Total fertility, average parity in age group 40–49, median inter-birth interval, modern and traditional contraceptive prevalence rates, median duration of breastfeeding, and proportion of births delivered in a health center, by urban/rural residence, education, and social class, married women aged 15–49, Congo, 2007

	Total fertility	Average parity, 40–49	Birth interval (months)	Contraceptive prevalence (%)		Duration of breastfeeding (months)	Delivery in health center (%)
				Modern	Traditional		
Residence							
Urban	5.4	6.1	31.0	9.5	17.4	19.9	89.1
Rural	7.0	6.5	30.2	3.3	13.1	21.7	58.1
Education							
None	7.1	6.4	29.6	2.5	9.3	21.6	54.6
Primary	7.1	6.7	30.6	4.4	13.9	21.1	65.6
Secondary	5.2	6.0	31.1	9.6	19.5	20.7	85.7
Post-secondary	2.6	4.0	35.1	13.7	26.3	13.5	98.8
Social class							
Poorest	7.4	6.3	30.4	2.8	11.5	21.8	54.8
Poor	7.0	6.4	30.4	2.6	12.5	22.9	55.2
Middle	6.4	6.4	30.8	3.6	13.0	21.5	68.1
Rich	6.8	7.1	29.5	7.0	15.2	20.7	84.0
Richest	4.2	5.9	31.7	14.9	23.7	17.3	96.9
Total Congo	6.3	6.4	30.5	5.8	14.9	21.0	70.1

SOURCE: 2007 Demographic and Health Survey, Tables 4.2, 4.5, 5.5, 8.5, 11.5.

in Kinshasa). According to the 2001 survey, over 90 percent of women were breastfeeding infants at 12–15 months, and still over half at 20–23 months. Only 4 percent of infants were bottlefed—rather intermittently and at a later stage of nursing. So, lactation-related amenorrhea remains a significant factor in inhibiting fertility.

Forces of modernity

Among the “modernity-related” variables bearing on fertility change are family planning practice, reproductive health, education, and urbanization.

Family planning/contraceptive practice. The 2001 and 2007 surveys offer a wide variety of data on contraceptive practice and related socioeconomic variables for women 15–49 years of age who are in a marital union. They differentiate between modern methods (pills, condoms) and traditional ones (periodic abstinence, withdrawal, vaginal infusion). The difference might be not only in their respective efficacy, but also in users’ access to the more costly modern methods and possibly in their determination to control births (Westoff 2001; Mantempa Nzinunu and Bijimina Luadia 2010).

What is striking but not really surprising, given what we know about Congolese procreative mores, is the low use of modern contraceptives, nationally at just 4 percent (2001) and 6 percent (2007) of women aged 15–49 living in marital union. Even in Kinshasa, with more urban-born and educated people than any other city in Congo, the corresponding percentages are only 11 and 14. The use of modern contraception increases with education—in 2007, from 2.5 percent for women with no education to 14 percent for those with post-secondary education. Half of the contraceptors reported using condoms, possibly as much for prophylactic as for contraceptive purposes. Pill use was 1 percent nationally (2.2 percent in Kinshasa) and use of other modern methods so uncommon as to be negligible.

By contrast, the 2001 and 2007 surveys reported 27 and 15 percent of women nation-wide using traditional methods. This sharp decline without any compensating uptake in modern contraception calls for explanation. The problem may be that statistics on traditional contraceptive methods are difficult to interpret in the African context. There is a risk of confusing the custom of postnatal abstinence with contraceptive practice proper. Moreover, if contraception is essentially being used as a substitute for traditional forms of birth spacing, then there will be little effect on completed fertility (van de Walle and Foster 1990: 39).

No less questionable is the argument made by some demographers that because child spacing through postnatal abstinence is embedded in Africa’s reproductive culture, the family planning calculus of individuals and couples will come naturally to embrace spacing for other reasons—lifestyle, stan-

dard of living, or career considerations. The same logic might suggest that the transfer of spacing-related birth control to the limitation of family size is only a matter of time—an equally dubious assumption (Enyuka Ngamba and Nginamau Ntemo 2010).

