EFFECTS OF EDUCATIONAL ATTAINMENT ON WOMEN'S FERTILITY IN URBAN CENTERSS OF KADUNA STATE NIGERIA

BY

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A THESIS SUBMITTED TO THE SCHOOL OF POST-GRADUATE STUDIES AHMADU BELLO UNIVERSITY, ZARIA, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER IN SCIENCE GEOGRAPHY

DEPARTMENT OF GEOGRAPHY,
FACULTY OF SCIENCE
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NOVEMBER 2012

DECLARATION

I hereby declare that this study has been undertaken by me and that it is a record of my research work. All sources of information are specially acknowledged by means of reference.

_____ _____

BAYEFA LICKSON DATE

CERTIFICATION

This thesis entitled "**EFFECTS OF EDUCATIONAL ATTAINMENT ON WOMEN'S FERTILITY IN URBAN CENTERSS OF KADUNA STATE NIGERIA**", BY BAYEFA LICKSON meets the regulations governing the award of the degree of master in science of Ahmadu Bello University and is approved for its contribution to knowledge and literary presentation.

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DEDICATION

I dedicate this work first to God Almighty by whose mercies I live and to my dear wife Mrs. Sarah Bayefa and my lovely children; John, Jerry and Angel.

ACKNOWLEDGEMENT

I remain grateful to God for His mercies, protection and sustenance throughout the period of this research.

