

Human Development, Family Planning, and Youth: Contributions to Future Population Growth in sub-Saharan Africa

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BACKGROUND

Over the last two decades, sub-Saharan Africa made progress in women's reproductive health and socioeconomic wellbeing, two areas of interest to Hewlett's Population Program (HPP): The average number of births per woman fell from an estimated 6.3 in 1990 to 5.1 in 2007, while female-to-male ratios in secondary enrollment increased from 0.75 to 0.80 (World Bank 2009). Much work remains however, as few African countries are on track to reach Millennium Development targets or replacement fertility in the near future. For several countries in fact, progress in these and other key demographic trends has stalled or reversed¹. Insofar as trends in reproductive health and wellbeing are intertwined, there is great potential for policy synergy. The challenge, therefore, is to design programs that support both goals, raising the question: "*which policies can be reliably advocated as having large impacts on the reproductive health and wellbeing of African populations?*"

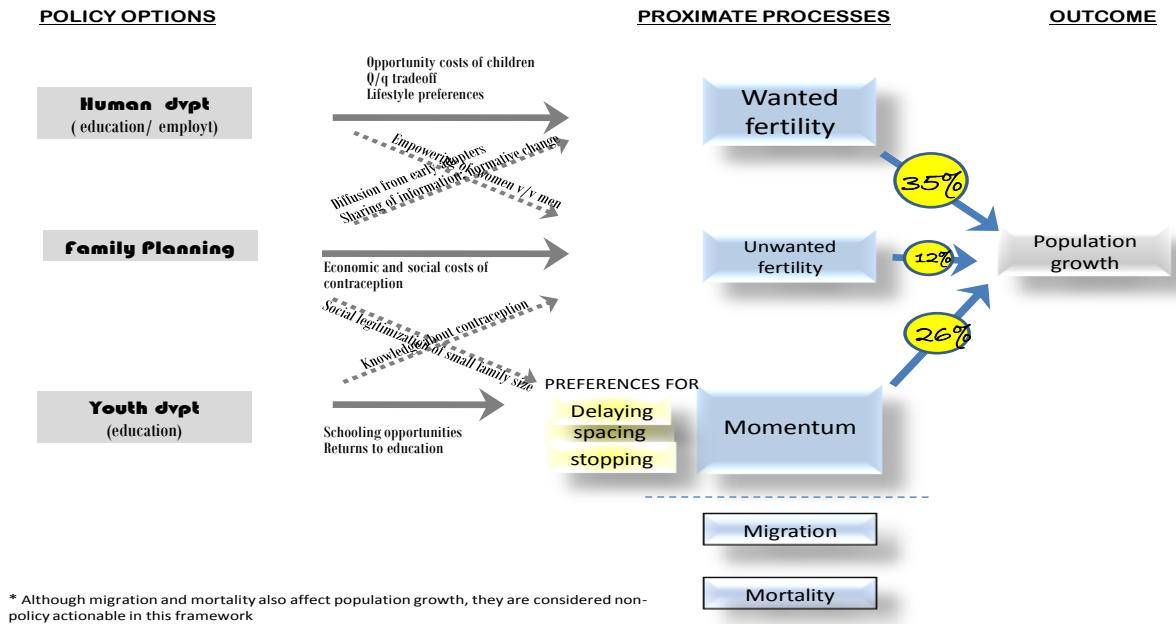
To answer this question, the HPP asked four research teams to review the current evidence on the causes of fertility transitions in sub-Saharan Africa, notably the *main policy options* (Bongaarts), the impact of *women's work* (Cleland et. al.), *family planning programs* (Philips et al.), and *fertility desires among youth* (Casterline). Their insights are summarized below, and they are used to discuss possible implications for the HPP.

OVERVIEW

The lead paper, by Bongaarts, sets the **broad conceptual framework** under which to understand the more remote influences studied by the other papers. In this framework, population growth reflects trends in five proximate components (wanted fertility, unwanted fertility, momentum, mortality, and migration) only the first three of which are deemed policy-actionable (Figure 1). In the simplest framework, each proximate outcome is linked to a single root cause --wanted fertility is thus tied to human development; unwanted fertility is tied to family planning; and momentum is tied to youth programs. More elaborate frameworks such as shown in Figure 1 avoid this "single cause" fallacy, and they consider cross-relationships where family planning might affect demand (Philips et al.) or women's work might affect unwanted fertility (Cleland et al.) (Figure 1).

Beyond setting the framework, Bongaarts's unique contribution is to **quantify the macro-level contributions** of proximate outcomes. Looking at population growth until 2050 and focusing on actionable processes, high wanted fertility is expected to have the largest impact on future population growth (35%), followed by momentum (26%), and unwanted fertility (12%). The reliability of these estimates depends of course on assumptions behind population projections. Yet such macro-level accounting can usefully guide policy choices, especially when it is done on a country-by-country basis.

