

https://dspace.org/

Analysis of fertility dynamics in Nigeria: exploration into fertility preference implementation

Ibisomi, Latifat Dasola Gbonjubola

2008-08-05T12:01:55Z
http://hdl.handle.net/10539/5259

Downloaded from a DSpace repository. https://dspace.org/

DECLARATION

I, Latifat Dasola Gbonjubola Ibisomi, declare that this thesis is my own original work. It is being submitted for the degree of Doctor of Philosophy in Demography and Population Studies of the University of the Witwatersrand, Johannesburg. To the best of my knowledge, it has not been submitted before in part or in full for any degree or examination at this or any other University.

…….

…….. day of ……., 2007.

DEDICATION

With humility, gratitude and love, to:

Ibrahim
Barakah
Fathullah
Sakinah

ACKNOWLEDGEMENTS

All thanks, praise, glory and honour to the Lord of the Universe, Who created Man and taught him what he knew not, for yet another milestone.

I am grateful to the Chairman of the National Population Commission of Nigeria for granting my request for leave of absence, which has afforded me the opportunity of furthering my studies these past years.

I am heavily indebted to my Supervisor, Professor Clifford Obby Odimegwu, for his mentorship. His thoroughness and meticulous guidance greatly helped in producing this thesis. He particularly helped me in sourcing for literatures. I am grateful for everything. I am equally grateful to Dr. A.T.A. Otieno of the Population Studies and Research Institute (PSRI), University of Nairobi, for the various assistances he rendered in the course of producing this work. My gratitude also goes to all staff of PSRI in particular, Dr Anne Khasakhala and the Library staff, for their assistance. I must equally acknowledge the assistance I received from the African Population and Health Research Council (APHRC), Nairobi Chief Executive – Dr. A.C. Ezeh and members of his staff. I thank them for allowing me the use of their library and on-line facilities as well as for the suggestions given to improve my work. Thanks to Prof. Peter Jaswa Ubomba, who has been involved in the work from the proposal stage and continued to show his interest till the end.

I acknowledge with thanks the contribution of the Council for the Development of Social Research in Africa (CODESRIA), which sponsored the qualitative fieldwork of this study. I am grateful to Prof Lawrence Adeokun of the Association of Reproductive and Family Health, Nigeria and members of his staff for assisting in the conduct of the fieldwork carried out in the South Western part of the country. I am also grateful to my sister, Mrs. A.M Adegoke and her colleagues – Mrs. Dosunmu, Mr Ajayi and Mr. Babalola, all of the Ministry of Education, Oyo State, Nigeria for co-ordinating the fieldwork in the South West. Dr. Chris Okemgbo coordinated the fieldwork in the South East while Alhaji Abubakar Kabir, Hajia Saadatu Hashim and Abdul Hamid Inuwa coordinated in the North. I thank them all. To Professor UC Isiugo-Abanihe, I also direct my thanks for making available to me the use of his

office and materials while in Nigeria for the fieldwork and for his interest in my work and good wishes for me all the way.

How do I acknowledge the unquantifiable all round contributions of members of my immediate and extended family than to pray that: we are all rewarded for this effort eternally. Special note is taken of the support and contributions of my siblings and in-laws, particularly Mr. Adegoke, Dr Salako and Mr. Dele Ayinde. The sacrifices of my mum, my husband - Ibrahim and children – Barakah, Fathullah and Sakinah did not go unnoticed nor are they unappreciated. May Allah preserve us together for long in good health, prosperity and in doing His biddings, Amin. I simply lack enough words to express my gratitude to you. I thank God for favouring me with you lot and I pray that I am there for you all, all through.

My thanks also to our circle of friends across the globe for their encouragement and good wishes and for their close marking that urged me on to finish this work within a reasonable period of time. I am particularly grateful to the Olateru-Olagbegis, Okoros, Olayanjus, Kudehinbus, Bashirs, Opakunles, Wellingtons, Chimas, Abubakars, my little sister Ganiyat,Ustadha Batuli, the Nigerian community and other friends in Kenya, the Braeside School family and my maid Mary for taking care of my family in my absence. Professor and Dr. (Mrs.) Aina also deserve mention for their academic guidance, while Professor and Mrs. Obilana, Dr. Ogbu, Ms. Amadiume, Dr. Gbadamosi, Messrs. Okonkwo, Musa, Bello and Popoola among numerous others gave invaluable support and encouragement. All is appreciated.

