

Accelerating Fertility Decline in Sub-Saharan Africa

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Abstract: This paper considers the question, what can governments in sub-Saharan Africa do to accelerate the decline of fertility in the region? It begins with a review and discussion of United Nations projections of fertility for sub-Saharan Africa, and suggests that in light of the stalling of fertility decline that has been observed in some countries of the region, those projections may be optimistic regarding the pace of fertility decline. An overview of the policy environment emphasizes several aspects of government views and policies on fertility and population growth and how they have changed over time, and some differences among sub-regions are noted. The Easterlin framework for fertility analysis serves as the theoretical framework for examination of how existing policies function to influence fertility. The paper concludes by discussing what governments can do to accelerate the decline of fertility.

Keywords: fertility, sub-Saharan Africa, population policies, fertility projections, policies to accelerate fertility decline

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1. Introduction

Sub-Saharan Africa has been the global laggard with respect to fertility decline, and fertility in the region is quite high compared to fertility in Asia and Latin America (United Nations, 2015). Further, fertility transition in sub-Saharan Africa has seen stalling in a number of countries, more so than elsewhere in the third world (Bongaarts, 2006, 2008; Westoff and Cross, 2006; Garenne, 2008; Shapiro and Gebreselassie, 2008, 2010; Shapiro et al., 2013). The pace at which fertility is declining in sub-Saharan Africa appears to be distinctly slower than elsewhere in the developing world (Bongaarts, 2008; Shapiro et al., 2013).

More than four-fifths of the nations of sub-Saharan Africa presently perceive their fertility to be too high, and public policies seeking to lower

fertility are likewise present in more than four-fifths of the countries in the region. This paper considers the question, what can governments in sub-Saharan Africa do to accelerate the decline of fertility in the region?

The paper begins with a brief review and discussion of United Nations (UN) projections of fertility for sub-Saharan Africa. We then look at aspects of government views and policies on fertility and population growth and how they have changed over time, highlighting differences among sub-regions where relevant. Various aspects of population policies presently in effect are surveyed in order to assess the likely overall impact of these policies on fertility behaviour. By population policies we mean policies that are likely to influence fertility, directly or indirectly. These policies may have other objectives as well, such as reducing mortality, poverty, or inequality,

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and other consequences, but they are of interest here because they will likely be important in determining the future course of fertility in Africa.

With respect to a theoretical or conceptual framework, these issues are addressed from the perspective of the Easterlin framework for fertility analysis (Easterlin, 1975; Easterlin and Crimmins, 1985). Our focus, then, is on demand for children, supply of children, and costs of fertility regulation, and the factors that influence each of these variables. Broadly speaking, policies that reduce the demand for numbers of children, those that increase the supply of children, and policies that reduce the costs of fertility regulation should all serve ultimately to reduce fertility. After laying out the key elements of the Easterlin approach, we highlight how existing population policies function within the context of that approach to influence fertility. That discussion allows us to conclude with an assessment of policies likely to be effective in reducing fertility, and recommendations for choosing among various policy options.

2. Fertility Projections

The United Nations Population Division (2015) provides estimates and projections of fertility up to 2100 for individual countries, and for various regions and sub-regions. Projections to 2100 entail

considerable uncertainty, being primarily driven by estimates of future fertility. As noted below, in the recent past these projections have been overly optimistic about the pace of fertility decline in sub-Saharan Africa. Here we focus on the projections up to 2050, but even for this shorter period there is a good deal of uncertainty surrounding these projections.

Figure 1 shows the low, medium, and high variant projections for sub-Saharan Africa for the period 2015-2050. It is clear that the UN projections assume continued declines in fertility on a fairly regular basis: the estimated TFR falls from 4.75 at the beginning of the period to almost 3.2 at the end for the medium variant, and to just over 3.7 and just over 2.7 for the high and low variants, respectively. All variants entail decline; the only question is by how much. The slow pace of decline in fertility in sub-Saharan Africa is reflected in the fact that these UN projections have been adjusted upward compared to an earlier version. That is, for example, in a recent set of projections (United Nations, 2008), the projected TFR for 2050 (medium variant) was almost 2.5, well below the current projected level of 3.2.

