#### **IUSSP Seminar on Reproductive Change in Sub-Saharan Africa**

Nairobi, Kenya 2-4 November 1998

Organized by the IUSSP Committee on Fertility and Family Planning and the

African Population Policy Research Center

#### **REPORT**

#### Introduction

The last decade of the 20<sup>th</sup> Century was a period of remarkable change in Africa. In this short span, African countries experienced a wave of crises, from economic downturns to political transitions and health challenges associated with the spread of HIV/AIDS. In the midst of these crises and quite unexpectedly, fertility began to decline. While the advent of a fertility decline in Africa was still a question mark at the beginning of the decade, by decade's end, more than a dozen countries had reportedly begun their fertility transition. For Africa as a whole, total fertility rates had declined from an average of 6.0 births per woman in 1990 to about 5.3 in 2000.

This new development raised several questions: What prompted these sudden declines in fertility? How fast would they spread to lagging populations? Would they continue, stall, or revert if Africa weathered its economic and health crises? How would they affect African economies and institutions? Could they spur economic growth and build human capital or, instead, did a decline under these difficult conditions stand little chance of improving economies? Because the fertility decline had just begun, these important questions remained unanswered.

It is against this background that the International Union for the Scientific Study of Population (IUSSP) organized a conference on reproductive change in sub-Saharan Africa at the end of 1998. This document reports on the deliberations of this seminar. The timing of the conference was apposite. Symbolically, the turn of the century stood as a natural opportunity to evaluate how close African countries had come to the development targets they had planned to reach by the year 2000. Although targets focused on welfare outcomes (health, education, women status, or poverty), reduced population growth was expected to facilitate progress in these core areas. Population was therefore a relevant component of any turn-of-the-century evaluation of Africa's progress. Beyond the symbolism of the new millennium, the recentness of the decline was also important: early lessons from vanguard countries could inform policies to affect the future course of African fertility transitions.

A collection of select papers from this IUSSP conference has been assembled for review as a monograph. Because the conference program was built with input from participants, the debate is skewed towards familiar topics and methods. Thematically, most papers emphasize fertility over other aspects of reproductive behavior. Within fertility, discussions emphasize trends and determinants (more than consequences) and classic frameworks and factors (more than Africa-specific events). Geographically, vanguard countries receive more attention than lagging countries. Methodologically, most papers are based on statistical analyses of large-scale demographic surveys. The skew is not complete, however. A few papers venture into less-charted territory, covering new methods, lagging countries, and understudied aspects of reproductive change such as gender relationships or decisions about childrearing. In fact, this skew also has its benefits. By focusing on core topics, countries, and methods, the conference drew from the methodological strengths of the field, the substantive expertise of participants, and the field settings where the most interesting changes were occurring. As a result, what the volume may lose in breadth it gains in focus and insight.

The conference's central question was to understand ongoing changes in reproductive behavior in Africa. With the first signs of a decline in fertility, the debate on African fertility transitions had shifted from "whether or when" to "why and how" African fertility would decline. In seeking answers to this new question, researchers can look into two directions, one of which is the experience of other regions. What can be learned from the experience of Europe, Asia, or Latin America? Few analysts expect to see a parallel. Today's global environment is far removed from 19<sup>th</sup> century Europe when European countries initiated their declines. Beyond the differences in policy, technological and informational environment already noted by demographers in the 1980s, there are recent challenges associated with severe health and economic crises. Thus, vanguard countries in Africa represent a better source of insight. What lessons or hypotheses does the early experience of these countries suggest about the expected nature of African fertility transitions?

At the time of the conference, there was no comprehensive hypothesis to direct inquiries. However, several authors formulated partial arguments about patterns, determinants, or consequences of African fertility declines. With respect to patterns, Caldwell and colleagues postulated an African model where fertility declines across all age groups even as motivations differ for each age group. In this model, older women reduce fertility for reasons of family size, economic concerns, or fear of social disapproval of the fertility of grandmothers. Married women would reduce fertility to ensure proper spacing, while younger women would delay childbearing to safeguard their educational opportunities. These varied motivations would foster a reduction in fertility at all ages. With respect to determinants, while demographers acknowledged that no factor was absolutely necessary to induce a fertility decline, they still focused on several classic influences such as infant mortality, mass education, economic conditions, or family planning programs. With respect to consequences, expectations were clear. Because African fertility was declining under a context of worsening poverty, it was questionable whether or not the region would reap the human capital benefits expected to accompany reduced fertility. Although the conference papers did not set out to test these various arguments, they provide useful insights. Given the richness and variety of contributions, a representative summary is not possible. Instead, this report simply highlights a few selected insights.