Gratitude also goes to the Managing Director of African Reinsurance Corporation (Africa Re) – Mr. Bakary Kamara for his fatherly love, prayers and encouragement. I am also grateful to the members of staff of Africa Re in general and the Nairobi and Johannesburg offices in particular for all their help. I acknowledge the contributions of George, Mr. Kaba, Alice, Susan, Joy and Mohammed (in the Nairobi office). Special note is equally taken of the help rendered by the Wawerus, Izegbus, Paul, Carol, Hayley, Sane, the Pedros and Kanyiva, which made my stay in Johannesburg a relatively comfortable and fruitful one.

I am equally grateful to Nkechi Obisie-Nmehielle, Braimoh Bello, Sulaiman Salau and my other Colleagues in the Demography and Population Studies Programme for their friendship and the variety of help rendered during the course of this study.

Thanks to Mrs Linda Oldert of the School for her attentiveness and getting things in place for us all in the School.

Thanks, too, to every one of my teachers and benefactors to date as well as the three examiners whose painstaking work further enriched this thesis. May Allah reward you all bountifully, Amin.

TABLE OF CONTENTS

Page

DECLARATION ……..…… i
DEDICATION ……..…… ii
ACKNOWLEDGEMENTS …… iii
TABLE OF CONTENTS …… vi
LIST OF TABLES ……. ix
LIST OF FIGURES ……...……... xiii
LIST OF APPENDICES ……..……. xv
LIST OF ABBREVIATIONS ……. xvi
ABSTRACT …….. xvii

CHAPTER 1: GENERAL INTRODUCTION
1.0. Introduction ……. 1
1.1. Problem Statement ……... 3
1.2. Research Objectives …….. 4
1.2.1. General …… 4
1.2.1. Specific …… 4
1.3. Justification for the Study …….. 5
1.4. Brief background of study area ……. 7

CHAPTER 2: LITERATURE REVIEW AND THEORETICAL FRAMEWORK
2.0. Introduction …… 11
2.1. Review of Literature …….. 11
2.1.1. Population and development issues in Africa ……. 11
2.1.2. Fertility preferences …… 14
2.1.3. Studies in Nigeria …… 17
2.2. Theoretical framework of fertility …… 21
2.2.1. Socio-economic perspective ……. 21
2.2.2. *Micro economic perspective* ……. 23
2.3. Framework for analysis of present study …….. 33
2.3.1. Proximate determinants of fertility …… 33
2.3.2. *Fertility preference implementation index* …… 35
2.4. Hypotheses ……. 38

CHAPTER 3: DATA SOURCES AND METHODS
3.0. Introduction ……. 40
3.1. Data sources ……. 40
3.1.1. The Nigeria demographic and health survey …….. 40
3.1.2. Focus group discussion …… 45
3.2. Data methods …… 48
3.2.1. Study population and sample size ……. 48
3.2.2. Main variables and their definition …….. 48
3.2.3. Scope and limitations …… 51
3.2.4. Data management and analysis …… 52
3.2.5. Ethical issues ……. 61

3.3. Data quality assessment ……. 62
3.3.1. Reporting of household age …… 62
3.3.2. Reporting of age in individual interviews …… 65
3.3.3. Birth data ……. 71
3.3.4. Completeness of reporting …… 73
3.3.5. Discussion on data quality …… 73

