

JOSEPH AMOAH (M.A)
University of Helsinki, Finland

The Determinants of the Intentions to Stop Childbearing after Having 3-4 Surviving Children: A Case Study of Ghana, Kenya and Zimbabwe

ABSTRACT

Data from the Demographic and Health Surveys for Ghana (2003), Kenya (2003) and Zimbabwe (2005-06) are used to examine the socio-economic factors that affect intentions of birth cessation amongst currently married women with 3-4 surviving children. The dependent variable is the wish to stop childbearing and the explanatory variables include age, education, area of residence, sex composition of children and religion. The countries have experienced significant fertility declines since the 1980s, with current total fertility rates roughly in the neighbourhood of four. Despite the similarity in fertility trends, logistic regression models reveal that some of the socio-economic determinants have different effects on intentions to stop births amongst the countries. Generally though, educated mothers are significantly more likely to stop birth as compared to their uneducated counterparts, whereas rural and Muslim women are significantly less likely to stop procreation as compared to their urban and Christian colleagues in all the countries.

Introduction

The sub-Saharan Africa is generally noted for high fertility but some countries have been experiencing remarkable fertility declines since the late 1980s. With the exception of Mauritius, Reunion and South Africa, almost all the Sub-Sahara African countries had total fertility rates close to six children and above prior to the middle of the 1980s.¹ Most of the countries since then, however, have experienced modest, and comparatively few others, quite substantial fertility declines. The fertility researches in sub-Saharan Africa, which were formerly dominated by finding the cultural and socio-economic factors that sustained high fertility are currently shifting towards ascertaining whether the supposedly commencement of fertility transition is real and sustainable. In that direction, trend analyses of fertility preferences and intentions have been given prominence in recent demographic researches in sub-Saharan Africa. However, the few researches that focus on the determinants of the desire to limit childbearing have been country-specific (for example, Kodzi and Johnson 2009; Dibaba 2008). This study moves a step further by making a comparative analysis of the socio-economic determinants of the intentions of stopping births.

The main objective of the study is to better understand the demographic and socio-economic factors that affect the wish to stop childbearing by currently married women with 3-4 surviving children in Ghana, Kenya and Zimbabwe. Many factors accounted for the selection of the countries. First is the geographical location of the countries. Ghana being located in West Africa, Kenya in the east and Zimbabwe in the south makes their choice interesting for a comparative study. Secondly, it is interesting to note that all the selected countries are surrounded by neighbouring countries mostly with relatively higher fertility rates. Thirdly, the three countries are among the front-runners experiencing fertility declines in the region. As table 1 indicates, the three countries witnessed almost equal magnitudes of fertility declines of 2 (Ghana), 1.8 (Kenya) and 1.7 (Zimbabwe) children per woman between the late 1980s and the early/mid 2000s.

¹ <http://esa.un.org/unpp> accessed 17.7.2010

Table 1 Age-specific and total fertility rates according to the four consecutive Demographic and Health Surveys: Ghana (GH), Kenya (KE) and Zimbabwe (ZI), 1988/89-2003/2005-06

Age	GH1	GH2	GH3	GH4	KE1	KE2	KE3	KE4	ZI1	ZI2	ZI3	ZI4
15-19	125	116	88	74	152	110	111	114	103	99	112	99
20-24	260	221	197	176	314	257	248	243	247	210	199	205
25-29	280	233	203	210	303	241	218	231	247	194	180	172
30-34	249	209	177	182	255	197	188	196	219	172	135	144
35-39	189	143	136	141	183	154	109	123	160	117	108	86
40-44	117	87	74	70	99	70	51	55	86	52	46	42
45-49	61	22	11	36	55	50	16	15	36	14	15	13
TFR	6.4	5.2	4.4	4.4	6.7	5.4	4.7	4.9	5.5	4.3	4.0	3.8

Sources: GSS, NMIMR and ORC Macro 2004; CBS, MOH and ORC Macro 2004; CSO and MI Inc. 2007²

Fourthly, the last inter-survey period (between 1998/99 and 2003/05-06), reveals that again the three countries experienced abrupt stall or slack in the rate of fertility decline. Fifthly, they are among the countries that have had consistent and timely conduct of the Demographic and Health Surveys since their inception in the mid-1980s. With the exception of the fourth Zimbabwean Demographic and Health Survey, the three countries had their consecutive Demographic and Health Surveys conducted almost simultaneously, and that again augurs well for comparative analysis.