#### An African pattern?

The idea of a uniquely African pattern of fertility decline is intriguing but it remains to be confirmed. Indeed, before addressing this more complex idea, the basic facts about African fertility trends must be revisited. Garenne and Joseph's review of 20 African countries suggested that the decline in most countries may have begun much earlier than typically assumed. Unless the onset of national declines is accurately timed, researchers will misrepresent the real causes. Further, the search for general patterns must not obscure the particular. As Kaufman indicated, all African countries need not follow the same path or pattern. Although many African countries faced remarkably similar events, the timing and severity of these events also varied across countries in ways that affect their relevance to national fertility experiences. National differences in family planning effort will introduce further differences in the means of fertility reduction, including abortion in some countries.

Differences must be expected within countries as well. This conference drew special attention to rural-urban differences. In Garenne and Joseph's overview as well as Eloundou and Stokes' case study, rural and urban transitions are so different as to warrant separate analysis. Where declines in urban fertility are firmly established, the pace of national fertility transitions largely depends on changes in rural fertility.

Case studies from three countries (Kenya, Democratic Republic of Congo, and Nigeria) also underscore the importance of ethnicity. Bauni and colleagues show how ethnic differences may be so large as to supersede rural-urban differences. Shapiro and Tambashe noted that ethnic differences erode over time within urban areas, as urbanization facilitates inter-group contact. Where ethnic differences exist, they reflect not only socioeconomic characteristics (residence, education, or marital status) but also cultural differences that affect exposure to fertility or demand for fertility. Possible cultural differences include the prevalence of polygyny, the type of inheritance systems, and the status of women. The imprint of a group's unique history is also important. Bauni and colleagues thus link ethnic differences in fertility to how the recent economic history of each group has affected the group's economic culture, including its sense of agency, independence, innovation, as well as its insertion into a cash economy.

How fertility changes across socioeconomic groups is also important. A faster fertility decline among the higher-SES groups will widen the gap in resources available to individual children. The likely result, in a context of reduced employment opportunities, will be to foster educational and economic inequality.

Finally, differences by parity are important. Even if the number of births per women changes little, it is important to assess which parities are most affected. Thus far, Muhwava argued, the patterns found in a handful of countries, including Zimbabwe, Kenya, Botswana, and Nigeria, indicate a decline across all parities. Such analyses must extend to other countries and attempt more detailed comparisons of the relative declines across parities.

#### Causes of the decline: a mix of classic and unique factors

As they seek to explain African fertility declines, researchers can follow two different approaches. One, the most common so far, is to test classic hypotheses derived from the demographic literature, notably the relevance of mass education, infant mortality, economic circumstances, or family relations to African fertility transitions. Mass education, Lloyd and colleagues argued, has been a relevant influence, although the breadth of educational expansion seems to matter more than its depth. Nyarko and colleagues also presented micro-level evidence that mortality trends should affect fertility prospects in Africa. The recently-stalled progress in reducing under-five mortality should therefore slow the decline in fertility. Economic conditions are also important. Whereas improved economic conditions were initially deemed a pre-requisite for fertility decline, required economic thresholds are found to be increasingly low. Indeed, in several African countries, fertility has fallen in a context of economic downturn. Whether these downturns were a main factor or simply a catalyst is unclear. Evidence from Cameroon (Eloundou and Stokes) and Mozambique (Agajanian) suggested that crises were simply a catalyst. In such countries, fertility will continue to decline even after the economic recovery.

Beyond these classic influences, however, researchers should examine factors that are more specific to Africa or to individual nations within Africa. Recent health crises, political transformations, wars and related disruptions, or increased contact with the outside world (Garenne and Joseph) deserve further investigation. Only recently have papers began to address some of these factors. Documenting these peculiarities will require a willingness to step away from usual concepts and methods and to focus on reality on the ground as opposed to insights that can be culled from existing data sets. Agajanian illustrated well the potential contributions of more qualitative approaches to the study of fertility change in Africa. As he argued in his analysis of reproductive change in Maputo, "qualitative information offers a more realistic and comprehensive vision of reproductive complexity: it introduces misgivings and ambivalence about future fertility and contraceptive use that usually go undetected in surveys, and captures the process of continuous reassessment of cultural norms, material constraints, and of own and others' reproductive and contraceptive experiences." Yet it is not enough to simply add qualitative investigations. Rather, researchers may have to revisit fundamental concepts, units of observations and units of analysis.