CHAPTER 4: FERTILITY LEVELS, TREND AND DIFFERENTIALS
4.0. Introduction …….. 76
4.1. Background characteristics of respondents …….. 76
4.2. Fertility levels and trend ……... 84
4.2.1. Current fertility ……. 84
4.2.2. Indirect techniques of adjusting estimates of fertility ……. 92
4.2.3. Lifetime fertility …… 99
4.2.4. Comparison of lifetime and current fertility ……. 101
4.2.5. Age at first and last birth ……. 104
4.2.6. Non-marital fertility ……. 110
4.2.7. Teenage pregnancy and motherhood ……... 112
4.2.8. Parity progression ratios ……. 114
4.2.9. Birth intervals …….. 121
4.3. Discussion …… 129

CHAPTER 5: PROXIMATE DETERMINANTS OF FERTILITY
5.0. Introduction ……. 135
5.1. The first timers: marriage and sexual activity ……. 136
5.1.1. Age at first marriage ……... 136
5.1.2. Age at first sexual intercourse ……. 138
5.2. Primary sterility …… 141
5.3. Estimation of the proximate determinants of fertility using currently married women ……..…….. 143
5.3.1. Basic determinants of fertility of currently married women ……. 143
5.3.2. Proximate determinants of fertility among currently married women ……..…….. 150
5.4. Estimation of the proximate determinants of fertility using recent sexually active women ……. 157
5.4.1. Basic determinants of fertility among recent sexually active women…… 157
5.4.2. Proximate determinants of fertility among recent sexually active women ……. 162
5.5. Discussion …….. 167

CHAPTER 6: FERTILITY PREFERENCES AND ACHIEVEMENTS
6.0. Introduction …… 175
6.1. Number of children desired …… 175
6.2. Reproductive intentions …….. 178
6.3. Fertility preference implementation …… 185
6.3.1. Index of fertility preference implementation among currently married women ……...…… 186
6.3.2. Index of fertility preference implementation among couples ….. 197
6.4. Discussion …….. 202

CHAPTER 7: SPOUSAL INFLUENCES OVER EACH OTHER'S ATTITUDE TO FAMILY PLANNING AND FERTILITY DESIRE
7.0. Introduction …… 209
7.1. Distribution of the husbands and wives by some of their characteristics.. 212
7.2. Effect of couples characteristics on their desired number of children ….. 215
7.3. Effect of couples characteristics on their family planning attitude ……... 226
7.4. Discussion …….. 233

CHAPTER 8: FERTILITY PREFERENCES AND ACHIEVEMENTS: EVIDENCE FROM FOCUS GROUP DISCUSSION
8.0. Introduction ……. 238
8.1. Basic characteristics of the focus group discussion participants ……. 239
8.2. Number of children desired ……. 240
8.3. How desires are achieved …… 247
8.4. Factors that hinder having or facilitate having more than the desired number of children …… 253
8.5. Circumstances of birth, treatment and implication of additional child .. 261
8.6. Decision on contraceptive use and number of children …… 265
8.7. Conclusion ……. 270

CHAPTER 9: DISCUSSION, CONCLUSION AND RECOMMENDATIONS
9.0. Introduction ……. 271
9.1. Discussion …… 271
9.2. Confirmation of hypotheses ……. 285
9.3. An insight into the socio-economic and demographic differentials ……. 290
9.4. Effect of political and socio-economic events on fertility levels and trend ..292
9.5. Conclusion …… 295
9.6. Recommendations …… 296

REFERENCES …… 303

APPENDICES ……. 317

NOTE: Tables and figures are numbered by the chapter, section and sub sections they emanate from while appendices are numbered by chapters only.