Projections of fertility by sub-region are shown in Figure 2. Western and Middle Africa are the high-fertility sub-regions, with fertility decline expected to be slowest in Western Africa. Southern Africa is the low-fertility sub-region, and fertility in Eastern

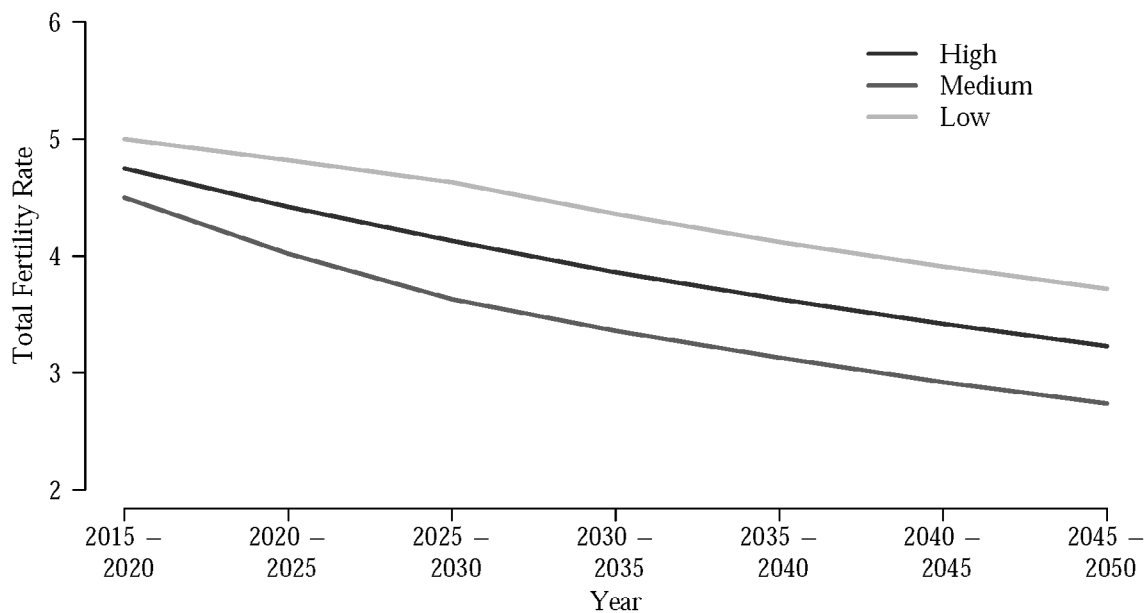


Figure 1 United Nations Fertility Projections for Sub-Saharan Africa, 2010 - 2050, Low, Medium and High Variants

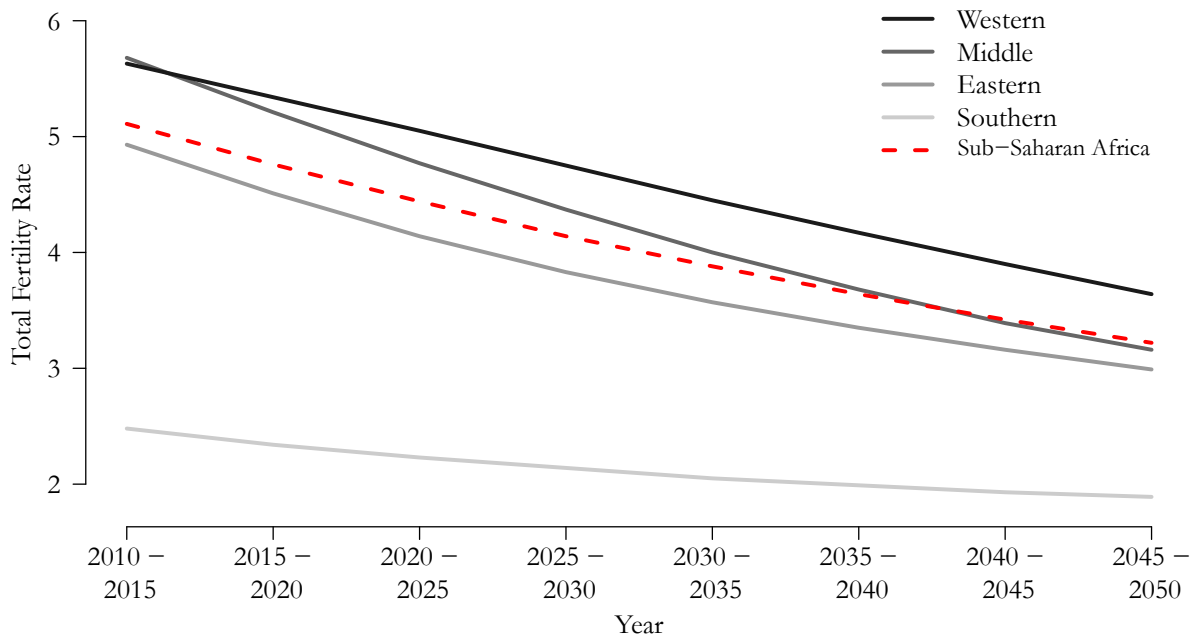


Figure 2 United Nations Fertility Projections for Sub-Saharan Africa, 2010 - 2050, by sub-region

Africa is expected to be slightly below overall fertility in sub-Saharan Africa. While the levels of fertility differ somewhat across sub-regions, the pattern of steady decline is apparent for each sub-region, albeit considerably more slowly for the already low-fertility sub-region, Southern Africa, and, as already noted, for Western and Middle Africa.