#### From individuals to couples and families

As the debate on African transitions shifts from "whether" to "why and how" fertility declines, research practices must also evolve. Nations are an appropriate unit of analysis when monitoring national fertility levels, but they become less adequate in explaining fertility change, unless national populations are homogeneous. Whereas research on fertility levels can justifiably focus on reproductive-age women, investigations of fertility causes or change must include other actors involved in decision making, such as male partners, older women, or the larger kin group.

Larson and Hollos' study thus suggested the importance of husband-wife relations. Among the Pare of Northern Tanzania, they find, fertility declines faster as couples nucleate economically and emotionally. Yet, it is unclear how much and why African families should nucleate in the first place. Bauni and

colleagues speculate that an increased involvement in a cash economy plays a role, but other influences are relevant. Once couples nucleate emotionally, the increased communication is expected to influence reproductive attitudes. The evidence presented by Kritz and Makinwa-Adebusoye suggests that these influences are reciprocal, rather than unidirectional. Both husbands and wives become more approving of family planning programs as gender equality improves. To the extent that individuals exert an influence on their partners, these influences are reciprocal.

#### The role of family planning programs

Family planning programs (FPPs) are a central means by which couples control their fertility and, as such, they receive substantial attention in this volume. The questions about family planning programs are both numerous and complex. Are FPPs necessary, politically acceptable, and effective? One accepted indicator of FPP relevance is the extent of unmet need for contraception. Research by Adetunji showed that this need is quite extensive: as many as 57 percent of births in the eight countries that he reviews are unintended. Over the course of their reproductive life, women in these countries have on average 2 to 3 unintended births. The author further shows that most of the unintended births are mistimed rather than unwanted. The issue of desired spacing was further investigated by Rafalimanana and Westoff, who also examine the implications of better spacing on several demographic outcomes, including fertility, child health, and nutritional status. Both Adetunji and Rafalimanana and Westoff's results underscored the need for temporary methods of contraception at early stages of the fertility transition. They also suggest that the availability of contraception will affect the pattern of fertility decline and promote a decline initially driven by spacing more than stopping behavior.

Even if couples desire greater access to contraception, the socio-cultural and political environments are also important. Experiences from Zimbabwe (Marindo), Ghana (Phillips and colleagues) and Zambia (Katende and Knight), suggested numerous but fairly convergent lessons about the conditions under which family planning programs are most likely to succeed. Attention to social context, involvement of local leadership, flexibility, and attention to process are examples of such conditions.

Katende and Knight argued that while the integration of family planning with other maternal and child health institutions can improve access, problems such as staff competence and overload must be addressed. Planners must also carefully consider which programs to integrate. Overall, their Zambian experience does suggest that service integration can significantly increase contraceptive prevalence. Greene and Westoff's analyses raised two interesting issues about the effectiveness of family planning programs. On the one hand, they highlight the many reasons why empirical comparisons of the fertility of contraceptors versus non-contraceptors may underestimate the effects of contraceptives. More originally, they argue that contraceptive use can have indirect and long-term effects on fertility outcomes. Specifically, the use of contraception for spacing may acquaint women with contraception so that they become more experienced users by the time they want to limit fertility.

#### New research avenues

In addition to their main results, papers at this seminar suggested new research avenues, whether in themes (e.g. wanted spacing), new data sources (e.g. census data), new approaches (e.g., qualitative investigations), new conceptualizations (focus on sub-national entities, focus on couples, acknowledging the growing separation of marriage and fertility, broadening reproductive change to include both childbearing and childrearing).

Zuberi and Sibanda clearly demonstrated the usefulness of census data to understand fertility change. Although considerable work and care is needed to link children to mothers, census data present multiple advantages in part because of their exhaustive coverage, their periodicity, and the possibility to study fertility trends for sub-national units. Qualitative investigations also deserve more than lip service. Demographers strong theoretical focus on classic explanation and their primary reliance on large-scale

surveys as source of evidence may obscure a fine understanding of the processes on the ground. The subjective questions raised by Agajanian are as important as the careful monitoring of objective trends. How do individuals perceive the macroeconomic transformations that supposedly affect their reproductive behavior? How do they manage conflict between traditional norms and contemporary circumstances? How do individuals access and share information? While such questions easily escape the wide net of demographic analysis, they provide a useful reality check to grand theory and even grander analysis. Demographers also tend to narrowly equate reproduction with fertility. Broadening this definition to include child-rearing and other demographic behavior will help paint a more integrated and comprehensive picture of current strategies of family reproduction and survival in Africa.