In short, family planning is still in its infancy in Congo, as it is in many other parts of Africa. It is far from meeting Ansley Coale's (1973) three requisites: that fertility must be within the calculus of conscious choice, that reduced fertility must be perceived as advantageous, and that effective techniques must be known and available. Of the three paths to limiting births—later start of childbearing, longer birth spacing, and earlier termination—the third is the most crucial. The real breakthrough for Africa's fertility transition will arrive when stopping behavior becomes widely practiced. Contraception for spacing, as just noted, substitutes for abstinence. Delaying childbearing through later marriage or contraception among sexually active young people is not likely to have a significant effect on overall childbearing outcomes. Indeed, a one-, two-, or even three-year delay in marrying and beginning childbearing from the traditional age of 16 or 17 years may actually raise a woman's lifetime fertility potential. The fertility-delaying effect of education may also be muted, given the importance of maternity, and the early proof of it, in African culture. (The median age at first birth even for women with secondary education is low in Congo: 20.6 years, according to the 2007 DHS.)

Reproductive health. No sooner had STIs subsided as a demographic if not as a medical problem than the country was visited by another scourge, HIV/AIDS. According to United Nations estimates for 2000, about 5 percent of Congo's adults aged 15–49 at that time were infected by HIV. (Medical track-down records place HIV prevalence for 2005 at 4.5 percent nationally—Kalambayi Banza 2007: 76.) But the prevalence rate was estimated to be double that percentage among women aged 15–29—six times greater than for men in that age group. There is a marked effect on fertility. A longitudinal study by Ryder and colleagues (2000) in Kinshasa found a general fertility rate of 140 per 1000 for seropositive women compared to 250 per 1000 for seronegative women. Nearly one-half of all deaths in the workforce were AIDS-related. (The 2007 DHS reported a significantly lower HIV prevalence for the country: 1.6 and 0.9 percent respectively for women and men in the 15–49 age bracket. However, many respondents—9 percent in rural areas, 14 percent in all urban areas, and 23 percent in Kinshasa—declined to be tested.)

The relationship between AIDS and fertility it is not as straightforward as in the case of other sexually transmitted infections. The progression from HIV to AIDS is slow and in the meantime the ability to conceive and carry a pregnancy to term need not be affected, although transmission to the child is a serious risk. AIDS tends to lower fertility by eliminating the most sexually active individuals from the pool of procreative women. On the other hand,

a by-product of the alarm about AIDS might be a slower dissemination of other STIs, as people tend to be more selective in choosing their partners or to refrain from unprotected sex. Even though HIV/AIDS in Congo in no way approaches the scale of the pandemic in Southern Africa, the fear it generates affects the whole dynamics of marriage and reproduction (Vallin 1994).

An important factor in maternal health is the assisted delivery of babies by qualified medical professionals. By the end of the colonial regime, this was routine in the cities and becoming widespread in the countryside, along with prenatal and postnatal checkups. These services also provided maternal education in sexual hygiene and childcare. Like other social and health amenities, they suffered a major setback around the time of independence and recovery has been slow. Improvements are, however, taking place. In 2001, according to the MICS2 survey, assistance by qualified personnel at delivery was 61 percent (83 percent in urban areas, 51 percent in rural areas); by 2007, this had risen to 70 percent (89 urban, 58 rural)—DHS estimates; see Table 4. (What are called “qualified personnel,” however, are primarily nurses and trained midwives; there is only a marginal involvement by physicians.)

Education. It is widely agreed that education, especially female education, is a powerful engine of fertility modernization. Education delays family formation and expands non-family roles. The educated are likely to have a better knowledge of contraceptive methods and be more willing and able to use them effectively. Such, in nutshell, is the theory. In Kinshasa, according to Shapiro (1996a: 90), “the single most important factor” in the city’s fertility decline is “the tremendous increase in educational attainment of the female population.” While this is no doubt correct, the educational profile of Congo’s population as a whole falls far short of the level capable of producing such effects on a national scale.

MICS2 data (Lututala et al. 2002) show that only 52 percent of children 6 to 11 years old attend school—72 percent in urban areas, 43 percent in the rural population. In the 6–14 age group, 35 percent of girls and 28 percent of boys had never attended primary school. Moreover, only 25 percent of children who entered primary school actually completed it. Illiteracy remains high, at 19 and 44 percent for men and women over age 15—only a modest advance from the late colonial period. Schools often experience deplorable physical conditions, shortage of teaching equipment, poor attendance, and high dropout rates (Mvudi Matingu 2010; Sekimonyo Wa Magango and Dunia 2010). Where poverty combines with an economy facilitating child labor, school attendance, not unexpectedly, suffers (see Mabika 2010).