Theoretical background

Freedman's (1987) framework of fertility analysis is the theoretical underpinning of the study. The transition from natural fertility regime to an era of controlled fertility hinges on the assumptions that individuals are rational actors that have the requisite knowledge and the means to control their fertility. In non-natural fertility contexts, couples that are in sexual unions are able to decide on the number of children that they prefer to have and

² Ghana Statistical Service (GSS), Noguchi Memorial Institute for Medical Research (NMIMR), and ORC Macro. 2004; Central Bureau of Statistics (CBS), Ministry of Health (MOH), and ORC Macro. 2004. Central Statistical Office (CSO) and Macro International Inc. 2007.

when to have them. The desired number of children either exclusively or with the existing number of children serves as a motivation or predictor of fertility intention (whether to give birth or not to another child) and subsequent fertility behaviour through the proximate determinants (Freedman 1987). Family size aspirations and the intentions of whether to give birth to additional children help in the estimation of future births and trend in fertility (Debpuur and Bawah 2002). Responses to fertility preference and intention questions have revealed that in most developing countries, stated desired number of children is less than actual fertility.

The validity of stated desired family size and whether to give birth to additional children have been criticized on the grounds that the values of couples are subject to change. For instance, perceived socio-economic changes as well as health problems may alter the fertility preferences of couples (Kodzi and Johnson 2009; Agadjanian 2005; Tan and Tey 1994). Couples that might have had higher fertility preferences either as a result of their own wish or cultural dictates may later on scale back their preferences, due to an abrupt economic transformation as a classic example. As a result of these problems, the desired family size may in most instances, differ from the actual fertility level. These problems notwithstanding, empirical evidence suggests that fertility preferences are relatively stable and hence valid in predicting actual behaviour (Debpuur and Bawah 2002).

A more complex web of socio-economic, cultural and demographic factors determines fertility trends and differentials in and across countries. Factors such as education, child mortality, religion and cultural norms affect fertility. For instance, the opportunity cost of raising many children is higher for educated mothers and the nominal cost of educating many children is also exorbitant for parents. Mothers that experience child mortality, all other things being equal, are expected to give birth to many children in order to maintain a certain number of desired children as compared to those who do not experience child mortality. It is equally true that the religious statutes and at times the practices of some religions conspicuously emphasize higher fertility preferences and hence intentions. Individual demographers place emphasis on different factors depending on the society in question.

Data and Methods

The secondary source of data for the analysis is based on the respective fourth Demographic and Health Surveys of Ghana (2003), Kenya (2003) and Zimbabwe (2005-06) are used for the study. The 2003 Ghana Demographic and Health Survey (GDHS) had respondents of 5691 women aged 15-49 as well as 5015 men aged 15-54 (GSS, NMIMR and ORC Macro 2004). Altogether, about 8195 women and 3578 men were successfully interviewed for the 2003 Kenya Demographic and Health Survey (CBS, MOH and ORC Macro 2004). The 2005-06 Zimbabwe Demographic and Health Survey (ZDHS) also involved respondents comprising 8907 women and 7175 men (CSO and MI Inc. 2007). The study uses sub-samples of currently married women with 3-4 surviving children, resulting in number of cases of 1093 (Ghana), 1412 (Kenya) and 1379 (Zimbabwe).

Logistic regression is used to estimate multivariate models of the odds of currently married women in the different categories of the independent demographic and socio-economic variables wishing to stop childbearing. The explanatory variables are the respondent's age, education, working status, type of area of residence, religion, number of sons living, number of daughters living and partner's occupation. Age is recoded into (1) 20-29, (2) 30-34, (3) 35-39 and (4) 40-49. The number of sons/daughters living is recoded as: (0) have no son/daughter living, (1) have 1 son/daughter living and (2) have 2 or more sons/daughters living. The highest educational attainment is recoded into: (0) none, (1) primary and (2) secondary and above. Respondent's working status is recoded as (0) "no" and (1) "yes". Partner's occupational status is also recoded as (1) professional/technical/managerial, (2) clerical/sales/services, (3) agricultural self employed/employee, (4) domestic/unemployed/manual. Religion is regrouped as: (1) Christians, (2) Muslims (3) no religion/others. The type of place of residence is coded as: (1) urban and (2) rural.

