MODELLING FERTILITY LEVELS AND PATTERNS IN UGANDA

Abstract

Fertility is the most important variable affecting population growth rate in most contemporary populations. The level of fertility in a population affects not only its current size, but also has a significant impact on its future rate of growth, as well as the current and future age structure of the population.

Uganda has the highest TFR of the countries in Eastern and Southern Africa that have recently participated in the DHS program (PRB 2008).
Uganda's population in 2007 was estimated to be 30 million and at the current rate of growth (3.2%) it is expected to reach 55 million in 2025. The continuation of high fertility and population growth poses serious challenges to future economic and social development

It has been noted that Uganda's quest to achieve the millennium development goals faces drawbacks due to the high population growth rates caused by high fertility (UNDP 2008, MoFEP 2008, and UN 2008).

The total fertility rate in Uganda has remained high at an average of seven children per woman for over the last five decades (Lubaale, Kayizzi and Rutaremwa 2007), yet family planning started in Uganda over five decades ago to help lower this rate.

Uganda is following the Demographic transition in the pre- transition stage where the total fertility rate (TFR) is above five (5) children per woman and shows very weak or no signs of decline. This study intended to model the levels and patterns of fertility in Uganda which would present the transition Ugandan fertility has taken in the period 1988 to 2006 and

project the fertility trend in the next 50 years. This will show when fertility is likely to begin its decline.

The main objective of the study was to model the fertility levels and patterns in Uganda in the period 1988 to 2006. It based on the persistent high fertility in Uganda over the past decade. The study was empirical and applied mainly two fertility models. The Brass relational Gompertz model was used to estimate the fertility rates which showed the level and pattern of fertility and the Aggregate fertility model by Bongaarts and Potter (1983) was used to quantify the effect of the proximate determinants on fertility. The DemProj was then used to project the Total fertility Rate of Uganda in the next years up to 2050.

The research used data from the 1988/9, 1995, 2001 and 2006 Uganda demographic and health surveys. It also used 1991 and 2002 population censuses. The datasets used were from the woman questionnaire and it focused on women aged 15-49 years. The study focused on the proximate determinants of fertility.

Findings from application of the models showed that fertility in Uganda is quite high and on average it has been consistently above 6 children over the past decades. Projections show that Uganda will still be in the transition stage by 2025 with an estimated TFR of 5.2 which is still above 5. Application of the Bongaarts model established that marriage had the strongest inhibiting effect on Ugandan fertility over the study period followed by postpartum infecundability. Contraception and abortion had the lowest inhibiting effects. This is because contraceptive usage is still very low and abortion is prohibited in the country.

It is recommended that the population policy and programmes should encourage effective family planning in the country especially in the rural areas because the percentage of women not using any contraceptive method is still high.

Table 5.1 Total Fertility Rates obtained from the application of the Relational Gompertz Model, and the Coale-Trussell Model.

Year	RGM Current TFR Adjusted	RGM Retrospective TFR Adjusted	Coale-Trussell TFR	Reported TFR
DHS of 1988	7.4	8.0	8.4	7.3
1991 Census	7.1	7.3	8.1	7.1
DHS of 1995	6.3	7.1	7.4	6.9
DHS of 2001	6.4	6.8	7.2	6.9
2002 Census	7.0	7.1	8.0	7.0
DHS of 2006	6.7	6.9	7.6	6.7

Table 5.4 Estimated Indices of the Proximate Determinants and Total Fertility Rates from the application of the Bongaarts model to the data

Index	2006	2001	1995	1988
Cm	0.57	0.64	0.73	0.69
Cc	0.78	0.84	0.89	0.94
Ci	0.66	0.65	0.63	0.62
Ca	0.94	0.95	0.97	0.99
TMFR	11.7	10.6	9.4	10.7
TN	15.0	12.7	10.6	11.4
TF	22.7	19.5	16.8	18.3
TFR	6.7	6.9	6.9	7.4
TFRa	6.3	6.5	6.6	7.3

Table 5.5 Projected TFRs for the period 2010 to 2050

Year	RGM Retrospective projected TFR using Extrapolation method	RGM Current projected TFR using Extrapolation method	Projections of TFR using DEMPROJ
2006	6.9	6.7	6.7
2010	6.7	6.4	6.4
2015	6.4	6.2	6.0
2020	6.1	6.0	5.6
2025	5.8	5.8	5.2
2030	5.5	5.6	4.8
2035	5.2	5.4	4.3
2040	4.9	5.2	3.9
2045	4.6	5.0	3.5
2050	4.3	4.8	3.1

Main reference

Bongaarts J. (1978): "A framework for analyzing the proximate determinants of fertility". Population and development Review. Vol .4, No.1, 1978