At the same time, the stalling of fertility decline in sub-Saharan Africa that was highlighted initially by Bongaarts (2006), and Westoff and Cross (2006), and that has been studied by Bongaarts (2008), Garenne (2008), and Shapiro and Gebreselassie (2008, 2010), among others, is not evident in these projections. While the magnitude and extent of stalling has been called into question (Schoumaker, 2009), our analyses of fertility behaviour in the region strongly suggest (along the lines initially proposed by Bongaarts, 2006, 2008) that future declines in fertility will depend heavily on socioeconomic progress, and in particular on continued increases in women's educational attainment, and continued reductions in infant and child mortality (Shapiro and Gebreselassie, 2008, 2010; Shapiro, 2012; Shapiro and Tenikue, 2015). From this perspective, then, and in the context of stalling in a number of countries in the region, the UN projections calling for continued declines in fertility and differing only in the magnitude of the decline appears to be somewhat optimistic.

3. The Policy Environment: An Overview

The United Nations Population Division's *World Population Policies 2013* (United Nations, 2013) greatly facilitated our assessment of the policy environment. This section provides an overview specific to sub-Saharan Africa and distinguishes the sub-regions as well. The top row of Figure 3 shows a summary of government views on the level of fertility beginning in 1976 and going up through 2011. As of 2011, more than four-fifths of sub-Saharan countries viewed their fertility as too high, only slightly above the figure from 15 years earlier but sharply higher than in the mid-1970s. Conversely, in 1976 almost two-thirds of the countries saw their fertility as satisfactory or too low, whereas by 2011 that fraction had fallen to about one-fifth. Within sub-Saharan Africa as of 2011, the perception that fertility is too high is strongest in Western and then Eastern Africa, weaker in Middle Africa, and weakest in Southern Africa, the low-fertility sub-region. For the full period covered by the graphic, it is apparent that concerns about fertility being too high have been weakest in Middle Africa.

Government policies on the level of fertility are summarized in the middle row of Figure 3. More than 80 percent of sub-Saharan countries presently have policies in place designed to lower fertility, up