The dependent variable is whether or not a currently married woman with 3-4 children wishes to stop childbearing. This variable, coded as (0) = “no” and (1) = “yes” is formulated out of the DHS fertility preference question “would you like to have (a/another) child, or would you prefer not to have any (more) children?” Table 2 indicates that currently married women with 3-4 surviving children are more evenly divided in their intention to stop childbearing than women with less or more surviving children. The vast majority of women with 1-2 children want more children and most women with five or more children want to stop childbearing.

Table 2 Currently married women that wish to stop childbearing or not, according to the Demographic and Health Surveys for Ghana (2003), Kenya (2003) and Zimbabwe (2005-06)

	Desire to stop childbearing								
	Ghana			Kenya			Zimbabwe		
	No	Yes	Total	No	Yes	Total	No	Yes	Total
Married with no children	304	4	308	325	9	334	388	25	413
	98.7%	1.3%	100%	97.3%	2.7%	100%	93.9%	6.1%	100%
Married with 1-2 children	1133	153	1286	1317	423	1740	1636	695	2331
	88.1%	11.9%	100%	75.7%	24.3%	100%	70.2%	29.8%	100%
Married with 3-4 children	648	445	1093	593	819	1412	530	849	1379
	59.3%	40.7%	100%	42.0%	58.0%	100%	38.4%	61.6%	100%
Married with 5 or more children	241	663	904	319	963	1282	150	755	905
	26.7%	73.3%	100%	24.9%	75.1%	100%	16.6%	83.4%	100%
Total	2326	1265	3591	2554	2214	4768	2704	2324	5028
	64.8%	35.2%	100%	53.6%	46.4%	100%	53.8%	46.2%	100%

Sources: Calculated from data files: 2003 GDHS, 2003 KDHS and 2005-06 ZDHS

Results

Table 3 presents the logistic regression results. Panels 1-3 are the odd ratios for the various variables without controls for the respective countries. The odd ratios after controlling for the other variables are presented in panels 4-6. Age without any doubt is a significant determinant of a woman’s desire to stop procreation. In all the countries, the older birth categories in the women with 3-4 living children are more likely to stop childbearing. The differences in the odds ratios are pronounced and statistically highly significant. Thus after having 3 or 4 children, the elderly women are more prepared to stop giving birth to further children as compared to their junior counterparts. It is worth noting that the stopping behaviour in Ghana is only statistically highly significant

amongst the elderly women who have either reached or about to reach the end of their reproductive lifespan.

Table 3 Logistic regression of whether a currently married woman with 3-4 living children wishes to stop child bearing: GDHS 2003, KDHS 2003 and ZDHS 2005-06

Variable	GH (1)	KE (2)	ZI (3)	GH (4)	KE (5)	ZI (6)
Age						
20-29*	1.00	1.00	1.00	1.00	1.00	1.00
30-34	1.37	1.95***	1.45**	1.08	1.51**	1.28
35-39	2.11***	3.36***	2.39***	1.48	2.72***	1.72**
40-49	4.57***	11.9***	5.41***	4.09***	10.0***	5.32***
Education						
No education*	1.00	1.00	1.00	1.00	1.00	1.00
Primary	2.86***	4.23***	1.24	1.73**	4.01***	3.03*
Secondary+	4.15***	9.34***	2.18**	1.73**	5.48***	2.89**
Respondent working						
No*	1.00	1.00	1.00	1.00	1.00	1.00
Yes	1.28	2.02***	1.16	1.21	1.05	1.04
Area of residence						
Urban*	1.00	1.00	1.00	1.00	1.00	1.00
Rural	0.39***	0.67**	0.23***	0.58**	0.72*	0.36***
Religion						
Christian*	1.00	1.00	1.00	1.00	1.00	1.00
Muslim	0.22***	0.12***	1.97	0.26***	0.26***	1.14
No religion/others	0.24***	0.30**	0.64**	0.38**	0.61	0.87
Number of sons living						
No son living*	1.00	1.00	1.00	1.00	1.00	1.00
One son living	1.36	1.53*	1.50*	1.27	1.89**	1.83**
Two sons or more living	1.25	2.42***	1.86**	2.43**	4.38***	2.84***
Number of daughters living						
No daughter living*	1.00	1.00	1.00	1.00	1.00	1.00
One daughter living	2.06**	1.09	1.29	1.90*	1.18	1.10
Two daughters or more living	2.51***	0.89	1.16	3.68***	1.90	1.57
Partner's occupation						
Professional/tech./managerial*	1.00	1.00	1.00	1.00	1.00	1.00
Clerical/sales/services	0.68	0.65*	0.65	0.95	1.02	0.79
Agric-self employed/employee	0.30***	0.48***	0.29***	0.86	1.08	0.62
Unemployed/domestic/manual	0.76	0.61*	0.73	1.24	1.06	1.01