LIST OF TABLES

Number	Title	Page
3.2.2.	Variables and their definition ……	48
3.3.1a.	Age and sex ratios for eligible age group boundaries & age groups immediately outside ……..	63
3.3.1b.	Lower, upper and summary boundary distortions in age/sex structures of the 1990, 1999 & 2003 NDHS household samples	65
3.3.2.1.	Myer's index (Men & Women). NDHS 1990, 1999 & 2003 …	68
3.3.2.2.	Age Ratios (Men & Women). NDHS 1990, 1999 & 2003 ……	70
3.3.4.	Percentage of missing information for birth dates in the last 15 years before survey and respondent's education, NDHS 1990, 1999 and 2003 …….	73
4.1a.	Percentage Distribution of the Total Sample of Women (TSW), Currently Married Women (CMW) and Women whose Husbands were Interviewed (WHI) by Selected Background Characteristics	77
4.1b.	Percentage Distribution of All Women Interviewed by Background Characteristics, NDHS 1990 ……	79
4.1c.	Percentage Distribution of All Women Interviewed by Background Characteristics, NDHS 1999 ……	80
4.1d.	Percentage Distribution of All Women Interviewed by Background Characteristics, NDHS 2003 ……	80
4.2.1a.	Age Specific Fertility Rates (ASFR) [per 1000 women] and Total Fertility Rates (TFR) for the five years preceding the 1990 NDHS .. ……..	85
4.2.1b.	Age Specific Fertility Rates (ASFR) [per 1000 women] and Total Fertility Rates (TFR) for the five years preceding the 1999 NDHS …….	86
4.2.1c.	Age Specific Fertility Rates (ASFR) [per 1000 women] and Total Fertility Rates (TFR) for the five years preceding the 2003 NDHS ……..	86
4.2.2.	Observed and Adjusted Total Fertility Rate Estimates derived by various adjustment techniques ……..	94

4.2.3.	Mean Number of Children Ever Born by Some of the Background Characteristics of Respondents, NDHS 1990, 1999 and 2003 ….	100
4.2.4.	Lifetime (CEB) and Current (ASFR) Fertility Rates ……	101
4.2.5.1.	Median Age at First Birth Among Women Aged 15-49 by Current Age and Selected Background Characteristics, NDHS 1990, 1999 and 2003 …….	106
4.2.5.2a.	Median Age at Last Birth Among Currently Married Women by Current Age and Selected Background Characteristics, NDHS 1990, 1999 and 2003 ……	108
4.2.5.2b.	Differences in the median ages at first and last birth in the total …	109
4.2.6.	Percentage of Never and Formerly Married Women Who Have Ever Given Birth by Selected Background Characteristics ……..	111
4.2.7.	Percentage of Teenagers that are Mothers and Those Pregnant for the First Time by Selected Characteristics ……	113
4.2.8.	Proportion of Women that Progress from One parity to the Next in the Total Sample of Women, NDHS 1990, 1999 and 2003 ……	115
4.2.9.	Median length of preceding birth interval (to last child) of births that occurred five years before the surveys by some selected characteristics …….	123
5.1.1.	Median Age at First Marriage Among Women Aged 15-49 by Current Age and Selected Background Characteristics, NDHS 1990, 1999 and 2003 …….	137
5.1.2.	Median Age at First Sexual Intercourse Among Women Aged 15-49 by Current Age and Selected Background Characteristics, NDHS 1990, 1999 and 2003 ……	140
5.2.	Percentage of Women Aged 45-49 Years Who Had Never Given Birth …….	142
5.3.1.	Currently Married Women (with Percentage of it Recently sexually Active in parentheses) by Some Basic Fertility Determinants and Mean Duration (Months) of Postpartum Variables ……..	145
5.3.2a.	Proximate Determinants of Fertility indices of Currently Married Women, NDHS 1990, 1999 and 2003 …….	153
5.3.2b.	Absolute and Percentage reduction from total fecundity to observed total fertility due to the determinants and the absolute reduction from total fecundity to total fertility rate (the latter in the sixth column: TF - TFR) ……..	156