In two areas there has been real progress. Sex differentials in schooling have been considerably narrowed, and many more people are attaining secondary and higher education (Boute 1973; Shapiro and Tambashe 1997). As a proportion of the reproductive-age population, however, these numbers are still very small. In the whole country, according to the 2007 DHS, just

2.6 percent of women had post-secondary education; even in Kinshasa, the figure is only 10 percent.

Notwithstanding the slow and uneven progress thus far, in part a product of economic turbulence (Shapiro 2010a), educational attainment can be expected to continue to improve, very likely at a faster pace than in the past, particularly for women and at the higher levels. It may therefore become a major influence on childbearing. The effect may be all the greater when combined with expanded modern-sector employment (Shapiro and Tambashe 1997). It is there that the work/parenting conflict emerges most forcefully.

Urbanization. Along with education, urbanization is undeniably a powerful agent of fertility change but, in the context of Tropical Africa, there is some confusion over what that change actually connotes. A decline is often seen as tantamount to fertility transition in its classical conceptualization. However, as I attempt to demonstrate, this is not an accurate perception in the present case. In assessing fertility, all urban centers are not the same. The smaller regional cities have very different socio-demographic dynamics from the vast metropolises like Kinshasa. The former are embedded in their ethnic and rural surroundings and can derive social and economic benefit from their setting; dwellers in large urban conglomerates lack such support. Size and overcrowding make these large cities logistical nightmares. They need to be treated as *sui generis* in the spectrum of urban profiles.

According to the 2007 DHS, 43 percent of Congo's population lives in urban centers of various sizes, up from 22 percent in 1955/57. Kinshasa, with around 600,000 inhabitants at independence in 1960, reached 2.6 million in 1984 and an estimated 9 million in 2010 (Saint Moulin 2010). Two other cities, Lubumbashi and Mbuji-Mayi, have a population in excess of 2.5 million, and four other cities near 1 million. Unlike in earlier days, most of today's city-dwellers are urban born. As seen above (Table 2), urban fertility has been declining, with a particularly sharp fall over the last two decades recorded for Kinshasa. How is this to be explained?

Taking our cue from the classical theory of demographic transition, we would expect urbanization to strengthen "modern" reproductive attitudes and behaviors. Indeed, while promoting aspirations that are more work- and consumption-oriented, urbanization brings an array of disincentives for having large families. One is through exposure to a lifestyle typical of urban/industrial societies, a lifestyle that promotes alternatives to childbearing. Children's economic contribution to the family is likely to be small in the city, except possibly for very poor households. Kinship support for raising children is more difficult to obtain, and living and housing costs are higher as well.

The urban reality in Congo, as in many other African countries, does not quite fit this description. Few urban women are wage earners in the formal economy. A large proportion of them combine housework and childcare with employment in the informal sector—in petty trade, husbandry, some

field cultivation, and similar activities, not unlike those in a traditional subsistence economy. At least for now, the difficult dilemmas of the “opportunity cost” of childbearing and the role incompatibility of working and parenting are hardly issues in African urban society.

It is true that large cities, especially national capitals, harbor most of the educated and wealthy—the people in the vanguard of social change, including change toward more modern demographic behavior. Ethnicity still matters in interpersonal networks of socialization and in the wheeling and dealing of political patronage, but many of the customs associated with ethnicity tend to disappear. Writing of Kinshasa, Shapiro (2010b: 8) argues that “ethnicity, once the major factor associated with differential fertility, has become largely irrelevant to fertility.” Ancestral memory, which in African societies has traditionally sustained high fertility, wanes as people are increasingly cut off from their ancestral lands. Thus there is now a segment of the urban population prepared to exercise modern forms of birth control. At the same time, as noted earlier, there is also a fertility-raising tendency in the urban population at large through giving up or curtailing postpartum abstinence and reducing the length of breastfeeding. In short, some ingredients for adoption of modern childbearing norms are emerging or are already in place, but they lack the critical level of impact to turn traditional reproductive attitudes into clear-cut modern ones. This so-called *reflexive modernity* falls short of being a sufficient explanation of the observed fertility decline in a big city like Kinshasa.