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TABLE OF CONTENTS

Title page - i

Declaration - ii

Certification - iii

Dedication - iv

Acknowledgement -v

Table of Contents - vii

List of Tables - xiv

List of Figures - xviii

List of Appendix -xix

Abstract - xx

CHAPTER ONE: INTRODUCTION

1.1 General Background to the Problem - 1

1.2 Statement of the Problem - 4

1.3 Aims and Objectives -6

1.4 Research Hypothesis -7

1.5 Scopes of the Study - 7

1.6 Significance of the Study- 8

1.7 Research Methodology - 8

1.8 Sources of Data -8

1.9 Sampling Design - 9

1.10 Data Analysis - 13

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction - 15

2.2 Fertility Decline in Developing Countries - - - - - - - - - - - - - - - - - - -16

2.3 Conceptual Framework - 17

2.4 Education and Child Mortality - 20

2.5 Women's Education and Fertility -21

2.6 Women's Education and Use of Contraceptive - - - - - - - - - - - - - - -23

2.7 Religion, Culture and Family planning -37

2.8 Conclusion -27

CHAPTER THREE: THE STUDY AREA

3.1 Location of the Study - 28

3.2 Physical Characteristics - 34

3.3 Historical Developments - 35

3.4 Population Growth and Development - 38

3.5 Economy of Kaduna State - 41

3.6 Commerce and industry -41

3.7 Ethnic Composition and Culture - 44

3.8 Urban and Rural Development and Pattern of Human Settlement - -45

3.9 Problem of Urban primacy - 46

3.10 Agriculture, Forest and Other Basic Activities - - - - - - - - - - - - - - - 48

3.11 Livestock - 51

3.12 Minerals -51

CHAPTER FOUR: BACKGROUND CHARACTERISTCS OF RESPONDENTS

4.1 Introduction - 53

4.2 Age of Respondents - 53

4.3 Ethnicity of Respondents - 54

4.4 Religion of Respondents - 55

4.5 Education- of Respondents - 56

4.6 Occupation of Respondents - 57

4.7 Income of Respondents - 58

4.8 Years of Work- of Respondents -59

CHAPTER FIVE: REPRODUCTIVE BEHAVIOR AND FERTILITY LEVELS

5.1 Introduction- 60

5.2 Marital Status of Respondents -60

5.3 Type of Marriage of Respondents -61

5.4 Age at First Marriage of Respondents - 62

5.5 Years in Marital Union of Respondents -64

5.6 Reasons for Delay in Marriage of Respondents - - - - - - - - - - - - - 64

5.7 Fertility and Child Mortality of Respondents - - - - - - - - - - - - - - - 65

5.8 Child Mortality of Respondents - 66

5.8.1 Causes of Children Death of Respondents - - - - - - - - - - - - - - - - -68

5.9 Family Size Preference of Respondents - - - - - - - - - - - - - - - - - - -89

5.10 Sex Preferences of Respondents - 70

5.11 Reasons for Having More Than Ideal Number of Children - - - - - - 71

5.12 Education, Actual and Desired Family Size of Respondents - - - - - 72

5.13 Breast Feeding of Respondents - 73

5.13.1 Education and Breast Feeding of Respondents - - - - - - - - - - - - - - 75

5.14 Birth Spacing of Respondents -76

5.14. Education and Birth Spacing of Respondents - - - - - - - - - - - - - - - 77

5.15 Income and Ideal Number of Children of Respondents - - - - - - - - -78

5.16 Ethnicity and Ideal Number of Children of Respondents - - - - - - - 80

5.17 Marital Status and Ideal Number of Children of Respondents - - - - 81

5.18 Years in Marital Union by Ideal Number of Children of Respondents ------ ---82

5.19 Religion and Fertility - of Respondents - 83

5.20 Type of Occupation by Ideal Number of Children of Respondents - 85

CHAPTER SIX: EDUCATION AND FERTILITY DIFFERENTIALS

6.1 Introduction -86

6.2 Education and Women's Fertility of Respondents - - - - - - - - - - - - -86

6.3 Education and Age at First Marriage of Respondents - - - - - - - - - - 88

6.4 Education, Fertility and Marriage of Respondents- - - - - - - - - - - - 89

6.5 Education and Other Variables of Respondents - - - - - - - - - - - - - 90

6.7 Family Planning of Respondents -93

6.8 Education and Use of Family Planning of Respondents - - - - - - - - -94

6.9 Knowledge and Practice of Family Planning of Respondents - - - - -96

6.10 Type of Family Planning Method and Use - - - - - - - - - - - - - - - - - 97

6.11 Source of Family Planning Knowledge of Respondents - - - - - - - - 98

6.12 Purpose of family planning of Respondents - - - - - - ----------------99

6.13 Education and Purpose of Family Planning of Respondents - - - - 100

6.14 Reasons for Adopting a Particular Family Planning Method of Respondents----------101

6.15 Conclusion----------102

CHAPTER SEVEN: SUMMARY AND CONCLUSION

7.1 Main Findings of the Study - 103

7.2 Suggestion for Future Research - 106

7.3 Conclusions- 106

7.4 Recommendations - - - - - -- -- - 107

LISTS OF TABLES

Table **Description**

Page

Table 1.1 Populations of Towns in Kaduna State - - - - - - - - - - - ---------9

Table 1.2 Population of selected Towns in Kaduna State - - - - - - - - - -10

Table 1.3 Neighborhoods ---------- -11

Table 1.4 Sample Neighborhoods- 12

Table 1.5 Distribution of 420 Questionnaires in Study Area- - - - - - - - 13

Table 4.1 Age Distribution of Respondents - - - - - - - - - - - - - - - - - - - 53

Table 4.2 Distribution of Respondents by Educational Attainment - - - -56

Table 4.3 Distribution of Respondents by occupation - - - - - - - - - - - - 57

Table 4.4 Distribution of Respondents by Monthly Income - - - - - - - - 58

Table 4.5 Distribution of Respondents by Years of Work - - - - - - - - - -59

Table 5.1 Distribution of Respondents by Age at First Marriage - - - - - 63

Table 5.2 Distribution of Respondents by Years in Marital Union - - - - 64

Table 5.3 Distribution of Women by Number of Children - - - - - - - - - 66

Table 5.4 Distribution of Respondents by Number of Dead Children - - 67

Table 5.5 Distribution of Respondents by Causes of Children's Death - 68

Table 5.6 Distribution of Respondents by Desire for More Children - - 69

Table 5.7 Distribution of Respondents by Sex Preference - - - - - - - - - -70

Table 5.8 Reasons for More than Ideal Number of Children - - - - - - - - 71

Table 5.9 Distribution of Respondent's Actual and Desired Number of Children by Education - 72