5.4.1.	Percentage of Recent Sexually Active Women (with Percentage of it Currently Married in parentheses) by Some Basic Fertility Determinants and Mean Duration (Months) of Postpartum Variables …….	161
5.4.2a.	Proximate Determinants of Fertility Among Recent Sexually Active Women, NDHS 1990, 1999 and 2003 …….	164
5.4.2b.	Absolute and Percentage reduction from potential fertility to observed total fertility due to the determinants and the absolute reduction from total fecundity to total fertility rate (the latter in the sixth column: PF - TFR) …….	166
6.1.	Mean Number of Children Desired by Total Sample of Women by Some Selected Background Characteristics ……	177
6.2.	Percentage Distribution of Currently Married Women by Reproductive Intentions, NDHS 1990, 1999 and 2003 ……	180
6.3.1.1.	Indices of fertility implementation for currently married women with values used in its derivation ……	187
6.3.1.2.	Percentage change in wanted fertility (Fw), natural fertility (Fn) and the index of preference implementation (Ip) between 1990 & 1999; 1999 & 2003 and 1990 & 2003 …….	189
6.3.1.3.	Absolute and percentage contribution of Fw, Fn and Ip to fertility decline between 1990 & 1999; 1999 & 2003 and 1990 & 2003 ……	194
6.3.2.1.	Indices of fertility implementation among couples with values used in its derivation ……..……..	198
6.3.2.2.	Percentage change in Fw, Fn and Ip between 1999 & 2003 …….	200
6.3.2.3.	Absolute and percentage contribution of Fw, Fn and Ip to fertility decline between 1999 & 2003 ……	201
7.1a.	Percentage Distribution of Some Individual Characteristics of Husbands and Wives, NDHS 1999 and 2003 ……..	213
7.1b.	Percentage Distribution of Spouses' Joint Characteristics, NDHS 1999 and 2003 ……	214
7.2a.	Odds Ratios of the Multinomial Logistic Model of Husbands' and Wives desired Number of Children by Their Individual Characteristics ……	216
7.2b.	Odds Ratios of the Multinomial Logistic Models of	

	Husbands and Wives' Desired Number of Children by Their Individual and Their Shared Characteristics with Their Spouses ……	219
7.2c.	Odds Ratios of the Multinomial Logistic Model of Husbands and Wives Desired Number of Children by Their Individual, Their Shared and Their Spouses Characteristics …….	221
7.2d.	Nagelkerke R^2 Values of the Three Models of Desired Number of Children ……	226
7.3a.	Odds Ratios of the Binary Logistic Model of Husbands' Family Planning Attitude by Their, Their Wives' and their Shared Characteristics …….	227
7.3b.	Odds Ratios of the Binary Logistic Models of Wives' Family Planning Attitude by Their, Their Husbands' and their Shared Characteristics ……..	230
7.3c.	Nagelkerke R^2 Values of the Three Models of Family Planning Attitude …….	233
8.1.	Basic Characteristics of the Focus Group Discussion participants ..	239

LIST OF FIGURES

Number	Title	Page
1.4	Map of Nigeria depicting the 36 States and the Federal Capital Territory …….	8
2.3.1.	Bongaarts model on the principal role of the proximate variables on fertility ……	33
2.3.2a.	Key variables and interrelations in variant of supply-demand model ……	35
2.3.2b.	Operational framework for analysis of fertility preference implementation in Nigeria ……..	37
3.3.1a.	Age ratio boundary effect, NDHS 1990, 1999 and 2003 ……	64
3.3.1b.	Sex ratio boundary effect, NDHS 1990, 1999 and 2003 …….	64
3.3.2.1a.	Distribution in single years of age (Women). NDHS, 1990 ……	67
3.3.2.1b.	Distribution in single years of age (Men & Women). NDHS, 1999 ……	67
3.3.2.1c.	Distribution in single years of age (Men & Women). NDHS, 2003 ……	67
3.3.2.2a.	Percentage distribution of women interviewed during the 1990, 1999 and 2003 NDHS ……..	69
3.3.2.2b.	Percentage distribution of men interviewed during the 1990, 1999 and 2003 NDHS ……	70
3.3.3.	Number of births for the seven years before through the year of survey, NDHS 1990, 1999 and 2003 ……..	72
4.2.1a.	Age Specific Fertility rates in the total sample of women, NDHS 1990, 1999 &2003 ……	88
4.2.1b.	Age Specific Fertility rates by Residence ……..	89
4.2.1c.	Age Specific Fertility rates by Region ……	89
4.2.1d.	Age Specific Fertility rates by Education ……	90
4.2.1e.	Age Specific Fertility rates by Marital status ……..	91
4.2.2.	Observed and adjusted TFR derived by some indirect techniques	94