A complementary interpretation leads us to consider *existential contingencies*, that is, the material and mental realities that big-city dwellers actually experience. One of those contingencies is poverty in the conventional sense, the unfulfilled wants of various kinds that make it difficult for many people to realize their aspiration to have a family. In an event-history study in four African capital cities, Philippe Antoine (2006) makes a strong case along these lines. The enduring economic hardships over the past 30 years, he argues, caused delays in the age of first marriage and exacerbated marital instability. In a study of immigrant versus native-born fertility in Kinshasa, Zamwangana (2005: 84, 85) portrays life conditions in dire terms: “*La gravité de la situation est telle que la ville de Kinshasa fait figure d’une ville économiquement sinistrée.... Accès au soins de santé...est une véritable casse-tête.*” (“The gravity of the situation is such that the city of Kinshasa gives the impression of an economic disaster.... Access to health care...is a real nightmare.”) Life is precarious for most city-dwellers, who have to contend with inadequate housing, joblessness, limited access to clean water, and poor-quality health care. The conditions are particularly traumatic for recent immigrants, and their fertility, not surprisingly, is somewhat lower than that of the city-born. In his monograph on youth in Kinshasa, Kalambayi Banza (2007: 85) records the difficulties young city-dwellers and young migrants, in particular, face: in the later colo-

nial years, “there were times when young men easily found work, and girls a husband, whereas now with the deteriorating economic situation the former do not find work, and the latter do not find husbands.” He cites estimates that 64 percent of women aged 20–24 in Kinshasa were single, compared to 33 percent for the country as a whole. Education is only part of the explanation. The root cause of the malaise he discerns in the big cities in Africa is the disparity between demographic and economic realities. The chasm is so broad that it defies any classical interpretation of urbanization.

Beyond these ramifying effects of economic hardship in the large cities is an array of social problems. The obvious ones involve dysfunctional social behavior: lawlessness bred by poverty combined with the breakdown of social order (Kapagama 2010; Makwala Mamavambu Ye Beda 2010). Many people, young people especially, are caught in a cycle of delinquency, prostitution, and drug addiction. But another kind of social problem is less easily recognized—what may be called *social alienation*. Cut off from their kin and ethno-cultural ties for emotional sustenance, many urbanites have difficulty coping with life on the psychological plane. A city like Kinshasa has all the characteristics of an “ethnic melting pot,” its citizens part of a “lonely crowd”—not in the individualistic sense of David Riesman’s “inner-” as compared to “other-directed” personalities, but in a less edifying sense. Faced with isolation, precarious conditions, and hopelessness, some inhabitants find refuge in various forms of sublimation, whether through religion or through music and dance. Others seek salvation in quasi-religious cults or esoteric associations of the kind that have been mushrooming in the city. As Kanyarwunga (2006) writes in a book subtitled, *Les générations condamnées* (The Condemned Generations): “*Tous ces syncrétismes culture-religieux ou magico-religieux... ces sectes propose non seulement des miracles et des chimères, mais aussi une moralité douteuses extrêmement dangereuse à la longue*” (p. 451). (“All these religious and cultural or magico-religious syncretisms..., all these sects foster not only [belief in] miracles and chimeras but also a morality that is extremely dangerous in the long run.”) And again, in the same vein, he writes: “*...le citadin congolais, plongé dans la bière, la prostitution et la musique s’abrouitit jusqu’à en oublier sa misère quotidienne et son avenir*” (p. 329). (“The Congolese city-dweller numbs his sense of daily misery with beer, prostitution, and music to the point of destroying any hope for the future.”) For his part, Tshingi Kueno Ndombasi (2007: 256) describes the state of mind of many disgruntled youths in Kinshasa: “*Sans travail ni ressources, et avec un moral détruit par désespoir, la misère et la précarité les tuent à petit feu.*” (“Without work or resources, their morale destroyed by hopelessness, misery and uncertainty waste away their life.”)