Table 5.10 Distribution of Respondents by Duration of Breastfeeding - - - 74

Table 5.11 Distribution of Women's Education by Duration of Breastfeeding----------75

Table 5.12 Distribution of Respondents by Birth Spacing - - - - - - - - - --76

Table 5.13 Distribution of Women's Education by Child Spacing - - - - 77

Table 5.14 Distribution of Respondent's Actual and Desired Number of Children by Income - 79

Table 5.15 Distribution of Respondents Actual and Desired Number of Children by Ethnicity - 80

Table 5.16 Distribution of Respondents Actual and Desired Number of Children by Marital Status -81

Table 5.17 Distribution of Respondent's Actual and Desired Number of Children by Years in Marital Union - 82

Table 5.18 Distribution of Respondent's Actual and Desired Number of Children by Religion - 84

Table 5.19 Distribution of Respondent's Actual and Desired Number of Children by Occupation - 85

Table 6.1 Distribution of Respondent's Educational and Fertility - - - -86

Table 6.2 Distribution of Respondents by Education and Mean Age at First Marriage..,- 88

Table 6.3 Distribution of Respondent's Mean Live Birth by Education and Mean (x) Age at First Marriage - 89

Table 6.4 Correlation Test Result of Education by Other Variable-------90

Table 6.5 Distribution of Respondents Knowledge of Family Planning---93

Table 6.6 Distribution of Women's Education by Use of Family Planning ----------94

Table 6.7 Distribution of Women by Knowledge and Practice of Family Planning Method - ----------96

Table 6.8 Distributions of Respondents by of Family Planning methods and use ---------- ------97

Table 6.9 Distribution of Respondents Source of Family Planning Knowledge ----------98

Table 6.10 Distribution of Respondent's Purpose of Family Planning ----99

Table 6.11 Distribution of Respondent's Education and Purpose of Family Planning -100

Table 6.12 Distribution of Respondents by Reasons for Adopting a particular Family Planning - 101

LIST OF FIGURES

Figure **Description**

Page

Fig 3.1 Map of Kaduna State - 30

Fig 3.2 Map of Kaduna - - - - - - - - - - - - - - ----------31

Fig 3.3 Map of Sabon Zaria - - - - - - - - - - - - - - - - ---------- -32

Fig 3.4 Map of Kafanchan - - - - - - ---------- - - 33

Fig 4.1 Distribution of Respondents by Ethnicity - - - - - -- - - - - - - - 54

Fig 4.2 Distribution of Respondents by Religion - - - - - - - -- - - - - - 55

Fig 5.1 Distribution of Respondents by Marital Status - - - - - - - - - - 61

Fig 5.2 Distribution of Respondents by Type of Marriage - - - - - - - -62

Fig 5.3 Distribution of Respondents by Reasons for Delay in Marriage - -

----------65

LIST OF APPENDICES

Appendix **Description**

Page

Appendix 1 Questionnaires on the Effect of Women's Educational Attainment and Fertility in Kaduna State - 150

Appendix 2 Chi – Square (x^2) Statistical Table - - - - - - - - - - - - - - - - - - 168

Appendix 3 Regression Analysis Statistical Table----------

ABSTRACT

This thesis presents the findings of a study on the effect of women's educational attainment on fertility of urban centres in Kaduna State. The study was conducted in the three most populated urban towns in Kaduna State (Kaduna, Zaria and Kafanchan). A total of four neighborhoods were randomly selected from eight neighborhoods in each town for the administration of questionnaires. A total of 420 structured questionnaires constituting 0.1 percent of the sampled population of the three towns which is 421,248 were administered. The first household along the street was picked and subsequently, every third household was selected to respond to the questionnaire and data was collected from ever – married women aged between 15 – 49 years. Data collected from the field were coded and vetted, then fed into the computer. The data were analyzed using descriptive statistics, chi- square test and correlation test. The analysis strongly suggests that women's education affect fertility negatively. Education is positive in explaining women's current use of contraceptives. Educated women are more likely to appreciate the advantages of having fewer, better educated children. Areas for further investigations are highlighted. On the basis of the findings, it was recommended among others the need to change the attitude of parents by enlightening them on the long term benefit of women education. Compulsory schooling laws should be straightened not to discriminate between boys and girls and possible reabsorbing strategies could be designed to reabsorb women who have dropped out of school or who could not go to school due to lack of sponsorship, early pregnancy and other reasons, training more female teachers and the design of curriculum be made relevant to future employment so that women do not stay unemployed for too long after graduation.