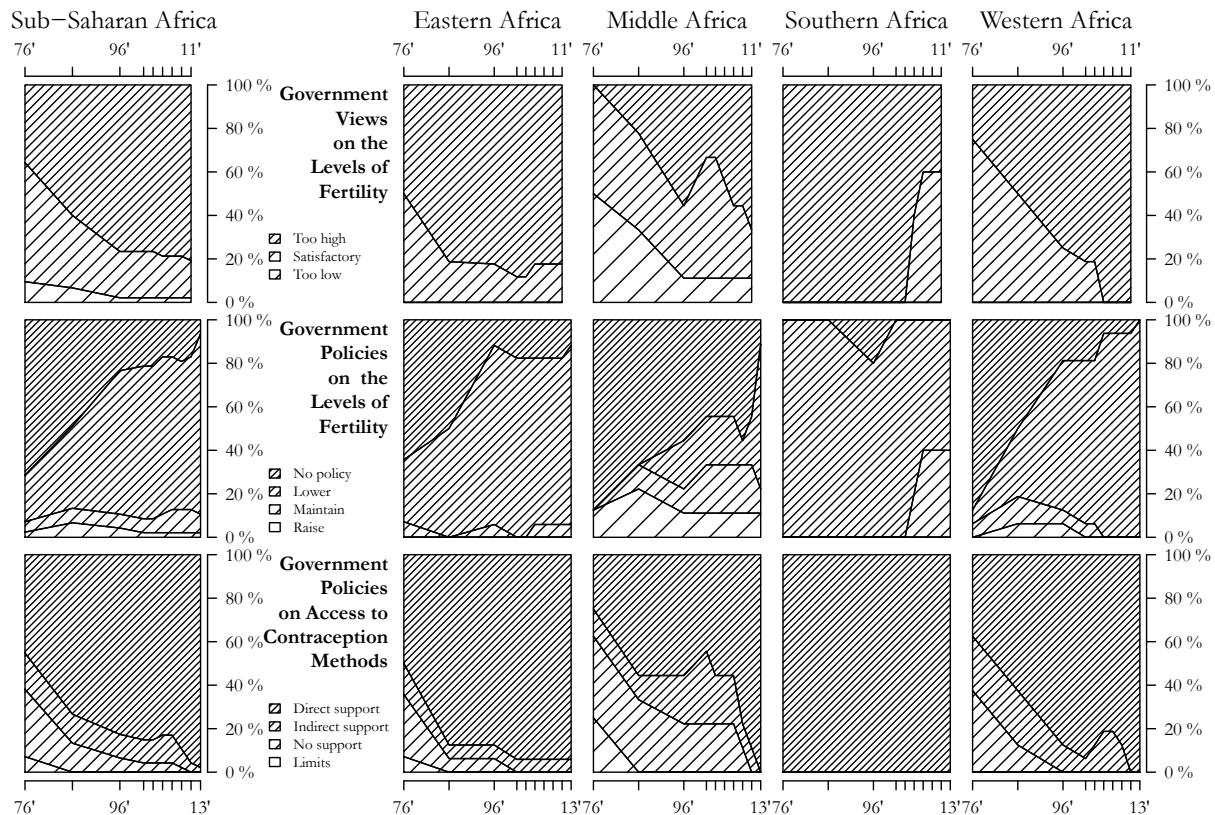


Figure 3 Government views (top row) and policies (middle row) on levels of fertility, and policies on providing access to contraception (bottom row) for Sub-Saharan Africa (left) and sub-regions (right), 1976-2011/2013 (Data source: United Nations Population Policies 2013)

substantially from only about a fifth of the countries in 1976. Correspondingly, whereas more than 70 percent of the countries had no intervention to influence fertility in the 1970s, only six percent of the countries do not seek to influence fertility at present. All countries in Western Africa and more than 80 percent of the countries in Eastern Africa seek to lower fertility, compared to only 60 percent for Southern Africa and 67 percent (a very recent increase as of 2013) for Middle Africa.

Measures to reduce fertility include a wide range of activities, including integration of family planning and safe motherhood programmes into primary health care systems, providing access to reproductive health services, promoting the responsibility of men in sexual and reproductive health, raising the minimum legal age at marriage, improving female education and employment opportunities, discouraging son preference, providing low-cost, safe, and effective contraception, and addressing adolescent fertility (United Nations, 2008 - Introduction).

The bottom row of Figure 3 documents that government policies on providing access to

contraceptive methods have moved increasingly in the direction of providing direct support: nearly all of the countries do so at present, compared to fewer than half of the countries in 1976. And while in the 1970s nearly 40 percent of the countries either had limits on contraceptive methods or provided no support in access to contraceptives, at present these categories are empty.

Direct support for access to modern contraceptive methods frequently consists of provision of family planning services through government-run facilities (hospitals, clinics, health posts and centers), and through government fieldworkers. In addition, there is very widespread support for contraceptive provision, either directly (the bulk of the cases) or indirectly by supporting nongovernmental activities (United Nations, 2008 - Introduction).

Information regarding concern by governments about adolescent fertility has been available only since 1996. The data at the top of Figure 4 show that 87 percent of sub-Saharan African countries identify adolescent fertility as a major concern, and concern has been rising. Concern about adolescent fertility is high in all sub-regions. The bottom row shows that all of these African