How these various circumstances of city life—economic hardship, deviant conduct, and escape into obscurantism—are reflected in marital and reproductive behavior is difficult to pin down. Surveys like the DHS do not

provide a social profile of fertility that might enable us to gain some insight into the question. My own belief is that in combination the effects are significantly antinatalist, but at the same time not necessarily supporting an emerging norm of prudential behavior in childbearing. As history has repeatedly shown, the path to fertility transition is not through misery but through prosperity and education. Tshingi Kueno Ndombasi (2007: 208), a close observer of life in Kinshasa, would seem to agree, attributing the breakdown in traditional marriage practices and later age at marriage to “*la scolarité prolongée, le chômage et le paupérisation des salaires*” (“prolonged education, joblessness, and subsistence wages”). Later marriage, often hailed as a first step toward fertility transition, may not in fact be so. Fraudulent marriage engagements, whereby a girl is betrothed to several men, betray the high status marriage has traditionally enjoyed in African society (Meekers 1992). And there are increasing numbers of unwed mothers and fathers at all ages.

The poor and socially excluded tend to practice prolonged postnatal abstinence to a greater extent than better-off couples. Malnutrition, poor hygiene, and disease may diminish reproductive capacity. Neither the 2001 nor the 2007 survey provides statistics on abortion in Congo, but evidence from other African countries indicates that illicit abortion, with often debilitating effects, is prevalent among the poor—not as an act of rational birth regulation but rather through necessity, as an act of desperation. Demographers who have studied fertility decline in environments of poverty and social disorganization in Africa and Latin America have labeled it a “Malthusianism of poverty” (Akam 2010; Fassasi, Vignikin, and Vinard 2010).

In sum, I would suggest we need to draw a clear distinction between *modernity factors* and what might be termed *existential contingencies* in understanding fertility decline in large cities like Kinshasa and to some extent in other urban areas of Africa. My sense of what is happening in these environments is that the contingency-related factors explaining lower birth rates are not negligible, hence our perception of urban populations as being already well advanced in the transition process, while not entirely unfounded, needs to be tempered.

Discussion

This review of Congo’s fertility trends and the factors underlying them lends support to three propositions.

First, Congo’s pre-transition population was far from homogeneous in its reproductive behavior. Geography and culture produced distinctive reproductive regimes. On the former, for example, prolonged postnatal sexual abstinence was found in the tsetse fly regions where animal milk was unavailable, whereas that custom was absent in the mountainous pastoral regions of the east where animal milk was part of the infant diet. A cultural imprint on

childbearing is seen in the varying incidence of sterility among ethnic groups depending on their strictness or laxity in controlling sexual behavior. And historical circumstances also play a role: both the incursions by slave hunters in the east and the early decades of Belgian colonization wrought havoc in the country through widespread social disorganization.

Second, some of the changes begun in the late colonial period tended to *raise* fertility, an argument originally made by Carr-Saunders (1922). Examples include the shortening of the duration of postnatal abstinence and breastfeeding and the reduction in sterility (Romaniuk 1980). These changes have resulted in greater homogeneity of reproductive behavior across the country. Moreover, the potential for Congo's fertility to rise is by no means exhausted: childlessness remains significant in some regions (Leonard 2002); postnatal sexual taboos may further erode; and the spread of bottle-feeding of infants may further reduce lactational amenorrhea (Potter 1975; Bongaarts 1982; Lesthaeghe 1989).

Third, as modernization proceeds and average fertility drops, divergent fertility outcomes re-emerge, this time among social categories of the population. Fertility falls first in the groups in the vanguard of social change, then gradually permeates the other strata of society. Socio-demographic differentiation may therefore be regarded as a harbinger of fertility transition, though telling little about its timing.

Reflection on the Congolese situation and prospect is aided by considering what is happening elsewhere in sub-Saharan Africa. Tabutin and Schoumaker (2004) offer a panoramic view of the region in terms of various demographic and socioeconomic indicators. They distinguish among four emerging demographic configurations:

1. Persistent traditional high fertility with a birth rate of 45–50 per 1000 (some of the poorest countries in West Africa, such as Mali and Niger, and practically all of Central Africa).
2. Classical model of change toward a lower birth rate (Ghana).
3. AIDS-torn countries of East and particularly Southern Africa, with a tendency toward a steady decrease in the birth rate.
4. Countries that have been war-torn in the recent past, apparently demographically stagnant (Liberia, Rwanda, Sierra-Leone, Sudan, and parts of Congo).