CHAPTER ONE

INTRODUCTION

1.1 General Background to the Problem

Women's status is widely acknowledged as one of the main determinants of fertility decline in developed countries (MacDonald, 2000). Its potential contribution to fertility decline and other aspects of reproductive health in developing countries has also been universally acknowledged. It was singled out for special attention by the International Conference on Population and Development (ICPD, UNPA, 1994). Education and labor force participation is commonly considered as the main pillars of women's status (United Nations, 1987).

The potential impact of education on various aspects of behavior, including fertility and family planning behaviors is too obvious to call for any discussion. There is in fact a wealth of data from both developed and developing societies confirming the importance of women's education for fertility decline (United Nations, 1987). On a global level, countries with the lowest rates of fertility are characterized by high levels of literacy and educational attainment by women. In contrast, countries with high fertility rates are distinguished by high rates of illiteracy and very low levels of educational attainment by women (United Nations Development Program, 2000).

The current population of Nigeria is about 140 million (NPC, 2006). The annual rate of natural increases is estimated to be between 2.9% and 2.6% (NPC, 2006; United Nations, 2005). Nigeria has the growth potential to become the fifth largest population (303 million) by 2050 (United Nations Population Division, 2009). This growth could be occurring because Nigeria has a high rate of both desired and actual fertility (Orubuloye,

1991). The 1999 NDHS reported that a Nigerian woman will bear an average of 5.2 children throughout her life. The rate is still high especially in rural areas. For instance, Pritchett (1994) reported that in 1990, the ideal average number of children each couple wanted to have was 5.8, however the actual average was 6 specifically in the Southwest region of Nigeria. Bankole and Feyisetan, (2002) reported that the desired family size in south western Nigeria in 1990 was 5.2 while the actual rate was 5.5. Although recent statistics suggest signs of decline in fertility (United Nations, 2005), this decline is at best slow if not uncertain (Caldwell, 1992).

Studies on the relationship between education and fertility have not produced conclusive result so far in Nigeria. It seems education often at best gives only a partial explanation of demographic transition.
In Kaduna State, the single most important determinant of a child's survival amongst other factors is its mother's level of education (Mamman, 1992). Historical data support the fact that the onset of sustained fertility decline is associated with the attainment of mass education. According to Core Welfare Indicator Questionnaire Survey (CWIQS) data for Kaduna State 2006 indicate that 34 percent of female age group between 15-19 years has never attended school. The corresponding figures for female between the age group 20 – 24 years is 51.4 percent, which shows an impressive progress has been made in raising school attendance rates among girls during the last decade. However, the number of those who have never enrolled is particularly high among the poorest households of which 20 percent of household, nearly one half of females have never been to school.

The educational management information system (EMS) in its survey of 2004/2005 of Kaduna State, stated that a total of 935,000, 109,000 and 69,000 children were enrolled

into primary, junior secondary and senior secondary schools respectively in that school year. There are very wide differences in enrolment ratio between rural and urban areas. There are very large enrolment disparities with respect to gender for both primary and secondary schools. The extent of gender enrolment disparities varies considerably across the 23 local government areas of the state. The female enrolment figures for primary, junior secondary and senior secondary schools are; 410,566, 41,285, 27,244 respectively. The most noticeable feature of the current attendance rate profile for females is the sharp decline in enrolment levels once children reach 11-12 year olds. This is particularly marked among girls.