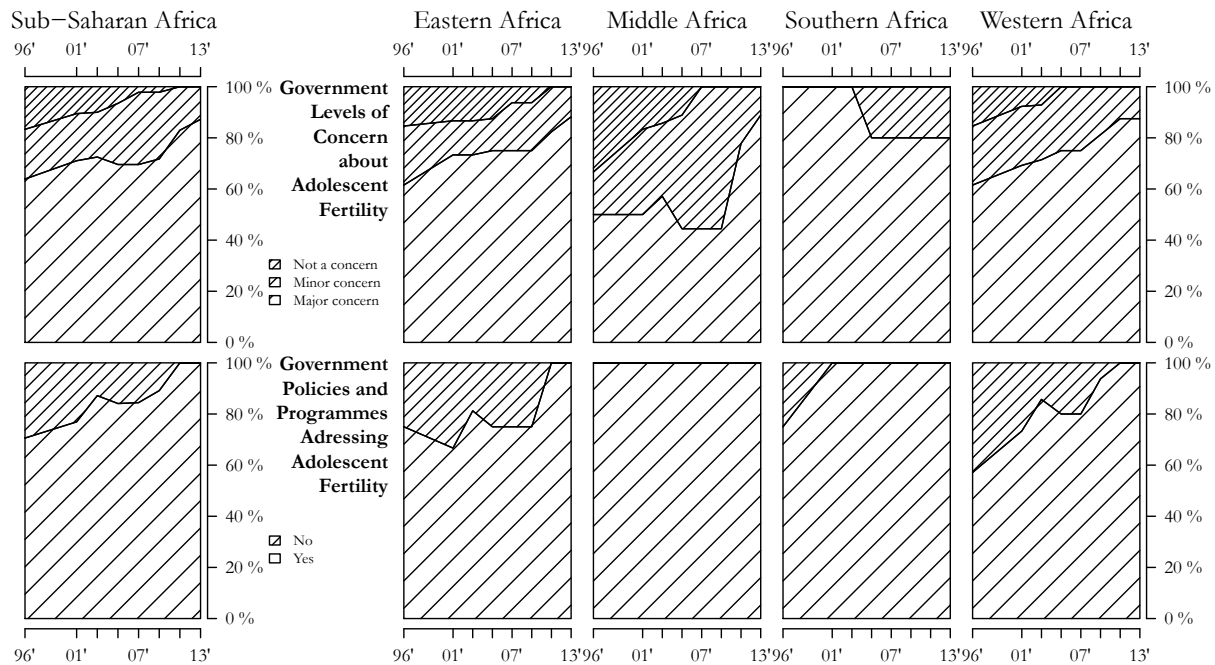


Figure 4 Government levels of concern (top row) and policies and programmes (bottom row) addressing adolescent fertility for Sub Saharan Africa (left) and sub-regions (right), 1996-2013, (Data source: United Nations Population Policies 2013)

nations have policies and programmes addressing adolescent fertility, a substantial increase since 1996.

Addressing adolescent fertility and its increased risk of maternal death or physical impairment, and higher levels of morbidity and mortality of children, is accomplished through several types of actions. These include providing assistance to public facilities and NGOs in order to provide in-school and out-of-school youth with reproductive health and sex education, promoting peer counselling and orientation for parents, providing population education in non-formal educational settings, and strengthening vocational training institutes or youth clubs (United Nations, 2008 - Introduction).

Governmental views on the rate of population growth, shown in the top panels of Figure 5, indicate that two-thirds of the countries in sub-Saharan Africa see their population growth as too high. This is down a bit over the period from 1996 to 2005, but twice the level that prevailed in 1976. There is considerable regional variation on this issue. More than 80 percent of the countries of Western and Eastern Africa perceive population growth to be too high, roughly 3½ and two times greater, respectively, than was the case in 1976. Only a third of the countries from Middle Africa see population growth as too high and none of the Southern African nations share this view. The result

for Southern Africa is a complete reversal from earlier years, presumably reflecting higher mortality due to HIV/AIDS.¹

The bottom panels of Figure 5 show information on policies to influence the rate of population growth. Nearly 90 percent of the countries have policies to influence the rate of population growth and in more than four-fifths of these countries the policies seek to lower growth. By contrast, in 1976 almost two-thirds of the countries had no policies to influence the rate of population growth. Countries in Western and Eastern Africa are most likely to seek to lower population growth, while those in Middle and Southern Africa are least likely to do so.

¹ In the 1970s mortality in Southern Africa was distinctly lower than that elsewhere in sub-Saharan Africa (United Nations, 2015). For example, in the late 1970s the crude death rate was 12 in Southern Africa and 20 in Western Africa, while life expectancy at birth (both sexes combined) was 55 in Southern Africa and 45 in Western Africa. The differences persisted until the early 1990s with mortality declining in both sub-regions, but since then, while mortality in Western Africa has continued to decline, mortality in Southern Africa has increased sharply. Between the early 1990s and 2010-15, the crude death rate in Western Africa declined from 17 to 12, while the corresponding rate in Southern Africa increased by more than 50 percent, from 8 to 13; life expectancy at birth in Western Africa increased from 48 to 54 while in Southern Africa life expectancy declined from 62 to 56.5.