NOTE: (1) * = P < 0.05 ** = P < 0.01 *** = P < 0.001 (2) GH= Ghana, KE= Kenya and ZI= Zimbabwe
 (3) The reference categories are marked with asterisks

Educated women in all the three countries are more likely to stop childbearing as compared to their uneducated counterparts. The magnitudes of the differences in the odds ratios between the educated and the uneducated women are substantial and highly significant. Even the women with primary education, after controlling for other variables, are about twice in Ghana, three times in Zimbabwe and four times in Kenya significantly more likely to cease procreation than their uneducated folks. There are almost no

statistical differences between the women with 3-4 children that are working and those that are not working in the study countries. However, before controlling for other confounding variables, Ghanaian women who are currently married with 3-4 surviving children are twice more likely to stop childbearing as compared to their colleagues that are not working.

Rural women with 3-4 surviving children in all the countries under the study are predominantly less likely to stop procreation when compared to the women that reside in the urban centres. It must be noted, however, that the magnitudes of the differences as well as the degrees of statistical significance are more pronounced in Zimbabwe than in Ghana and Kenya. Generally, it could be emphasized that stopping is a more urban than rural reproductive strategy.

Muslim women with 3-4 children in Ghana and Kenya are less likely to stop childbearing as compared to their Christian counterparts. The differences remain statistically highly significant even after controlling for other variables. The women belonging to other religions, together with those without any religion are also less likely to stop procreation. There are not many Muslims among the respondents in Zimbabwe. The results, however, suggest that there are no significant differences between Christians and Muslims as well as the women belonging to no/other religions with respect to their stopping behaviour, after controlling for other variables.

Culture and religion are undeniably among the major determinants of sex preference. In societies where there are preferences of one sex over the other, a woman who has not achieved her preferred sex composition may not be willing to cease childbearing even if her desired family size is obtained. In all the three countries, the currently married women with either 2 or more out of their 3-4 living children being sons are more likely to stop childbearing as compared to those without any son. The same is the case for the number of living daughters. The differences amongst the countries are that the sizes of the odds ratios and their statistical significance for the number of living sons are bigger in Kenya and Zimbabwe than in Ghana. On the other hand, Ghanaian women with 2 or

more daughters amongst their 3-4 children are more comfortable to cease procreation as compared to their Kenyan and Zimbabwean counterparts.

Amongst the currently married women with 3-4 living children, those whose spouses are employed in all the sectors of the economy other than professionals/technicians/managers are less likely to stop procreation when other variables are not taken into consideration. Wives of farmers and agricultural workers are especially significantly less likely to stop childbearing as compared to the wives of professionals, managers and technicians. However, there are no statistical differences amongst the women when other variables are controlled.

Discussion and conclusions

As previously mentioned, the study used the fourth Demographic and Health Surveys of Ghana, Kenya and Zimbabwe to examine the effects of demographic and socio-economic variables on the intentions of stopping births amongst the currently married women with 3-4 surviving children. The independent variables include the respondent's age, education, working status, area of residence, religion, number of sons and daughters living and partner's occupation.