With the increasing rate of female enrolment into all levels of education in Kaduna State, total fertility rates have decline over the year's (Balogun, 2006). On the average, a full time housewife will have one or two more children than a working class woman (6.1 and 3.9 respectively). This shows that educated women tend to have fewer children than their uneducated counterparts. Some of the variables that significantly correlated with TFR in Kaduna state include natural fertility and the rate of survival of children (Ahmad, 2004). The former is considered to be a product of post partum abstinence while the later has to do with age at marriage and parity, socio-economic status, education and income, availability of health care (Ruth, 1997). According to Ahmad, 2004 the factors affecting TFR in Kaduna State include; duration of marriage, experience of child mortality, caste, household type and preferred number of children, literacy level, per capital income, rate of women's participation in the labor force.

1.2 Statement of the Problem

Fertility has been relatively high in Nigeria for several years. The 1965/1966 National Rural Demographic Sample Survey gave a crude birth rate of 50 per 1,000 persons and an average completed family size of 5.6 children (Federal Office of Statistics (FOS, 1968). Estimates of total fertility rate for Kaduna state for the years 1965, 1970, 1971, 1973 and 1975 are 6.6, 6.5, 7.3 and 7.0, respectively. These figures imply an increase between 1965 and 1975 or, at best, a stability of fertility at high levels. The rise in fertility in early to mid 1970s may be explained partly by the dramatic rise in revenue from oil export which leads to a sharp increase in food import as well as workers' salaries and the introduction of universal primary education (Bankole and Bamisaye, 1995). The 1981/1982 Nigeria Fertility survey (NFS) found a Estimates of total fertility rate for Nigeria 5.94 in 1980-1982 (National Population Bureau, WFS, 1984) and the 1990 Nigeria Demographic and Health Survey put the Estimates of total fertility rate at 6.01 in the period 1988-1990 (FOS, and IRD/Macro International, 1992). Further decline in Estimates of total fertility rate was indicated for 1992-1994 by a 1994 Sentinel Survey (5.2). The decline is not evident at the national level but also among different sub-groups.

In a number of Asian and African countries, women with moderate levels of education had higher fertility rates than women with either less or more education. This may occur because women with moderate levels of education breast-feed less than the least educated women but do not use contraceptive as much as the best educated women. Other studies which supported the above view are the ones done by Caldwell, (1998) and Olusanja (1993).

Though, several studies had been carried out in the study area on fertility differentials, education and fertility, Mamman (1992) in his study of fertility differentials in Kaduna metropolis observed that education exhibits a stronger and consistent relationship to fertility than any other variable. While Balogun (2006) in her study of the impact of women's schooling on fertility and contraceptive use in Kaduna also noted that there is a strong relationship between women's education and fertility, she observed that other factors that affect fertility includes; women's labor participation, sex preferences, availability of family planning services, general environment and population programs and policies were found to have medium effect on fertility in Kaduna state. Also Laah (2003) in his study of the demographic and socio-economic effects of HIV/AIDS in Kaduna State observed that education exhibits a stronger influence on fertility, use of contraceptive and the control and spread of HIV/AIDS. He therefore noted that education is a tool in fertility and Aids control. Furthermore, Auta (2006) in her study of the determinants of women's participation in decision-making about family planning in Kaduna metropolis noted that low education and literacy levels, poverty, inadequate health care infrastructure and high child mortality all affect fertility in Kaduna metropolis.

Though issues on education and fertility in Kaduna state are much discussed and well researched. Most of the existing literatures establish that education has great impact on fertility. In most of these studies the samples used were taken from the cities or local government areas of Kaduna State.

However, in this study, the study area is chosen from the (3) major cities of Kaduna State which fall into the three (3) geo- political zones of the state where the culture and religious affiliation of the people are quite different. This will establish if education plays

same role irrespective of the divers' cultural and religious affiliations of the people in the state.