#### Other contributions of the meeting

The conference was also a mechanism for capacity building. Two African students were invited as participants in the conference. The Africa Population and Health Research Centre organized the meeting and gained its first international experience in organizing a conference. Exchanges launched by the meeting have led to collaboration between institutions involved, contributing to the formation of the International Network of field sites with continuous Demographic Evaluation of Populations and Their Health in developing countries (INDEPTH). Participants in the conference have followed through on their experience to develop INDEPTH working groups on demographic surveillance, reproductive health, and capacity building.

Written by Parfait Eloundou-Enyegue and James F. Phillips

#### Seminar on Reproductive Change in Sub-Saharan Africa

2-4 November 1998

#### **Program**

#### November 2,1998

8.30a.m.-9.30a.m. Registration

9.30a.m.-10.30a.m **SESSION 1: Introduction** 

Welcoming statements of the organizers

Overview of the goals and purposes of the meeting

10.30a.m.- 11.00a.m. - Tea/coffee break

#### 11.00a.m.-12.30p.m. SESSION 2: Fertility levels and trends in Sub-Saharan Africa

Discussant: Cheikh Mbacké

- 1. Demographic Trends in Southern Africa, Orieji Chimere-Dan
- 2. Unintended Childbearing and Reproductive Change in Sub-Saharan Africa, Jacob Adetunji
- 3. Child Mortality, Socioeconomic Attributes and Behavior in the Regulation of Family Size in Africa, Kuat-Defo Barthelemy
- 4.Fertility Differentials in Sub-Saharan Africa: Applying Own-Children Methods to African Censuses? Tukufu Zuberi & Amson Sibanda

#### 12.30 p.m.-1.30p.m SESSION 3: Case studies in Demographic Transition

Discussant: John Kekovole

- 1. Parity-Specific Analysis of Fertility Decline in Zimbabwe, William Muhwaya
- 2. Ethnicity and Fertility in Kenya, Evasius Bauni, Wanjiru Gichuhi & Samson Wasao
- 3. Changing Fertility Patterns in South Africa: What is the Historical Record?, Carol E. Kaufman
- 4. Demographic Transition in Botswana, S.K. Gaisie & Zitha Dewah
- 1.30p.m.-2.30p.m. Lunch break

#### 2.30p.m.-4.30p.m. SESSION 4: Social Perspectives on the Determinants of African Transitions

Discussant: Bolaji Fapohunda

- 1. Sociocultural Contexts of Fertility among the Yakurr of the Southeastern Nigeria, Oka M. Obono
- 2. Wives' and Husbands' Family Planning Approval in Nigeria: How Influenced by Mate Characteristics, Wife's Authority and Ethnicity?, Mary Kritz & Paulina Makinwa-Adebusoye
- 3. Reproductive Intentions and Contraceptive Use in Maputo, Mozambique: Meanings and Determinants, Victor Agadjanian
- 4. Fertility Decisions among the Pare of Northern Tanzania: the Changing Context of Husband-wife Relations, Ulla Larsen & Marida Hollos
- 4.30p.m.-5.00p.m. Tea/coffee break
- 6.30p.m.-8.00p.m. Cocktail party

### 8.30a.m.-10.00a.m **context**

#### SESSION 5: policy implications of the African Social and Demographic

Discussant : Ayo Ajayi

- 1. Implications of Birth Spacing for Fertility in Sub-Saharan Africa, Diana Green & Charles Westoff
- 2. Lessons from Community-Based Distribution of Family Planning in Africa, James Phillips, Wendy L. Greene & Elizabeth F. Jackson
- 3. Education Transitions in Sub-Saharan Africa. Implications for Fertility Change, Cynthia B. Lloyd, Carol Kaufman & Paul Hewett

10.00-10.30a.m. - Tea/coffee break

#### I0.30-12.00p.m

# SESSION 6: economic perspectives on the determinants of reproductive change: the role of crises and structural adjustment