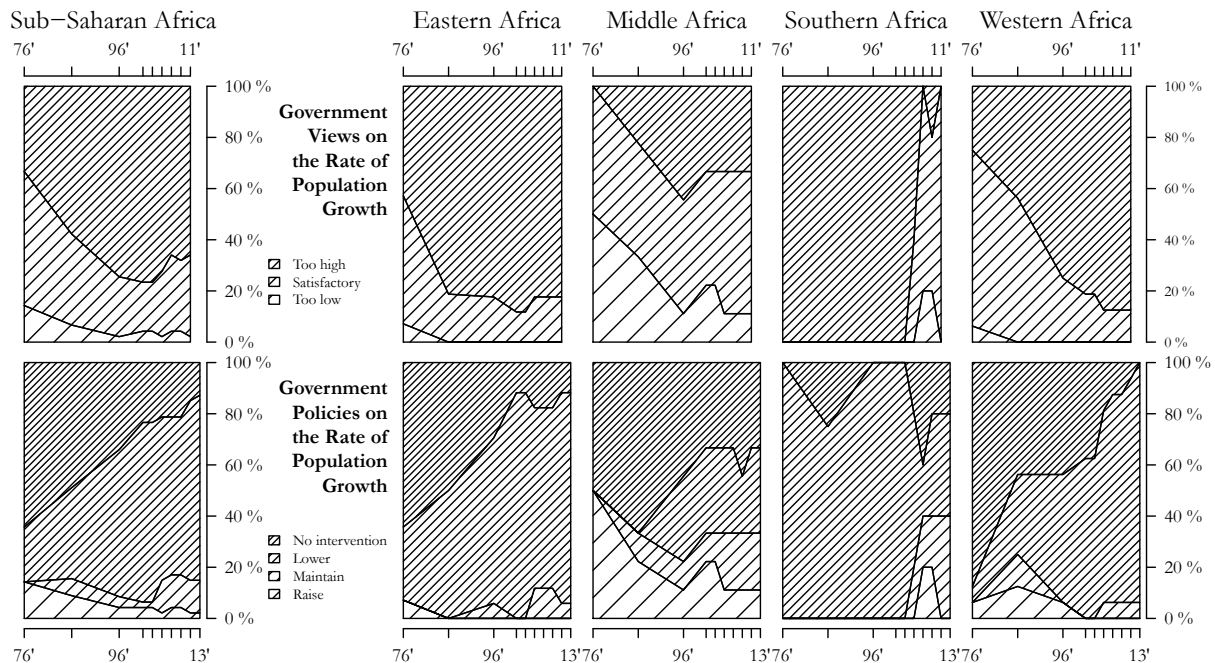


Figure 5 Government views (top row) and policies (bottom row) on the rate of population growth for Sub-Saharan Africa (left) and sub-regions (right), 1996-2013 (Data source: United Nations Population Policies 2013)

In sum, then, it is clear that the prevailing (albeit not universal) view among governments in sub-Saharan Africa is that fertility is too high, and most countries have policies to lower fertility. Direct support for contraceptive access is almost universal, and adolescent fertility is a major concern, accompanied by policies and programmes that address adolescent fertility. Two-thirds of the countries see population growth as too high and have policies to lower population growth. Concerns about high fertility and policies aimed at reducing fertility and population growth are considerably more prevalent than they were when these surveys began in 1976.

While the general tendencies are clear, there are some consistent differences among the different sub-regions. Most notable in this regard are Middle Africa and Southern Africa. Middle Africa stands out as the sub-region that has, for the most part, been slowest to adopt the views that fertility and population growth are too high and to implement policies and programmes designed to reduce fertility.² Southern Africa, with the

lowest fertility among the sub-regions of sub-Saharan Africa, is a more complex situation: initially in the vanguard with respect to promoting lower fertility, the sub-region has reversed course in the face of rising mortality from HIV/AIDS and is now least likely to see fertility or population growth as too high.

Before leaving this overview of the policy environment, we take note of the Millennium Development Goals, which countries around the globe agreed to pursue and attempt to realize by 2015. These eight goals include several which are effectively population policies. In particular, reducing child mortality, increasing maternal health, achieving universal primary education, promoting gender equality and empowerment of women, and elements of the goals of developing a global partnership for development (develop decent and productive work for youth, provide access to affordable essential drugs) are all likely to have significant impacts on fertility.

4. Conceptual Framework

As noted at the outset, the Easterlin framework for fertility analysis (Easterlin, 1975; Easterlin and Crimmins, 1985) underlies our conceptual approach to thinking about fertility and fertility decline. The framework that Easterlin laid out initially 40 years ago

² One possible reason for the strong pronatalism of countries in Middle Africa may be the history of the sub-region, which was characterized by high levels of sterility around the middle of the last century. For more on the central African infertility belt, see Retel-Laurentin (1974) and Romaniuk (1961). This resulted in a lower TFR around 1950 in Middle Africa as compared to the other sub-regions, where the TFR was roughly 0.3 to 1.0 higher than in Middle Africa (United Nations 2015).

was an ambitious one, both because it was designed to integrate approaches to the study of fertility from different disciplines and because it sought to be sufficiently flexible to be relevant not only for analysis of fertility transition in developing countries, but also relevant to contemporary industrial societies as well as societies that have not yet undergone fertility transition.