In 1992 Caldwell and his colleagues wrote that “we are witnessing a new type of fertility transition” emerging in sub-Saharan Africa, as reflected in the high demand for contraception among sexually active schoolgirls (p. 212). They conjectured that ultimately fertility control would spread to all ages, “both inside and outside marriage,” and concluded that Africa's fertility decline had begun and would spread. This turned out to be true of some parts of the region, but nearly 20 years later much of the rest of Africa remains locked in a pre-transitional phase, still shunning transition (Locoh 1992).

For Congo, as for many other countries, the road to *full* transition is likely to be rocky; ahead lie serious obstacles and challenges.

The past lingers heavily in Congo in the face of impending social changes driven by modernization, giving rise to tensions and contradictions that are reflected in its fertility patterns. How to reconcile the hold of traditional kinship—or, to use Lesthaeghe's (1989) term, "corporate allegiance"—over individual lives with the exigencies of modernity is the dilemma many Africans are facing, particularly city-dwellers. Nowhere is the tension felt more intensely than among educated and relatively well-to-do households. Smith (2004), in his study of fertility transition in Nigeria, gives a vivid account of the contradictory pressures the Igbo peoples experience as they "decide how many children to have." While they continue to value large families, they "find high fertility difficult to manage" (p. 224). He writes that "kinship-based patronage systems remain important, even as African societies 'modernize' by many different measures..." (p. 234). The poverty-stricken, insecure urban masses in Congo may not fare any better. In the urban jungle, where "social cannibalism," to use Trefon's (2004) stark term, is the way of life, where the postcolonial state has largely abdicated its responsibilities to its citizens in the matters of welfare and physical security, the mere survival of the individual and his or her immediate kin, not to speak of even modest entrepreneurial ventures, requires co-operation, support, and trust; these are more readily available among one's kinfolk. All too often the individual is trapped in a vicious circle of causality: too vulnerable and insecure to break free from wider kinship dependency, yet bearing the heavy burden of a large family and kinship subservience along with all the obligations they entail—not the least of which is the clan parasitism they foster.

Can that vicious circle be broken? Much reliance is rightly placed on education as the driver of fertility modernization. But even this gives us pause. There is some disenchantment toward education among parents, even at the primary level. Completion offers no assurance of employment. And for higher education, "*la valeur du diplôme est de plus en plus démystifiée*" ("the value of a diploma is more and more demystified"), writes Lututala (2002)—because so many Congolese with university degrees are jobless. In Kinshasa as the saying goes among students, "*Mon bic est ma pelle*" ("My pen is my shovel").

Nor are the forces of economic growth strong enough to bring about radical change in reproductive behavior. Statistics on employment and poverty for Kinshasa (Institut National de la Statistique 2004) speak volumes about the parlous state of the economy in Congo's largest city. Three out of four people in the labor force are unemployed or underemployed. The informal sector is dominant in both labor and production. Over half the population subsists on \$1 per day. Many parents face a daily challenge simply to feed their children. Aspirations to rise on the social or economic ladder—the

motivation for birth control discerned by Arsène Dumont more than a century ago—have no resonance in this setting.

Congo's forces of modernity are nonetheless at work, and increasingly so: education foremost, all its weaknesses notwithstanding, but also urbanization—socially disruptive though it may be—and exposure to the wider world through mass media and to some extent international migration. Working in the same direction are the fragmentation of lineage-influence in the cities by ethnic intermarriage, the loss of lineage memory, and erosion of ancestral customs. Urban couples increasingly feel the burden of large families and in response are likely to revise their fertility intentions—if not always evidenced by the outcomes (Locoh and Vallin 1998).

Congo's high-fertility culture may be undermined in the countryside as well, by forces such as the pressure of a growing population on land tenure systems (Shapiro and Shapiro 1994; Shapiro 1996b; Kalambaie Binm Mukanya 2010). Notwithstanding the continuing exodus of the young, dynamic segment of the population and the resulting aging of the rural population, this rising pressure may lead to ethnic and clan conflicts for land and minerals. The specter of the Rwandan tragedy, culminating in 1994 in ethnic genocide, though an extreme case with multiple causes beyond land scarcity, is never far from sight (May 1996).