Discussant: Orieji Chimere-Dan

- 1. Demographic Behavior in an Era of Structural Adjustment in Nigeria, Christiana E. Okojie
- 2. Fertility Transition in Southwest Nigeria in the Era of Structural Adjustment, 1.0. Orubuloye
- 3. Ethnicity, Education and Fertility Transition in Kinshasa, Congo, David Shapiro & B. Oleko Tambashe
- 4. Would Changing Perception on the Value and cost of Children Bring About Fertility Decline? Exploratory Findings from a Rural Yoruba Community, Nigeria, Jacob B. Oni
- 5. Economic Crisis and Reproductive Change in Central Cameroon, Parfait Eloundou-Enyegue

#### 12.00p.m.-1.30p.m

#### SESSION 7: Social Perspectives on the Determinants of African Transitions-Diffusion, Social Networks, and Social Change

Discussant: Samson Wasao

- 1. Social Change, Uncertainty and Fertility in a Southwestern Nigerian Town, Elisha P. Renne
- 2. Weakening Linkage between Age at First Marriage and Childbearing in Kenya: An Inter-Survey Comparison, Wamucii Njogu & Teresa Castro Martin.
- 3. Sources of Information on Sexuality for Young Adults in Kenya: Implications for Education, Sarah Varle, lan Diamond and Roger Ingham
- 4. Child Loss and Fertility Behaviour in Ghana, Philomena Nyarko, Nyovani Madise & lan Diamond
- 5. Reproductive Health Issues in Malawi: Has the Ostrich Surfaced?, Chiweni E. Chimbwete, Nyovani Madise & lan Diamond
- 6. What can Family Planning Programs Learn from Traditional Reproductive Beliefs and Practices? A Case Study from Malawi, Eliya M. Zulu

1.30P.M.-2.30P.M. - Lunch break

### 2.30p.m.-4.30p.m.

#### SESSION 8 PART 1: Family Planning Programmes: Success Stories and

#### Challenges

Discussant: Luis Rosero-Bixby

- 1. The Impact of Service Providers Trained in Providing Integrated Reproductive Health on the use of Modem Family Planning Methods. A Case Study of 10 Districts in Uganda, Charles Katende & Rodney Knight
- 2. Individual and Community Influences on Contraceptive Use and Method Choice in Lesotho, Maletela Tuoane, lan Diamond & Nyovani Madise
- 3. Fertility and Family Planning in Tanzania, Akim J. Mturi & P.R. Andrew Hinde
- 4. Strengthening of Family Planning Services in Rural Areas: A Nigerian Experience, A.O. Fatusi, S.I. Onwuka, A.C. Chizea and C.A. Afieghe

4.30p.m. - Tea/coffee break

# 8.30a.m.-10.00a.m. SESSION 8 PART 2 Family Planning Programmes: Success Stories and Challenges

Discussant: Cathy Toroitich-Ruto

- 5. The Navrongo Community Health and Family Planning Project: Preliminary Impact of Project Activities on Reproductive Behavior, Cornelius Debpuur, Alex Nazzar, James F. Phillips, Pierre Ngom and Fred Binka.
- 6. The Evolution and Effectiveness of the Zimbabwe Family Planning Programme: A Theoretical Review, Ravai Marindo, Marvellous Mhloyi & Alex Zinanga
- 7. The Nature of Unmet Need for Contraception in an Urban African Setting, Ann E. Biddlecom & FrederickA.D. Kaona