4.2.4a.	Mean Children Ever Born, NDHS 1990, 1999 & 2003 ……	102
4.2.4b.	Cumulative Age Specific Fertility Rates, NDHS 1990, 1999 & 2003 ……..	102
4.2.4c.	Mean Children Ever Born Versus Age Specific Fertility rates, NDHS 1990, 1999 & 2003 …….	103
4.2.4d.	P/F Ratios, NDHS 1990, 1999 & 2003 ……	103
4.2.7.	Percentage of Teenage Mothers by Selected Characteristics ……	114
4.2.8a.	Parity Progression Ratios for all Women, NDHS 1990, 1999 & 2003 …….	115
4.2.8b.	Parity Progression Ratios by Age group, NDHS 1990, 1999 and 2003 …….	117
4.2.8c.	Parity Progression ratios by Residence, NDHS 1990, 1999 and 2003 …….	119
4.2.8d.	Parity Progression ratios by Region, NDHS 1990, 1999 and 2003	119
4.2.8e.	Parity Progression Ratios by Level of Education ……	120
4.2.8f.	Parity Progression ratios by Marital status, NDHS 1990, 1999 and 2003 …….	121
4.2.9a.	Plots of survival functions for preceding birth interval of respondents' last birth, NDHS 1990 …….	124
4.2.9b.	Plots of survival functions for preceding birth interval of respondents' last birth, NDHS 1999 ……..	125
4.2.9c.	Plots of survival functions for preceding birth interval of respondents' last birth, NDHS 2003 ……..	127
5.3.1.	Median Age at First marriage of Currently Married Women by Level of Education, NDHS 1990, 1999 and 2003 …….	145
5.4.1.	Regional Variation in the Percentage of Sexually Active Women that are Contracepting, NDHS 1990, 1999 & 2003 ……	159

LIST OF APPENDICES

Number	Title	Page
3a	Normal distribution tests …….	317
3b	Focus Group Discussion protocol ……	327
3c	Ethics approval …….	334b
3d	Calculation of Myer's indices ……..	335
3e	Calculation of Age Ratios ……	337
4a	Brass P/F ratios ……	338
4b	Gompertz estimates of TFR …….	339
9	Proportion of Women that Progress from Parity Four to Five, NDHS, 1990, 1999 and 2003 ……	341

LIST OF ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
APHRC	African Population and Health Research Council
ASFP	Age Specific Fertility Pattern
ASFR	Age Specific Fertility Rates
BFI	Baby Friendly Initiative
BLY	Birth last year
CEB	Children Ever Born
CODESRIA	Council for the Development of Social Research in Africa
DFID	Department for International Development (DFID)
DHS	Demographic and Health Survey
EA	Enumeration Area
EAs	Enumeration Areas
FCT	Federal Capital Territory, Nigeria
FGD	Focus Group Discussion
FGN	Federal Government of Nigeria
Fn	Natural Fertility
FOS	Federal Office of Statistics, Nigeria
Fw	Wanted fertility
GDP	Gross Domestic Product
HIV	Human Immunodeficiency Virus
ICPD	International Conference on Population and Development
Ip	Index of Fertility Preference Implementation
MCEB	Mean Children Ever Born
NDHS	Nigeria Demographic and Health Survey
NEEDS	National Economic Empowerment and Development Strategy
NGO	Non-Governmental Organization
NISH	National Integrated Survey of Households (NISH)
NPC	National Population Commission, Nigeria
NSFG	National Survey of Family Growth
OPEC	Organisation of Petroleum Exporting Countries
PAS	Population Analysis Spreadsheet
PDF	Proximate Determinants of Fertility
PF	Potential Fertility
PPR	Parity Progression Ratios
SPSS	Statistical Package for Social Scientists
TF	Total fecundity
TFR	Total Fertility Rates
UBE	Universal Basic Education, Nigeria
UN	United Nations
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WFS	World fertility survey

ABSTRACT

While studies have indicated the onset of fertility transition in Nigeria as in most Sub-Saharan countries, no systematic attempt has been made to identify the factors responsible for this trend. Existing explanation tends to draw from the demographic transition theory without exploring the value of other key variables. One of these variables is the degree of preference implementation. This study explores the role of fertility preference implementation on the onset of fertility transition in Nigeria. The study estimated the extent to which couples have been able to implement their fertility preferences with a view to better understand the factors that are responsible for the fertility changes in the country.