Against the backdrop of the above, the research intends to address the following questions:

1. What is TFR's situation in Kaduna State?
2. Are there differences in women's fertility in relation to educational attainment in Kaduna State?
3. How does women's education affect actual and desired family size in Kaduna State?
4. At which level does women's education start playing a fertility reducing effect in Kaduna State?
5. What is the effect of background characteristic on fertility?

1.3 Aim and Objectives

The aim of this study is to examine the effect of women's educational attainment on fertility in Kaduna State, Nigeria.

This aim will be achieved through the following objectives;

1. To determine TFR's situation in Kaduna State.
2. To examine the level of fertility of educated and uneducated women.
3. To examine the extent to which family size can be influenced by levels of educational attainment.
4. To determine at which level a woman's education start playing a fertility reducing effect.

5. To determine the effect background characteristic on fertility.

1.4 Research Hypothesis

The basic hypothesis this work seeks to test is the effect of women's educational attainment on fertility in urban centers in Kaduna state. The hypothesis can be broken down to specific hypothesis:

1 Ho: Fertility is not a function of education.

Hi: Fertility is a function of education.

11 Ho: Birth spacing is not a function of education.

Hi: Birth spacing is a function of education.

111 Ho: Use of family planning methods is not a function of education.

Hi: Use of family planning methods is a function of education.

1.5 Scope of the Study

The focus of the study is on the effect of women's educational attainment on fertility in Kaduna State. The study area will be limited to the three (3) main urban centers (towns) ranked highest in terms of population in Kaduna State. These towns includes; Kaduna, Zaria and Kafanchan.

The choice of these three towns apart from ranking highest in their population sizes, are also heterogeneous in population, religious and culturally mixed, plays host to educational, religious, political and financial institutions.

The study intends to examine how education affects fertility by influencing other fertility determinants such as contraceptive use, age at marriage, attitude towards number of children, family size etc.

1.6 Significance of the Study

Study of fertility differential and analysis of factors associated with them are of obvious importance. Therefore, studies of this nature, has the potential to generate baseline data to serve as reference material, useful in planning and provision of social services, provides data and information on the impact of education on fertility and fertility change. It will also be useful in poverty eradication programs and the achievement of the MDGs.

1.7 Research Methodology

A reconnaissance survey was carried out to acquaint the researcher with the study area.

1.8 Sources of Data

The sources of data used for the study include primary and secondary sources.

The Primary Data was obtained through the administration of 420 questionnaires, in-depth interviews where necessary. The questionnaires will contain structured questions which include bio-data, education level, family size, use of contraceptive, occupation, religion. This will however, not limit respondents from giving personal opinions and ideas.

Secondary Data: the secondary data was based on desk research. The library research will involves the search, identification published in books, monographs, conference papers, journals, newsletters, newspapers reports and feature articles.

1.9 Sampling Design

Kaduna State has a population 6,066,562 (NPC, 2006), with twenty three LGA grouped in to three senatorial districts. The ranked order of population size was used as the basis for selecting the specific towns for the study.

Table 1.1 Populations of Towns in Kaduna State

S/NO	TOWN	POPULATION SIZE
1	Kaduna	1.2Million
2	Zaria	600,000
3	Kafanchan	180,000
4	Saminaka	120,000
5	Birni Gwari	100,000
6	Kachia	80,650
7	Ikara	78,543
8	Makarfi	62,234
9	Soba	58,342
10	Zonkwa	48.765
11	Pambegua	45,065

Source: NPC, 2006.

The table above shows the rank order of population sizes of major towns in Kaduna State.

From the above table, Kaduna, Zaria and Kafanchan rank highest in population size as shown below.

Table 1.2 Population of selected Towns in Kaduna State

S/NO	TOWN	POPULATION SIZE
1	Kaduna	1.2 million
2	Zaria	600,000
3	Kafanchan	180,000
	Total	**1,980,000**

Source: NPC, 2006.

The choice of Kaduna, Zaria and Kafanchan is guided by a number of considerations;

i. These three towns ranked among the highest in terms of their population sizes in Kaduna State, see Table 1.1 above.

ii. These three towns fall into the three (3) senatorial district of the state.

iii. Also these towns play host to a number of institutions educational, political, financial, and religious and trade groups, and other ethnic groups in the state are resident in these three towns.