10.00a.rn.-10.30a.m. -Tea/coffee break

10.30a.rn.-12.00p.m. Panel discussion

12.00p.m.-1.00p.m. Closing remarks

12.30p.m.- 2.00p.m - Lunch break

Afternoon free

6.00p.m.-8.00p.m. - Dinner at The Carnivore

# Seminar on Reproductive Change in Sub-Saharan Africa Nairobi, November 2-4, 1998

Adedokun Olaide	Adetunji Jacob
Department of Sociology	Department of Sociology
Lagos State University	Williams Hall
P.M.B. 1087	Bowling Green State University, Bowling Green,
Apapa, Lagos	OH 43403
Nigeria	USA
Tel +234 1 7744 835	Tel+1419 372 9523
Fax	Fax+1419 372 8306
E-mail:	E-mail: adetunj@bgnet.bgsu.edu
Agadjanian Victor	Ajayi Ayo
Department of Sociology	Population Council
Arizona State University	East and Southern Africa
Box 872 101	Regional Office, P.O.Box 17643, Nairobi,
TempeAZ 85287-2101, USA	Kenya
Tel+1 602 965 3804	Tel 254 2 71 3480
Fax +1 602 965 0064	Fax 254 2 71 3479
E-mail: Agadianian@.asii.edu	E-mail: aajayi@popcouncil.or.ke
Biddlecom Ann E.	Caldwell John
Institute for Social Research	Health Transition Centre, NCEPH
University of Michigan	National Centre for Epidemiology and
426 Thompson St., P.O. Box 1248	Population Health
Ann Arbor, MI 48106, USA	Australian National University
Tel +1 734 647 0558	Canberra ACT 0200, Australia
Fax	Tel +61 2 624 92305/62542178
E-mail: abiddle(g).isr.umjch_ed	Fax +61 2 624 97925/62490740
	E-mail: jcc868@nceph.anu.edu.au
Caldwell Pat	Chimbwete Chiweni E.
Health Transition Centre, NCEPH	University of Southampton
National Centre for Epidemiology and	Department of Social Statistics
Population Health	Highfield
Australian National University	Southampton, S0171BJ
Canberra ACT 0200, Australia	United Kingdom
Tel +61 2 624 92305/62542178	Tel+44 1703594083
Fax +61 2 624 97926/62490740	Fax+44 1703593846
E-mail: jcc868@nceph.anu.edu.au	E-mail: cheq@socsci.soton.ac.uk
Chimere-Dan Orieji	Dewah Zitha
Population Research Programme	University of Botswana
Africa Strategic Research	Dept. of Demography
Box 339 Wits 2050, Johannesburg	Private bag 0022, Gaborone
South Africa	Botswana
Tel+27 11 8885511	Tel+267 355 2711
Fax+27 11 8886100	Fax +267 355 2543
E-mail: claj@iafrica.com	E-mail: dewalizs@noka.ub.bw

Dodoo Francis	Eloundou-Enyegue Parfait
	Rand MI 5
Population Council	
East and Southern Africa Regional Office	1700 Main Street
P.O.Box 17643, Nairobi	Santa Monica, CA 90401
Kenya	USA
Tel+254 2 71 3480	Tel+1 3103930411(7885)
Fax+54 2 71 3479	Fax+1 3103934818
E-mail: fdodoo@popcouncil.or.ke	E-mail: guestee@rand.org
Ezeh Alex	Fapohunda Bolaji
APPRC	Population Council
P.O. Box 17643, Nairobi	East and Southern Africa Regional Office
Kenya	P.O.Box 17643, Nairobi
Tel+254 2 713 480	Kenya
Fax+254 2 713 479	Tel 254 2 71 34 80
E-mail: aezeh@popcouncil.or.ke	Fax 254 2 71 3479
	E-mail: bfapohunda@popcouncil.or.ke
Fatusi Adesegun 0.	Greene Diana
Department of Community Health	University of California at San Francisco
Obafemi Awolowo University	2000 0 Street Suite 200
Ile-ife	Sacramento CA 95814
Nigeria	USA
Tel+234 1 269 1890	Tel+1 9164408807
Fax+234 1 2690531	Fax+1916 440 8816
E-mail: adeseeun.fatusi@undp.org.ng	E-mail: dlgreene@ob.ucsf.edu
Hewett Paul	Hinde P.R. Andrew
The Population Council	University of Southampton
Policy Research Division	Department of Social Statistics
One Dag Hammarskjold Plaza	Highfield, Southampton
New York, NY 10017	S0171BJ
USA	United Kingdom
Tel+1 2123390500	Tel+44 1703593419
Fax+1 2127556052	Fax+44 1703593846
E-mail:	E-mail:prahinde@aol.com
Hollos Marida	Kandiah Vasantha
Department of Anthropology	United Nations
Box 1921	Fertility and Family Planning Section -
Brown University	DC2-2054
Providence, R.I. 02912	Population Division
USA	New York, NY 10017, USA
Tel +1 401 863 7062	Tel+1212 963 3207
Fax +1 401 863 3566	Fax+1212 963 2638
E-mail: marida_hollos@brown.edu	E-mail: kandiah@un.org
Kaona Frederick A.D.	Katende Charles
Tropical Diseases Research Centre	Pathfinder International
P.O. Box 71769, Ndola	DISH Project
Zambia	
	P.O.Box 3495, Kampala
Tel+260 2 62 14 12	Uganda
Fax+260 612 837	Tel+256 41 344075
E-mail: fadkaona@zamnet.zm	Fax+256 41 250124
	E-mail: ckatende@pathfind.org