Figure 1. A framework for the influences of human development, family planning and youth programs on population growth



Similar quantification is unfortunately harder for the more remote influences of policy, because it requires rigorous estimation of all the links in Figure 1, as well as aggregation of these micro-level estimates into national outcomes. Short of such comprehensive quantification, the papers enable a **partial assessment** in which policy options are evaluated on three criteria. The first is plausibility: is a policy option widely recognized in demographic theory, and its intervening mechanisms clearly spelled out? Second is micro-level evidence: do studies using rigorous designs and methods show the policy to affect individual fertility demand, unwanted fertility, or some other proximate determinant of population growth. Third is contextual variation:ⁱⁱ does research clearly show how the policy’s effects vary across settings and socioeconomic groups. Understanding variation across settings helps tailor policies to places, while understanding variation across groups clarifies whether the policy might worsen inequality. For policy-makers interested in the welfare implications of population change, equity issues deserve more research attention since uneven fertility transitions could exacerbate socioeconomic inequality. Based on these criteria, the following paragraphs summarize our assessment of these policy options.

RATING THE VARIOUS POLICY OPTIONS

Women’s employment. (1) The theory here is compelling: Women holding good jobs or good employment prospects face higher opportunity costs for childbearing. Those working outside of the home are further exposed to new ideas that can shape preferences, including their propensity to trade high

fertility for child schooling. Furthermore, they are in a better position to meet the economic and social costs of contraception, and to overcome resistance by husbands (Fig 1).

(2) Empirical research on this link slowed in the 1990s, and still faces the difficult task of defining consistent and comparable employment categories. It must also generate convincing evidence of causation, since previous studies have used cross-sectional designs and methods that preclude strong causal inference. These studies could not rule out the possibility that employment-fertility associations simply reflect pre-existing differences between employed and non employed women, or the reverse influence of women's fertility on employment. Many existing surveys contain detailed information on either fertility or employment but not both. Nonetheless, Cleland et al. use data from African DHS to examine how fertility trends depend on pre-existing employment opportunities. Their early results (to be confirmed) suggest that *“regions with better employment opportunities for women in the modern sector experienced larger increases in the use of contraception and in delaying first births during the following decade.”*

(3) Plausible but largely untested arguments suggest that the “women's work-fertility” relationship is stronger in advanced economies where families are nuclear and employment formal. In light of the growing importance and complexity of Africa's informal economy, this area of research deserves more attention. Of potential interest --but not discussed in the paper or at the meetings-- is the possibility of assortative marriage on the basis of employment, and how it might worsen inequality.

Family planning. (1) Family planning can in theory have two complementary influences: it reduces unwanted fertility and it could also affect fertility desires. The reductions in unwanted fertility occur because family planning lowers the economic and social costs of contraception (Figure 1). Potential effects on wanted fertility are tied to the influence of early adopters and to the influence of these programs in facilitating the sharing of information, including groups that may be traditionally opposed to family planning.

(2) Results from the Navrongo study, a quasi-experiment fielded in Northern Ghana since 1994, suggest that *“family planning has been effective in meeting demand but that alone is not enough to induce sustained transitions.”* Although the clustering of study communities violates an important requirement of experimental design, the evidence from this study is reasonably compelling. One important research area where the Navrongo experiment can shed unique light is in understanding long-term effects in rural African settings once the initial demand has been met. This experiment can also add evidence on the specific effects among youth, specifically in averting early unwanted pregnancies and in forming fertility preferences.

(3) The study advances our understanding of contextual variation, suggesting that family planning programs are likely to be most successful and widespread where the introduction of diverse and convenient services is made in a culturally sensitive manner. Generalized access to family planning can have an equalizing influence. By extending services to poor and rural families, these programs might reduce reproductive inequality and, ultimately, socioeconomic inequality.

Fertility demand. (1) Demand is at the center of much fertility theory but its measurement, formation, and stability remain important research topics. One implication of Casterline's paper is to go beyond the total number of children wanted. Instead, research must distinguish between demands for delaying onset, spacing, and stopping fertility (Figure 1), the first and third of which have the largest impact on Africa's population growth.

(2) Casterline challenges previous assumptions about the short-term planning horizon of African families, and finds evidence of conscious desires to limit family size. This limit remains high however, especially in Middle and West Africa. Current cohorts of adolescents appear to be rapidly deviating from older women in their demand for delaying or stopping fertility. From a research perspective, it is useful to focus attention on the changing desires among youth. This research would benefit from combining insights from economists (in studying new incentives) and sociologists (in examining emerging norms, the effects of peers, and the diffusion of preferences). It would also benefit from combining quantitative data and qualitative interviews.

(3) If the emerging decline in demand is confined to urban areas, it has the potential to exacerbate socioeconomic inequality. Conversely, existing socioeconomic inequality could reinforce differences in fertility demand: insofar as fertility demand is driven by economic incentives, the current inequities in schooling and employment opportunities become important considerations. The context of stiff job competition and rising schooling costs may encourage urban middle class families to depend educational investment in few children, but lower-income families might continue to spread risks among multiple children.