The study initially also considered the experience of child death, partner's education and region of residence as determinants. However, preliminary tests indicated that even without any controls, the experience of child death has no significant effect on a woman's intention of birth cessation amongst the currently married women with 3-4 living children in the countries of study. Actually there are no marked differences in the intentions of whether to stop birth or not amongst the women in the respective countries. For instance, in Zimbabwe, 62 percent each of the currently married women with 3-4 children that had experienced child death as well as those that had not experienced child death expressed the wish to stop childbearing. The fact that the experience of child death or not does not have statistically significant effect on the wish to stop childbearing in the study countries should not be construed as being irrelevant. The infant and under five mortality rates in

the three countries, even though witnessed stalls and reversals in recent years are comparatively amongst the best in sub-Saharan Africa. For instance, infant mortality rates were 62, 70 and 68 per 1000 live births between 2000 and 2005 for Ghana, Kenya and Zimbabwe respectively, as compared to the regional average of 94 for the same period (United Nations World Population Prospects: The 2010 Revision). As widely alluded to by many demographers, couples, all other things being equal, settle for relatively smaller family sizes and are prepared to stop childbearing when they are confident about the survival chances of their children (Notestein 1953, see Cleland 2001; Davis 1963).

The region of residence was also dropped for not having statistically significant effect. However, the women residing in the other regions combined in the study countries, without confounding variables, are significantly less likely to stop childbearing as compared to their counterparts living in the national capitals. It is also worth noting that partner's education is a significant predictor of birth cessation amongst currently married women in the countries of study, and even remains so with the presence of confounding variables especially in Ghana. It became necessary to discard that variable from the modelling in order to avoid multicollinearity as a result of keeping both woman's and partner's education.

The study has demonstrated that expectedly age, education and area of residence are statistically significant predictors of the wish to stop childbearing amongst the currently married women with 3-4 surviving children in all the study countries. Also Muslim women especially in Ghana and Kenya are significantly less likely to stop childbearing. The reason why Muslim women are less likely to cease procreation could partially be linked to the fact that higher proportions of Christian mothers are educated as compared to the proportion of Muslim women that are also educated in the three countries. Crosstabulations (results not shown) depict that amongst the currently married women with 3-4 surviving children in Ghana, 29 percent of Christian mothers had no education, 23 percent had primary education, whereas 48 percent had secondary education or above. On the other hand, about 82 percent of the Muslim mothers had no education and 9

percent each had primary and secondary or more education. Also in Kenya, about 8 percent of the Christian mothers had no education, 59 percent had primary education and 33 percent had secondary or more education. On the other hand, about 64 percent of currently married Kenyan Muslim women with 3-4 living children had no education. About 29 percent had primary whilst 7 percent had secondary or more education.

The findings also collaborate well with Dibaba's (2008) study in *Oromia*, Ethiopia, where the author established that older women and those with many of a particular sex were statistically more likely to stop births. Again the women that reside in the rural areas were less likely to stop births as compared to their counterparts residing in the urban areas, although the difference was not statistically significant. Contrary to the findings of this study however, Dibaba (2008) ascertained that women with less education were significantly less likely to stop childbearing as compared to their educated colleagues. Kodzi and Johnson (2009) also found out in southern Ghana that aged women were more likely to stop procreation as compared to their younger folks.

One area of distinct difference amongst the study countries is the effect that sex composition of the children has on the intentions of stopping births. In Ghana, the women that have many daughters are prepared to stop giving birth to further children, whereas in Kenya and Zimbabwe, the women that have many sons are relatively more likely to stop childbearing. In Ghana, 35 percent of the currently married women without a son amongst their 3-4 living children wished to stop childbearing, whereas only 24 percent of those without any daughter wished to cease procreation. In Kenya and Zimbabwe on the other hand, 42 percent and 50 percent respectively of the married women without sons wished to stop childbirth, whereas 59 percent and 57 percent respectively of the women without a daughter amongst their 3-4 surviving children wished to stop giving birth to further children. Indeed as many studies on gender preference in sub-Saharan Africa have demonstrated, there is no systematic preference of one sex to another (Fuse 2010; Trussell et al. 1989; Goody 1981). What generally pertains is "balance preference," but to a lesser extent, however, a couple (or a woman for the convenience of this study) may prefer more of one sex to the other (Fuse 2010).