In brief, the Easterlin model emphasizes three broad categories through which the “basic determinants” of fertility operate and that influence the proximate determinants of fertility. These three categories are the demand for children (the number of surviving children that parents would want if fertility regulation were costless), the supply of children (the number of surviving children that parents would have if they did not deliberately limit fertility), and the costs (subjective and objective) of fertility regulation (Easterlin and Crimmins, 1985, pp. 14-18).

The basic determinants of fertility, sometimes referred to as background factors that influence fertility, include underlying socioeconomic conditions, or what Easterlin and Crimmins describe as “modernization variables” such as education, urbanization, and modern-sector employment, as well as cultural factors such as ethnicity and religion, and other determinants such as genetic factors (Easterlin and Crimmins, 1985, p. 13). These basic determinants influence fertility through their impact on the demand for children, the supply of children and/or the costs of fertility regulation.

In the context of the Easterlin approach, then, policies that reduce the demand for numbers of children will serve to encourage reductions in fertility. As pointed out and analyzed long ago by Becker and Lewis (1973), there is a trade-off between the numbers of children that a family has and the resource endowments per child – what economists refer to as the quality-quantity trade-off. In effect, then, in order to encourage demand for low numbers of children, it is desirable to create an environment in which parents have incentives to invest more in the “quality” of each of their children – i.e. to invest more resources in the education and health of each of their children and thereby limit the number of children.

Policies that increase the supply of children will essentially be policies that seek to reduce mortality, and especially infant and child mortality. Such policies will increase the number of births that survive to adulthood and hence increase the likelihood that the supply of children will exceed the demand for

children. Only when supply exceeds demand is there a motivation for parents to reduce their fertility, so increasing supply ultimately contributes to reduced fertility.

Policies that reduce the costs of fertility regulation, including the direct and opportunity costs of acquiring information and contraceptives (objective costs) as well as the psychic or subjective costs, will encourage couples with a motivation to reduce fertility actually to practise contraception. Consequently, reducing the costs of fertility regulation should lead to lower fertility.

While the Easterlin approach has been used by many scholars to study fertility in developing countries (see, for example, Bulatao and Lee, 1983, for a National Academy of Sciences study on the determinants of fertility in developing countries), it has also been subject to some criticism. The approach treats fertility behaviour as the outcome of calculations by couples of the costs and benefits of having children. However, as noted by Price and Hawkins (2002, p. 1326), the Easterlin approach abstracts decision-making about fertility from the sociocultural and political context in which fertility decisions are made, and does not take into account “the influences of social institutions and social relations that structure that context”. In sub-Saharan Africa, for example, the prominent role played by the extended family suggests that a model focused on the individual couple may well be incomplete. Despite these limitations, however, the Easterlin framework remains quite useful for analyzing fertility behaviour.

5. Policies in the Context of the Easterlin Approach

Here we consider various population policies and how they would be expected to influence fertility in the Easterlin framework. We begin with policies in support of family planning and enhanced access to contraceptive methods. Subsidization of the costs of contraceptives keeps the direct money costs low, while the availability of numerous outlets that provide modern contraceptives helps lower the time costs of obtaining contraceptive products. Publicity campaigns promoting family planning may serve to lower the psychic costs of contraception, and efforts to promote a more client-friendly service orientation on the part of service providers can also lower the psychic costs. Integration of family planning services with

maternal and child health care effectively reduces the costs of fertility regulation.

Cleland et al. (2006, p. 1810) have argued that “[t]he keys to effective and sustainable family-planning programmes are well established: high-level political commitment; a broad coalition of support from elite groups; adequate funding; legitimisation of the idea of smaller families and modern contraceptives through mass media, etc; and making a range of methods available through medical facilities, social marketing, and outreach services”. These different policies, then, all contribute to lower costs of regulating fertility and/or greater benefit from devoting time and money resources to regulating fertility. Given an underlying motivation for fertility control, these policies will correspondingly be important in reducing fertility.

A second major component of population policies is made up of policies seeking to enhance maternal and child health. Such policies, including vaccination programmes, safe motherhood programmes and educational programmes, serve to reduce infant and child mortality. As noted above, within the Easterlin framework, lower infant and child mortality translates as increased supply of children and hence, given the demand for children, greater motivation for fertility control. Further, given that perceptions of mortality decline are likely to lag behind actual improvements in mortality (Montgomery, 2000), publicizing successful results of programmes seeking to reduce infant and child mortality will facilitate parents’ recognition of the reduction in mortality. Given the demand for numbers of children, increased supply and perception of reduced mortality will increase the motivation for fertility control.