This study was based on the socio-economic and microeconomic frameworks of fertility namely: the Bongaarts et al (1984) version and its Stover's reformulation (1998) of the proximate determinants of fertility and the Bongaarts (1993) supply-demand framework for the analysis of the determinants of fertility, respectively. The proximate determinant of fertility frameworks holds that all demographic, socio-economic, cultural, institutional, psychological, health and environmental factors (background variables) operate through the proximate or intermediate variables to affect fertility. The Bongaarts (1993) supply-demand framework posits that fertility (F) as measured by total fertility rate is an outcome of the interaction of supply of births (natural fertility), demand for births (wanted fertility) and degree of fertility preference implementation (an index, which measures the extent to which people have been able to implement their fertility preferences). The degree of preference implementation is in turn dependent on cost of fertility regulation and that of

unwanted childbearing. The husbands' family planning attitude and desired number of children were incorporated into the latter framework to recognize and bring out the crucial roles of the males in eventual fertility outcomes.

The 1990, 1999 and 2003 Nigeria Demographic and Health Survey (NDHS) data sets for men, women and couples were used. The methodology of the three NDHS is not too different from each other. They are nationally representative cross-sectional survey of women between the ages of 15 and 49 in 1990, 1999 and 2003 and men between 15 and 64 in 1999 and 15-59 in the 2003 survey. Twenty-four focus group discussions were also conducted among the sexes across the country to gain better insight and understanding into the issues examined. Focus group research is based on facilitating an organized discussion with a group of individuals selected because they were believed to be representative of some class. The discussion is used to bring out insights and understandings in ways, which cannot be captured by questionnaire. The focus group discussions (FGD) are also national in scope. Participants were drawn from the Northern, South Eastern and South Western regions of the country.

The study population consisted of 8,781; 8,199 and 7,620 women aged 15-49 interviewed during the 1990, 1999 and 2003 NDHS, respectively. In addition, 2,584 men aged 15-64 and 2,346 men aged 15-59 interviewed during the 1999 and 2003 NDHS, respectively were used. One thousand, one hundred and sixty-eight (1,168) couples' records derived from the 2003 NDHS and 1,280 (constructed) couples' records for 1999 were also used. A total of eighty-nine (89) men and eighty-five (85) women participated in the twenty-four (24) focus group discussion sessions.

To achieve the research objectives, a wide range of analysis was carried out in the study. In the estimation of all means and medians, the Kaplan Meier survival analysis is used. Some other estimations were done using specific formulations developed for the purpose. Thirty-six binary logistic regression models were also fitted to bring out spousal influences on each other's attitude to family planning and desired number of children. Lastly, the focus group discussion sessions were analysed by themes to give better understanding into the issues examined. Five hypotheses were tested in the study.

There was a general decline in the age specific fertility rates (ASFR) between 1990 and 2003 in all the age groups. This is reflected in the total fertility rate (TFR) for the country as a whole, which declined from 6.32 in 1990 to 5.82 in 2003. The national average masks large variations in the fertility levels between subgroups in the country. The women in the North generally have higher number of children than their Southern counterparts. This is particularly marked in the early childbearing years. Fertility levels are also higher among rural residents compared to those in the urban area. Substantial differences equally exist in the fertility levels of women by their level of education with fertility being negatively associated with level of education. A comparison of the past and current fertility also confirms that fertility has been on the decline in the country.

Age at first and last births have been declining and the differentials between the two show that the number of years spent in childbearing is decreasing. Non-marital birth was also found to be increasing over time but at a level below six percent and with no identifiable educational or regional pattern. Teenage motherhood is equally declining

both nationally and regionally and is relatively high among teenagers from the rural area and those with less than secondary level of education.