In the end, to be real and lasting, changes in reproductive behavior require a strong economic engine of social and cultural change. Yet, with a per capita GDP in the range of \$200 to \$400 (making allowance for the informal economy), the fundamental ingredients of modernization in Congo are still in short supply (Loka Kongo 2010; Nyembwe Musungaie 2010; Schoenmaeckers 2010; Sumata 2010). Very few enjoy the higher incomes that accompany economic growth and give rise to different lifestyles and commitments, less family-centered and more individualistic. Nor is there realistic hope things may change soon in a socioeconomic environment where population grows at nearly 3 percent per year while the economy remains largely stagnant, human capital formation lags (a problem compounded by a brain drain of high-skill individuals), and pervasive corruption and an oppressive bureaucracy hamper any spirit of entrepreneurship. In a paper presented at a colloquium held to commemorate the fiftieth anniversary of Congo's independence, Kabeya Tshikuku (2010) of the University of Kinshasa traced a bleak picture of the state of economic and social affairs and of their prospects. On the same occasion the economist Bondo Landu (2010), referring to the chasm between the country's prodigious natural wealth and its failing governance, spoke of the "*cercle vicieux de la malédiction des ressources naturelles*" (the "vicious circle of the curse of natural resources").

Last, but not least important, the country's half-century of political instability, pervasive insecurity, and often open violence, referred to earlier, have set back the development effort (Tshimpaka Yanga 2010). These man-made calamities have not only exacted a heavy toll in human lives (Lambert

and Lohlé-Tart 2008), they have also no doubt disrupted ordinary family life—in particular, marriage and procreation. They are likely to have slowed the emergence of modern reproductive behavior. Even today, Congo has not attained a stable environment for development and demographic transition. In these circumstances little can be expected of government extension activities in any sphere. Family planning is no exception: a proposal for a large-scale family planning program in Congo and its neighbors advocated by leading African demographers (Dackam, Mfoulou, and Sala-Diakanda 1990) remained unheeded.

Conclusion

The Democratic Republic of the Congo has not yet met conditions for sustained fertility transition. Considerations that elsewhere lead parents to limit their family size have scant influence on the population at large, given the prevailing inadequacy of developmental conditions. For ordinary citizens, a nuclear family is not an alternative to extended kinship with its deep-rooted sense of solidarity and lineage continuity. Moved by culture and tradition, and no less by economic rationality, they find support for their belief in the benefits of a large progeny for their own and their kin's well-being. At most a minority seek to moderate procreation in the face of the challenges of modernity.

The advent of an eventual fertility transition in Congo, as in the rest of Tropical Africa, is accepted almost as an article of faith, so overwhelming is the worldwide historical experience. But that experience also shows that modern fertility regimes take a variety of configurations in space and time, in pacing, and in the array of forces bringing them about. The future course of fertility in this region is predicated on two kinds of forces. One kind are exogenous: the socioeconomic factors and their attitudinal and behavioral derivatives that are associated with economic development and expanding ties to the modern world. The other kind are endogenous: traditional childbearing and related customs bearing on fertility, and biological factors such as those giving rise to pathological sterility, both primary and secondary, that is still widespread in the region. As those traditional customs continue to fade and as reproductive health improves, fecundity increases and fertility potentially stands to rise—unless countered by greater resort to birth control.

I have argued in this article that the real breakthrough for the fertility transition in Congo as in other parts of Tropical Africa will come not with increased spacing of births or with a later start to reproductive life but with the acceptance of family size limitation. Use of contraception for spacing does little more than compensate for diminishing postnatal abstinence. Delays in marriage and childbearing among girls barely out of puberty may well enhance rather than depress reproductive capacity. Any postponement large enough to lower overall fertility runs against the prevailing culture of maternity and the need for early proof of it.

We should not be too readily persuaded by statistics showing an incipient fertility decline in Congo and many other parts of the region without looking more deeply into what such statistics actually mean. Before we conclude that a modernity-led fertility transition is actually underway, we would have to rule out the effects of physical insecurity and social disruption, particularly in the large cities. Fear of AIDS, hardly a modernizing force, has put marriage and reproduction under considerable strain in Congo as elsewhere across Africa. And advances in women's emancipation and empowerment are hard to reconcile with the statistic from the 2007 DHS that three-quarters of women consider wife beating to be an acceptable privilege of a husband. Birth planning by couples, let alone collective provision of family planning services, is still an elusive proposition, with nearly 80 percent of sexually active women (again in the 2007 survey) not resorting to any method of contraception, even traditional. Strong motivations for birth control are still lacking among women at large, and those relatively few who are motivated find modern contraceptive methods beyond their financial means (Ndomba Kabaeya 2010). And even when fertility decline eventually gets underway, experience in some other countries (Nigeria, for example) points to possibilities of a stalling—for reasons not well understood (Hirschman 1986; Bongaarts 2008; Shapiro et al. 2010).