With respect to the demand for numbers of children (as distinct from the demand for numbers of births), within the Easterlin framework policies that influence the incentives to have children and the incentives to invest in the human capital of those children will be especially relevant. For example, given the strong inverse relationship between education and fertility, policies promoting increased access to schooling, particularly for girls, are likely to be important in contributing to fertility decline in the region (Shapiro and Gebreselassie, 2008, 2010; Shapiro, 2012; Shapiro and Tenikue, 2015). Indeed, Shapiro (2012) and Shapiro and Tenikue (2015) have shown that not only does fertility decline as educational attainment increases, but also fertility differentials tend to widen as education increases through the secondary level and beyond. This suggests that increased educational

attainment at the secondary level and above may hasten the speed of fertility decline in the region.

Greater schooling of women may provide access to modern-sector employment that effectively raises the cost of childbearing and thereby reduces the number of children demanded. In addition, better-educated women typically have higher educational aspirations for their children than their lesser-educated counterparts, and in the face of quality-quantity tradeoffs, better-educated women will be encouraged to have fewer children (see, for example, Shapiro and Tambashe, 2003, chap. 8). Bongaarts (2010) has examined the causes of educational differences in fertility in sub-Saharan Africa; his analysis emphasized educational differences in desired family size as well as in demand for, and use and effectiveness of, contraception.

Policies that seek to establish and maintain a labour market that rewards individuals with higher levels of education, females as well as males, would be expected to contribute substantially to reduced fertility. Such an economic environment would encourage parents to have fewer children while investing more heavily in the human capital of each child, given the prospective return on that investment. In addition, the incentive provided to girls to remain in school and thereby delay the onset of childbearing will contribute directly to lower fertility.

6. What Can Governments Do to Accelerate the Decline of Fertility?

Based on the discussion above, the most effective policy menu for governments seeking to lower fertility would be a three-pronged approach that seeks to reduce the demand for numbers of children, increase the supply of children and lower the costs of fertility regulation. The preceding section identifies some specific direct population policies in support of family planning provision and easier/cheaper access to contraceptives, as well as policies seeking to improve maternal and child health.

With respect to access to contraception, however, it should be noted that funding for family planning activities since the mid-1990s has been comparatively stagnant or worse. It appears that donor funding, in particular, has shifted away from family planning in favor of fighting HIV/AIDS (see, for example, Advance

Africa, 2002; Itano, 2003; Cleland et al., 2006; UNFPA, 2006; and Population Action International, 2008).

A 2012 family planning summit in London sought to bring together family planning stakeholders and reinvigorate family planning “to put increased access to contraception for women in the developing world emphatically back on the global health and development agenda” (Cohen, 2012, p. 20). If the reductions in fertility that have already taken place are to persist, it is necessary to maintain and improve access to family planning services; this requires the kind of increased funding that was promised at the London summit.

Health policies, and especially those that reduce infant and child mortality, are foremost in increasing the supply of children. With respect to the demand for numbers of children, we have earlier mentioned policies to promote greater educational attainment and efforts at economic development that yield a labour market that rewards high levels of education. With regard to the latter aspect, efforts at rural development have especially high potential, since fertility in rural areas is consistently sharply higher than in urban places.

While a comprehensive, three-pronged policy agenda is most desirable, the reality is that resources destined to reduce fertility are scarce, hence governments unable to do everything must prioritize in their efforts to accelerate fertility reduction. The basic conceptual principle that is most relevant here is one that beginning students in economics learn: namely, to pursue the activities that yield the biggest “bang for a buck” – i.e. in this case, activities that are most cost-effective in contributing to fertility decline.

Precisely what these activities are will presumably vary from one country to another, depending on the specific contexts. For example, in a setting where there are substantial numbers of women who wish to limit their fertility and/or space their childbearing more widely, investments in family planning and contraceptive delivery – lowering the costs of fertility regulation – are likely to pay off handsomely. However, in a setting with very low levels of female educational attainment and very weak demand for fertility regulation, putting resources into family planning is unlikely to be very effective in reducing fertility, and more substantial investments in schooling of girls may be a considerably more cost-effective strategy.

Finally, synergies with other policies that may not be oriented primarily toward promoting fertility decline but are nonetheless likely to contribute to

such decline should be recognized and exploited. In this regard, the fertility-reducing potential for policies such as pursuing the Millennium Development Goals or Poverty Reduction Strategies should be taken into account and given weight in choosing where to allocate resources.

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