Thus, a woman who has not gotten her preferred sex may not be prepared to stop childbearing even if she has achieved her ideal family size. The perpetuation of the family is a highly cherished social phenomenon in sub-Saharan African cultures. Thus, the high propensity of Kenyan and Zimbabwean women to stop childbearing after having many sons may be due to the fact that those countries are predominantly patrilineal in structure. In Kenya, majority of the ethnic groups including the *Kikuyus*, comprising more than 20 percent of the population are patrilineal groups.³ Also in Zimbabwe, the predominant *Shonas* and *Ndebeles*, constituting over 80 percent of the entire population are patrilineal ethnic groups.⁴ In Ghana on the other hand, the *Akans*, which is the largest ethnic group, constituting almost half of the entire population is mostly matrilineal (Ayim-Aboagye 1997).

Many demographic researches in sub-Saharan Africa have described the fertility transition in the region as mostly initiated or driven by socio-economic crisis (Eloundou-Enyegue et al. 2000; Lindstrom and Berhanu 1999; Rutenberg and Diamond 1993). The initiation of the sustained fertility declines in Ghana, Kenya and Zimbabwe and indeed for most of the sub-Saharan African countries started in the mid-1980s. The 1980s and 1990s saw most of the countries in the region being plunged into economic quagmire. The 1980s especially have been described as a “lost decade” for sub-Saharan Africa (Allen 1999; Baker 1997; National Research Council 1993). The economic downturns, which were compounded by severe droughts together with bushfires in the case of Ghana, resulted in famine and deprivation. The World Bank and International Monetary Fund’s (IMF) economic recovery programmes, which were aimed at revamping the ailing economies generally brought some macroeconomic sanity, but at the expense of individual and household economic welfare. This is because the measures of resuscitating the economies included the slashing or complete withdrawal of government subsidies and the introduction of user fees on education and health were among the austerity measures. Some public workers were redeployed or completely retrenched, all in an effort to trim

³ <http://www.everyculture.com/Ja-Ma/Kenya.html>, accessed 17.5.2010

⁴ <http://everyculture.com/To-Z/Zimbabwe> accessed 25.6.2011

the government wage bill. It is believed that the rural and the urban poor were the most affected. (Rono 2002; Sowa 1993.)

The argument that one may advance is the fact that the economic deterioration has been almost a general phenomenon in the region, so why are some countries like those under study exhibiting declining fertility preferences and consequent fertility outcomes, whilst others still exhibit higher fertilities. Caldwell's (1982; 1980) assertion that mass education engenders fertility decline is of much relevance in the contemporary fertility declines in sub-Saharan Africa. Educational facilities and enrolment rates have improved considerably over the years in the three countries. Most of the countries in sub-Saharan Africa embarked on massive expansion in education after national political independence.⁵ Indeed as at the year 2000, Ghana and Kenya had policies of compulsory and free primary education. Zimbabwe was also contemplating of "progressively introducing" such a policy (Lloyd and Hewett 2003). Female educational enrolment and attendance rates in the three countries, even though have seen some setbacks in recent years, are still amongst the highest in the region.

The perennial droughts, especially in Kenya and Zimbabwe, coupled with the increased fragmentation of farmlands may have prompted parents to believe that the best property to bequeath to their children is education. However, education entails the incurring of direct costs in the form of tuition or school fees and indirect cost such as food, school uniforms, books and stationery and transport costs as well as opportunity cost in the form of services that the children would render in the absence of schooling.

The cost of education, both direct and indirect is higher for educated mothers as well as the couples residing in the urban areas. Thus the comparatively higher proportions of the educated mothers in all the study countries wish to stop childbearing than their uneducated counterparts and the differences are statistically significant even after controlling for other factors. Again, currently married women with 3-4 surviving children that reside in the rural areas in all the countries of study had smaller proportions wishing

⁵ <http://www.unesco.org/education/wef/countryreports/zimbabwe/contents.html>, accessed 23.5.2010

to stop births as compared to those living in the urban centres and the differences are statistically significant. It is worth noting that in Zimbabwe, almost 50 percent of the uneducated women wished to stop childbearing and in Kenya and Zimbabwe, more than half of the women residing in the rural areas also wished to stop procreation. As Montgomery and Casterline (1998) note, the smaller family size norm diffuses from the educated and urban elites to the uneducated and the rural areas.