Finally, in mapping the progress of fertility transition, we should distinguish two sequential phases. The first involves people in the vanguard of social change: typically, the educated and well-to-do segments of the population. The second is reached when family planning practice extends to the lower social strata. The first phase can be observed in many countries in Tropical Africa (Fassasi et al. 2010; Zah 2010), Congo included. The second phase is a different matter. As to when the mass of Congo's population will embrace family planning, and what strategies they may choose to generate a sustained fertility decline, I dare make no prognostications. There are simply too many imponderables in the African context and too many different experiences of fertility transition elsewhere (Ní Bhrolcháin and Dyson 2007). The economic engine of social change, which arguably counts most, is still far too weak to make itself felt. And there is the ongoing and unresolved tension between, on the one hand, the rapidly growing high-tech global village and, on the other, the deeply rooted traditionalism and need for security that make large families the preferred option under prevailing stressful economic and social conditions. We may expect that the former will ultimately come out on top, but know little about the timing and modalities of that outcome. "In Africa today there is no way to escape the modern world, but no easy way to join it either." These words, uttered more than two decades ago (by the economist Jennifer Seymour Whitaker in her remarkable book, *How Can Africa Survive?*), still resonate in Congo today, in the demographic sphere as much as the economic.

Appendix on data sources

Five principal sources of data are used in this study.

1955/57 National Socio-demographic Survey (*L'enquête sociodémographique*)

Carried out during the late colonial years, this survey used a stratified sample of rural villages and urban households, with a sampling fraction of 11 percent—large enough to reflect the ethno-cultural and socioeconomic profile of the country's population down to the lowest administrative unit, the territory (Congo at that time counted 138 territories). Conducted during a period of peace and relative prosperity in the country, the survey received strong support from both colonial and traditional authorities. It could draw on village registration data for back-up and cross-checking—especially on ages of children. (Adult age determination involved more guess-work.) Survey findings along with a lengthy analytical report were published in twelve volumes.

The survey's results were assessed and analyzed as part of the Princeton African Project (Brass et al. 1968), confirming their value as a reliable demographic profile of Congo at the time of the country's transition from colonial rule to independence (see Romaniuk 1968c, 2006).

1975/76 West Zaïre Demographic Study (*Etude démographique de l'ouest du Zaïre—EDOZA*)

A survey covering a sample of 210,000 individuals in Congo's western regions (Bas-Congo, Bandundu, and Kasai Occidental provinces and the Equateur and Tshuapa districts of Equateur province)—but excluding Kinshasa and a few other large western cities. Sampling design was similar to the 1955/57 survey. Although conducted under less favorable conditions, it yielded generally satisfactory results. Age reporting was noticeably improved. (See EDOZA 1978.)

1984 National Population Census

Congo's first conventional population census, conducted in conformity with UN recommendations. Eleven volumes of results have been published. This potentially rich data source has not been appraised for quality and remains little used. (See Institut National de la Statistique 1984.)

2001 Study of Children's and Women's Conditions in the Democratic Republic of the Congo (*Etude sur la situation des enfants et des femmes dans la République Démocratique du Congo*)

This was Round 2 of the Multiple Indicator Cluster Survey (MICS2), an international data-collection effort sponsored by UNICEF. (The first round, MICS1, was conducted in 1995—see Ministère du Plan et Reconstruction Nationale 1996.) The survey (with a nationally representative sample of 7,800 households) covered living and nutritional conditions, education, maternal and child health, contraception, sexual behaviors, HIV, and other topics in addition to the standard demographic items. For the analytical report see Lututala et al. 2002.

2007 Demographic and Health Survey (*Enquête Démographique et de Santé*)

Congo's first and thus far only DHS survey. Sample size 8,886 households. The survey included a (voluntary) HIV test. The Final Report of the survey in standard DHS format was published in 2008 by Congo's Ministère du Plan and Macro International (see République Démocratique du Congo 2007) and is available online at «<http://www.measuredhs.com/pubs/pdf/FR208/FR208.pdf>».

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