Kaumian Carol	Kekovole John
The Population Council	Population Council
Policy Research Division	East and Southern Africa
One Dag Hammarskjold Plaza	Regional Office
New York, NY 10017	P.O.Box 17643, Nairobi
USA	Kenya
Tel+1 2123390661	Tel 254 2 71 3480
Fax+1 2127556052	Fax 254 2 71 3479
E-mail: ckaufmant@popcouncil.org	E-mail: ikekovolef@popcouncil.or.ke
Kuate-Defo Barthelemy	Larsen Ulla
Departement de Demographic	Harvard School of Public Health
Universite de Montreal	Department of Population and International Health
CP 6128 Succ. Centre Ville	665 Huntington Avenue
Montreal, Qc H3C 3J7, Canada	Boston, Mass 02115
Tel+1514 343 7611	Tel+1617 432 4625
Fax+1 5143432309	Fax
E-mail: kuatedeb@demo.umontreal.ca	E-mail: ularsen@hsph.harvard.edu
Lloyd Cynthia	Madise Nyovani
The Population Council	University of Southampton
Policy Research Division	Department of Social Statistics
One Dag Hammarskjold Plaza	Highfield
New York, NY 10017, USA	Southampton S0171BJ, United Kingdom
Tel+1212 339 0664	Tel+44 1703 592 534
Fax+1 2127556052	Fax+44 1703 593 846
E-mail: cllovd@popcouncil.org	E-mail:njm@socsci.soton.ac.uk
Magadi Monica	Marindo-Ranganai Ravai
University of Southampton	Centre for Population Studies
1	M.P. 167 Mt Pleasant
Department of Social Statistics Highfield Southernton S0171BI	Harare
Highfield, Southampton S0171BJ	
United Kingdom	Zimbabwe
Tel+44 1703592534	Tel+263 4303 211 ext3329
Fax+44 1703 593 846	Fax +263 4 333 407
E-mail: magadi@socsci.soton.ac.uk	M.D. 114
Mbacke Cheikh	McDaniel Antonio (Tukufu Zuberi)
Rockefeller Foundation	Population Studies Center
International House	University of Pennsylvania
Mama Ngina Street	3718 Locust Walk
P.O. Box 47543, Nairobi	Philadelphia PA 19104 6298
Kenya	USA
Tel +254 2 228 061	Tel+1 2155735219
Fax+254 2 218 840	Fax+1215 898 2124
E-mail: cmbacke@.rockefeller.or.ke	E-mail: tukufu@pop.upenn.edu
Mencarini Letizia	Mturi Akim J.
Dipartimento di Statistica 'Giuseppe Parenti'	National University of Lesotho
Universita degli Studi di Firenze	Department of Statistics and Demography
V.le Morgagni 59, 50134 Firenze	P.O. Roma 180
Italy	Lesotho
Tel 55 423 7231	Tel +266 340 0601 ext 2456
Fax 55 422 3560	Fax +266 340 0000
E-mail: mencarin@stat.ds.unifi.it	E-mail: aj.mturi@nul.ls