The study has generally shed light on the effects that selected demographic and socio-economic factors have on the wish to stop childbearing in the study countries. The expectation is that all other things being equal, the desire to stop childbearing would continue to increase as education spreads and the countries become more urbanized. However, Ghana seems to lag behind Kenya and Zimbabwe in terms of the proportions of the various categories of the determinant variables that desire to stop childbearing, even though the three countries exhibit similar fertility declines since the mid 1980s. Birth limitation seems to be less a cause of the fertility decline in Ghana as compared to Kenya and Zimbabwe. Further researches that would examine the commencement of first births and the pattern of spacing of births in Ghana, Kenya and Zimbabwe would further increase our understanding of the fertility transition in those countries.

Again, it will be interesting if further researches include ethnicity as one of the determining variables. It was not included in the present study because Kenya has more than ten ethnic groups such that the number of cases of some of them is negligible to result in erratic results. Moreover, ethnicity as a variable seems to be missing in the 2005-06 Zimbabwe Demographic and Health Survey.

Fertility transition undoubtedly seems to be gaining roots in the study countries and indeed in most of the sub-Saharan African countries. The author believes that this dramatic demographic change is happening in part at huge “cultural costs”. For instance, amongst the *Akans* of Ghana, even the naming of children after a man’s father, mother, uncles, aunts, older siblings, as well as other relatives, both living and dead was enough reason for giving birth to many children. Naming a child after someone, especially a relative is

seen as one of the best ways of expressing love to that person and also perpetuating that name. Contemporary couples, especially the educated are painfully disregarding that just because most people believe it is not worth giving birth to many children that cannot be sufficiently catered for. Again, families are becoming more nucleated as couples spend their resources more on their biological children.

Against this backdrop, one can argue that the economies, social institutions as well as pension schemes in the sub-Sahara African countries are not expanding in commensurate terms. Nucleation of the family implies that in the future parents may in turn have to depend on their own pensions or biological children and not on other relatives. However, the pension schemes where they exist are mostly for the workers of the formal sector and also in most instances woefully inadequate. Graduate unemployment continues to be a problem in most of the countries in the region. Thus, well-educated children (probably because they are few in number) who are unemployed may not be able to cater for their aged parents. Reduced fertility is expected to lead to improved standard of living. However, this expectation may become nightmare in sub-Saharan Africa if the economies do not improve and other socio-economic structures are not put in place by the authorities.

References

- Allen, R. E. 1999. *Financial Crises and Recession in the Global Economy*. Second Edition. Edward Elgar Publishing.
- Agadjanian, V. 2005. "Fraught with Ambivalence: Reproductive Intentions and Contraceptive Choices in a Sub-Saharan Africa Fertility Transition." *Population and Policy Review* 24: 617-645.
- Ayim-Aboagye, D. 1997. *The Psychology of Akan Religious Healing*. Religionvetenskapliga Skrifter 36. Åbo: Åbo Akademi.
- Baker, J 1997. "Introduction". **In** J. Baker (ed.) *Rural-Urban Dynamics in Francophone Africa*. Nordiska Afrikainstitutet. Uppsala.
- Caldwell, J. C. 1980. "Mass Education as a Determinant of the Timing of Fertility Decline." *Population and Development Review* 6 (2): 225-255.
- Caldwell, J. C. 1982. *The Theory of Fertility Decline*. London: Academic Press.
- Central Bureau of Statistics (CBS), Ministry of Health (MOH), and ORC Macro. 2004. *Kenya Demographic and Health Survey 2003*. Calverton, Maryland: CBS, MOH, and ORC Macro.
- Central Statistical Office (CSO) and Macro International Inc. 2007. *Zimbabwe Demographic and Health Survey 2005-06*. Calverton, Maryland: CSO and Macro International Inc.
- Cleland, J. 2001. "The Effects of Improved Survival on Fertility: A Reassessment". **In** R. A. Bulatao and J. B. Casterline (eds.) *Global Fertility Transition: Population and Development Review, A Supplement to Vol. 27*. New York: Population Council. 60-92.
- Davis, K. 1963. "The Theory of Change and Response in Modern Demographic History". *Population Index* 29 (4): 345-366.
- Debpuur, C. and A. A. Bawah 2002. "Are Reproductive Preferences Stable? Evidence from Rural Northern Ghana." *GENUS* LVIII (2): 63-89.