The proportion of women that progress from one parity to another decreases as parity increases and no socially imposed optimum number of children is observed (although there is a political four-child policy in existence) among the Nigerian women. Apart from age of mother at the birth of child, which has a positive association with median length of birth interval and the surviving status of preceding child (which is understandably shorter if the preceding child is dead), length of birth interval by other characteristics shows no significant variation across sub groups.

Age at first marriage remained between 16 and 17 over the years. This is lower for respondents from the rural, the North and for those with less than secondary level of education. For age at first sexual intercourse, it increased over time in the age groups. Respondents from the North and rural area however initiated sexual intercourse earlier and age at first sexual intercourse increases with level of education.

Among the proximate determinant indices, the index of postpartum insusceptibility has the greatest inhibiting effect, followed by that of marriage/sexually active, contraception and then sterility. In the Bongaarts model, the indices reduced total fecundity by 12.46 births in the total sample of married women in 1990; 8.90 births in 1999 and 9.45 births in 2003 while the indices jointly reduced potential fertility by 17.69 births in the total sample of sexually active women in 1990; 16.06 births in 1999 and 16.50 births in 2003 in the Stover's reformulation.

The number of children desired marginally increased over time. This could have been affected by the high proportion of non-response especially in the 1990 survey. The desired number of children is positively related to age and number of surviving children while it is negatively related to education. Number of children desired is found to be lower among urban residents and respondents from the Southern part of the country and highest among currently married women. The focus group discussion sessions also show that people have been revising the number of children they are having downward due to 'supposed' economic hardship in the country and the need to give quality education, training and care to the children. However, their desire remain high.

The extent, to which fertility preference is achieved, is generally high and increasing over the years in the total sample of married women with some variations in the sub groups. It is higher in the urban compared to the rural; increases with level of education, lowest in the North East and highest in the South West. Surprisingly, the extent to which concordant couples achieve their fertility preferences was lower than that of discordant couples. The fitted logistic models showed no evidence of the husbands having an upper hand in the number of children desired by the wives or on their attitude to family planning and vice versa. While the husbands play greater role in fertility decision-making in households, who has the upper hand between the husbands and the wives in actual fertility outcome was not conclusive in this study.

Knowledge about family planning methods and their availability is high. The costs of fertility regulation in terms of its social, economic and in particular health components as well as obstacles to the use of fertility regulation methods were

highlighted. The psychological, health, social and more frequently the economic costs of unwanted childbearing were also brought out. The responses to questions on pregnancy wantedness was also validated in this study as people generally acknowledged the circumstance of the birth of additional child(ren) as accidental.

Two of the five hypotheses proposed were confirmed. One, the hypothesis that 'the degree of fertility preference implementation is higher in the south than in the North, higher among urban residents compared to the rural residents and increases as the level of education increases' is supported by the results of the study. Two, that 'the degree of fertility preference implementation is increasing and playing an increasing (a more positive) role in fertility changes in Nigeria' is also supported. The study could not confirm that 'the indices of marriage/sexual activity, postpartum insusceptibility and contraception (in that order) have the most inhibiting effect on fertility in Nigeria.' The other two hypotheses could not be proven conclusively either. These were that 'degree of fertility preference implementation is higher among couples with similar desired number of children than among discordant couples' and 'the Husbands have more influence on their wives' family planning attitude and desired number of children than the wives have over their husbands'.

These findings have programme and policy implications. For instance, although the reduction in the number of years spent in child bearing is welcome as a result of decline in the number of older women in active childbearing, the increasing entrance of women under the age of eighteen years is worrisome. This could impact negatively on school enrolment and retention as well as on the health of the women since it is

recognised that women under the age of eighteen years is one of the four groups of women with higher risk of morbidity and mortality during pregnancy and childbirth.

Despite the pertinent findings of this study, a number of study limitations can be identified. This include not identifying people who have achieved their desired fertility and those who have not and conducting in-depth interview with them to gain greater insight into their fertility decision-making, desire and behaviour. This aspect requires further detailed investigation.

A number of programme, policy and research recommendations are made based on the findings of this study.