TAKE HOME MESSAGE

One main conclusion from the papers, and subsequent discussions, about the determinants of Africa's population growth is that **the proximate picture is clear, but the distal/policy picture more nebulous.**

Proximately, future population growth in the region will arise predominantly from declines in wanted fertility, even as momentum and unwanted fertility also play a role. Less proximately, although women's employment, family planning programs, and youth programs are all plausible policy options, their impacts --notably those of employment and cross effects of family planning on fertility demand-- still require rigorous estimation based on strong designs and statistical methods.

Because "wanted fertility" is projected to have the largest impact on the future growth of sub-Saharan Africa's population, its determinants should be a primary focus for research: How much do improved employment prospects lead the current generation of women to desire smaller families? Is there, as Casterline suspects, a rapidly growing demand for smaller families among the younger generation of women? If so, why? Can family planning, in addition to meeting existing demand, contribute to solidify the latent demand for smaller families?

Because the Foundation's interest in fertility decline is predicated on its welfare implications, it is not enough to monitor the overall fertility declines, but also whether these declines occur evenly among

groups. Research must clarify how various policy options affect different segments of national populations, as this will impact trends in reproductive and socioeconomic inequality.

PROGRAM IMPLICATIONS

Together, the insights from the four papers suggest priority areas for research, whether priority is defined along thematic, methodological, geographic or sociological lines. **Thematically**, the papers (especially Bongaarts and Casterline) warrant renewed attention to the study of fertility demand, the conditions of its emergence and its translation into lower fertility. Relevant conditions include both purposive programs (e.g., family planning and direct investments in education) and unplanned social changes. Many African countries are undergoing rapid and sometimes unexpected changes (whether in education, marriage, employment, child mortality, or adult mortality) that might shape fertility demand. Monitoring the extent and patterns of these transformations can yield important clues to future population growth and its welfare implications.

Methodologically, detailed longitudinal or experimental data are needed to obtain rigorous estimates of the micro-level effects of programs. Where panel data are lacking, researchers can creatively use repeated cross-sectional surveys, such as those compiled by the Demographic and Health Surveys (DHS). Although these data might not support causal conclusions, they are well suited to documenting some of the demographic changes underway in Africa and the environments under which they occur. Importantly, they can support decomposition analyses that show how historical changes in fertility reflect say, changes in women's employment levels versus changes in fertility within various employment categories. Discussions highlighted the need for qualitative investigations to refine our understanding of (1) the local meaning of key concepts and categories, (2) the normative environment under which fertility choices are being made, and (3) the broader sociopolitical and experiential context under which programs are being implemented.

Geographically, the current research efforts can be clustered strategically to exploit the current diversity in Africa's fertility transitions. Rather than mere geographic proximity (Eastern versus West Africa for instance), countries can be grouped or compared more systematically, based on transition stage or type. In that light, Bongaarts' work can help contrast policy influences in countries with inordinately high levels of unwanted fertility (e.g., Uganda, Kenya, Ethiopia, Zambia) versus wanted fertility (Niger, Chad, Democratic Congo, Mali) or momentum (Senegal, Madagascar, Burkina Faso). Such a schema offers a basis for an empirically-grounded clustering of countries for further analysis and policy development

Sociologically, although nations are usually the focal unit in policy, it is useful to examine internal differences in the pace and causes of reproductive change. Some of these internal differences (e.g., along rural/urban lines) have been recognized but generational or socioeconomic differences also deserve attention. Already, Casterline foresees the possible emergence of a generational divide in fertility aspirations. Other arguments also suggest that rising urban unemployment and schooling costs provide fertility-reduction incentives for urban middle classes but not necessarily the urban poor or for small farmers who still depend on family labor. Research must monitor these social differences, in ways that clarify the consequences of fertility declines on socioeconomic inequality.

ⁱ See Bongaarts (2005), DeRose and Kravdal (2007) and UNICEF (2008) for reversals in fertility, schooling, and child mortality respectively. The UNICEF report of the State of African Children (2008) shows for instance a 1% annual increase in under-five mortality between 1990 and 2006 for Southern Africa and a 0.2% increase for Central Africa. Meeting the Millennium goal of reducing this mortality by 2/3 since 1990 would require steep declines in mortality from now on. These required declines are estimated at 13.9% and 12.6% for Southern and Central Africa respectively. Data from the World Bank (2009) show that during the 1990s and out of 33 countries with a full set of data, a third (10) experienced a stall or reversal in their secondary enrolment, with particularly marked reversals in Congo (-13 percentage points), Kenya (-8.5), or Zimbabwe (-4.3) for instance. Finally in the fertility arena, Bongaarts (2006) reports stalled transitions or recent fertility declines in such countries as Ghana, Uganda, Burkina Faso, Kenya, Mali, Mozambique and Niger for instance.

ⁱⁱ Other criteria such as economic and political feasibility are important but not discussed here. Also relevant is the relative scarcity of research on various policy options, as well as the comparative advantage of the Hewlett Foundation in competing research areas.