- Dibaba, Y. 2008. "Factors Influencing Women's Intention to Stop Childbearing in Oromia, Ethiopia." *Ethiop. J. Health Dev.* 22 (3): 28-33.
- Eloundou-Enyegue, P., S. C. Stokes and G. T. Cornwell 2000. "Are there Crisis-led Fertility Declines? Evidence from Central Cameroon." *Population Research and Policy Review* 19 (1): 47-72.
- Freedman, R. 1987. "Fertility Determinants" In J. Cleland and C. Scott (eds.) *The World Fertility Survey: An Assessment*. Oxford: Clarendon Press. 773-795.
- Fuse, K. 2010. "Variations in Attitudinal Gender Preferences for Children across 50 Less-developed Countries." *DEMOGRAPHIC RESEARCH*. Accessed on line: <http://www.demographic-research.org/Volumes/Vol23/36/DOI:10.4054/Dem.Res.2010.23.36>.
- Ghana Statistical Service (GSS), Noguchi Memorial Institute for Medical Research (NMIMR), and ORC Macro. 2004. *Ghana Demographic and Health Survey 2003*. Calverton, Maryland: GSS, NMIMR, and ORC Macro.
- Goody, J., C. Duly, I. Beeson and G. Harrison 1981. "On the Absence of Implicit Sex Preference in Ghana." *Journal of Biosocial Science* 13: 87-96.
- http://esa.un.org/wpp/unpp/panel_population.htm
- <http://www.everyculture.com/Ja-Ma/Kenya.html>
- <http://www.un.org/popin/icpd/icpd5/hague/zimbabwe.pdf>
- <http://www.unesco.org/education/wef/countryreports/Zimbabwe/contents.html>
- Kodzi, I. A. and D. R. Johnson 2009. *Determinants of the Desire to stop childbearing among women in Southern Ghana: Parity Progression, Partner Effects and Situational Factors*. Population Association of America, 2009 Annual Meeting. April 30-May 2, 2009.
- Lloyd, C. B. and P. C. Hewett 2003. *Primary School in Sub-Saharan Africa: Recent Trends and Current Challenges*. Policy Research Division Working Paper No. 176. New York: Population Council.

- Lindstrom, D. P. and B. Berhanu 1999. "The Impact of War, Famine and Economic Decline on Marital fertility in Ethiopia." *Demography* 36 (2): 247-261.
- Montgomery, M. R. and J. B. Casterline 1998. *Social Networks and the Diffusion of Fertility Control*. Policy Research Division Working Paper No. 119. New York: Population Council.
- National Research Council (NRC), 1993. *Demographic Effects of Economic Reversals in Sub-Saharan Africa*. Washington, D.C. National Academy Press.
- Rono, J. K. 2002. "The Impact of the Structural Adjustment Programmes on Kenyan Society." *Journal of Social Development in Africa* 17 (1): 81-98.
- Rutenberg, N. and I. Diamond 1993. "The Recent Decline and Future Prospects." *Demography* 30 (2): 143-157.
- Sowa, N. K. 1993. "Ghana" **In** A. Adepouju (ed.) *The Impact of Structural Adjustment on the Population of Africa: Implications for Education, Health and Employment*. Heinemann. 7-24.
- Tan, P. C. and N. P. Tey 1994. "Do Fertility Intentions Predict Subsequent Behaviour? Evidence from Peninsular Malaysia." *Studies in Family Planning* 25 (4): 222-231.
- Trussell, T., E. van de Walle and E. van de Walle 1989. "Norms and Behaviour in Burkinabe Fertility." *Population Studies* 43 (3): 429-454.
- United Nations, Department of Economic and Social Affairs, Population Division 2011: *World Population Prospects: The 2010 Revision*. New York. (accessed on line: <http://esa.un.org/undp/wpp>)