Muhwava William Centre for Population Studies M.P. 167 Mt Pleasant Harare Zimbabwe Tel+ 263 4 30 32 11 Fax +263 4 33 34 07 E-mail: madzingi@sociol.uz.zw Nyarko Philomena University of Southampton Njogu Wamucii Department of Sociology Northeastern Illinois University 5500 North St. Louis Avenue Chicago II 60625 4699 USA Tel +1 847 328 8798 E-mail: W-njogu@neiu.edu Obono Oka M. Sociology Dept	
M.P. 167 Mt Pleasant  Harare  Zimbabwe  Tel+ 263 4 30 32 11  Fax +263 4 33 34 07  E-mail: madzingi@sociol.uz.zw  Northeastern Illinois University  5500 North St. Louis Avenue  Chicago II 60625 4699  USA  Tel +1 847 328 8798  E-mail: W-njogu@neiu.edu  Nyarko Philomena  University of Southampton  Obono Oka M.  Sociology Dept	
Harare Zimbabwe Chicago II 60625 4699 Tel+ 263 4 30 32 11 USA Fax +263 4 33 34 07 E-mail: madzingi@sociol.uz.zw Nyarko Philomena University of Southampton  5500 North St. Louis Avenue Chicago II 60625 4699 USA Tel +1 847 328 8798 E-mail: W-njogu@neiu.edu Obono Oka M. Sociology Dept	
Zimbabwe Tel+ 263 4 30 32 11 USA Fax +263 4 33 34 07 E-mail: madzingi@sociol.uz.zw Tel +1 847 328 8798 E-mail: W-njogu@neiu.edu Nyarko Philomena Obono Oka M. University of Southampton Chicago II 60625 4699 USA Tel +1 847 328 8798 E-mail: W-njogu@neiu.edu Obono Oka M. Sociology Dept	
Tel+ 263 4 30 32 11  Fax +263 4 33 34 07  E-mail: madzingi@sociol.uz.zw  Nyarko Philomena University of Southampton  USA  Tel +1 847 328 8798  E-mail: W-njogu@neiu.edu  Obono Oka M.  Sociology Dept	
Fax +263 4 33 34 07 E-mail: madzingi@sociol.uz.zw  Nyarko Philomena University of Southampton  Tel +1 847 328 8798 E-mail: W-njogu@neiu.edu  Obono Oka M. Sociology Dept	
E-mail: madzingi@sociol.uz.zw  Nyarko Philomena  University of Southampton  E-mail: W-njogu@neiu.edu  Obono Oka M.  Sociology Dept	
Nyarko Philomena Obono Oka M. University of Southampton Sociology Dept	
University of Southampton Sociology Dept	
I I I in the second of the second that the second is a second is a second in the second is a second in the second is a second in the second in	
Department of Social Slatistics  University of Ibadan	
Highfield, Southampton  Badan  Nicolary	
S0171BJ, United Kingdom Nigeria	
Tel+44 1703 593 070 Fax+234 2 8100095	
Fax+44 1703593 846 E-mail: macarthur.nig@rcl.dircon.co.uk	
E-mail:pen@socsci.soton.ac.uk	
Orubuloye O.I.  Phillips James	
Centre for Population and Health Research  The Population Council	
P.O.Box 1904, Ado-Ekiti Policy Research Division	
Ekiti State One Dag Hammarskjold Plaza	
Nigeria New York, NY 10017	
Tel +234 1 240 906 USA	
E-mail: dg@ iiiser.org.ng  Tel+1212 339 0670	
(Attention I0 Orubuloye) Fax+1212 755 6052	
E-mail: jphillips@.popcouncil.org	
Renne Elisha P. Rosero-Bixby Luis	
Dept of Anthropology University of Costa Rica	
1020 LSA Building Apartado 833-2050	
University of Michigan San Pedro	
Ann Arbor, MI 48109-1382 Costa Rica	
USA Tel +506 207 5693	
Tel +1 734 647 9622 Fax+506 207 5130	
Fax +1 734 763 6077 E-mail: lrosero@cariari.ucr.ac.cr	
E-mail: erenne@umich.edu	
Shapiro David Sibanda Amson	
Department of Economics Population Studies Center	
Pennsylvania State University University of Pennsylvania	
608 Kern Building 3 718 Locust Walk	
University Park, PA 16802, USA Philadelphia PA 19104 6298, USA	
Tel+1 814863 1533 Tel+1 6103943665	
Fax+1 8148634775 Fax+1 2158982124	
E-mail: dshapiro@.psu.edu	
Tambashe B. Oleko Toroitich-Rulo Cathy	
Tulane University Population Council	
SFPS Project East and Southern Africa Regional Office	
22 BP 13 56 Abidjan 22 P.O.Box 17643, Nairobi	
Cote d'Ivoire Kenya	
E-mail: bto@sfps.or.ci	
Tel+225 47 10 18 Fax 254 2 71 3479	
Fax+225 47 17 28 E-mail: ctoroitich@popcouncil.or.ke	

Tuoane Maletela	Varle Sarah
University of Southampton	University of Southampton
Department of Social Statistics	Department of Social Statistics
High field Southampton	Highfield Southampton
S0171BJ, United Kingdom	S0171BJ, United Kingdom
Tel+44 1703593296	Tel+44 1703592527
Fax+44 1703 593 846	Fax+44 1703593846
E-mail:mt5@socsci.soton.ac.uk	E-mail:svarle@compuserve.com
Wasao Samson	Zulu Eliya M.
Population Council East and Southern Africa	Population Council East and Southern Africa
Regional Office	Regional Office
P.O.Box 17643, Nairobi	P.O.Box 17643, Nairobi
Kenya	Kenya
Tel 254 2 71 3480	Tel 254 2 71 3480
Fax 254 2 71 3479	Fax 254 2 71 3479
E-mail: swasao@popcouncil.or.ke	E-mail: ezulu@popcouncil.or.ke