Therefore, these three towns are representative of the state and finding from this research could be used to implement policies for the entire state.

For the purpose of easy administration of questionnaires in each of these towns, the researcher adopted the neighborhoods created in each city by the National population commission (NPC) in 1996 census as shown in Table 1.3. There are eight of such neighborhoods in each city.

To be able to get the sample locations for the administration of the questionnaires the random sampling method was used. Random sampling is the procedure in which every member of the population has equal right of being selected as member of the sample. Half ($^1/_2$) of the total neighborhoods from each town was chosen for the purpose of respondent

selection. This method is used because the population of each of these towns is heterogeneous.

Table 1.3 Neighborhoods

S/NO	NEIGHBOURHOOD	POPULATION
	KADUNA TOWN	
1.	Ungwar Rimi	52,717
2.	Kurmin Mashi/Tudun Wada	60,299
3.	Tudun Nupawa	20,026
4.	Television	28,344
5.	Ungwar Sunday	32,026
6.	High Cost/Sabon Tasha	50,925
7.	Nassarawa	61,501
8.	Ungwar Dosa	25,316
	TOTAL	**302,354**
	KAFANCHAN TOWN	
1.	Kafanhan	77,556
2.	Federation	1,185
3.	Bayanloco	2,330
4.	Hayin Gada	2,366
5.	Takau	3,487
6.	Adau	2,105
7.	Garaje/Zikpak	2,582
8.	Ung/Mission	378
	TOTAL	**91,989**
	ZARIA TOWN	
1.	Wusasa	12,114
2.	Tudun Wada/Gyellesu	55,178
3.	Zaria City 1	24,979
4.	Gaskiya	4,367
5.	Samaru	15,310
6.	Sabon Gari/Chikaji	14,347

7.	Basawa	6,678
8.	Palladan/Hanwa	2,789
	TOTAL	**135,762**

Source: NPC, 1996.

This was to ensure that no category of people was left out in the administration of questionnaires and to ensure adequate coverage of the selected neighborhoods. The selected neighborhoods are as shown in Table 1.4.

Table 1.4 Sample Neighborhoods

S/NO	NEIGHBORHOOD	POPULATION
	Kaduna town	
1	Ungwar Rimi	52,717
2	Kurmion Mashi/Tudun Wada	60,299
3	Highest/Sabon Yasha	50,926
4	Nassarawa	61,501
	Total Population	
	ZARIA TOWN	
1	Tudunwada/Gyellesu	55,178
2	Zaria City	24,979
3	Samaru	15,310
4	Sabon Gari	14,347
	Total Population	
	KAFANCHAN TOWN	
1	Kafanchan	77,556
2	Hayin Gada	2,366
3	Garaje/Zikpak	2,582
4	Takan	3,487
	Total	**85991**
	Grand Total	**421248**

Source: NPC, 1996.

These selected areas were assigned questionnaire based on their population sizes. For the actual sample frame, 0.1 percent of the total population in each selected neighborhood will be used.

Table 1.5 Distributions of 420 Questionnaires in the Study Area

S/N	TOWN	POPULATION SAMPLE	PERCENTAGE OF THE POPULATION	QUESTIONNAIRE ASSIGN	RATIO OF RESPONDENT TO POPULATION
1	Kaduna	225443	0.1	225	1/1002
2	Zaria	109814	0.1	109	1/1007
3	Kafanchan	85991	0.1	86	1/1000
	Total	421248	0.1	420	1/1000

Source: NPC, 1996.

The structured questionnaires focused on socio-demographic information such as age, age at marriage, present marital status, educational status, number of children, duration of marriage, state of origin, ethnic background.

A total of 420 questionnaires were administered constituting 0.1 of the sample population of the three towns which is 421,248. The first household along the street was picked and subsequently, every third household was selected to respond to the questionnaire.

1.10 Data Analysis

The use of simple statistical methods was used to analyze the data. Both descriptive and inferential statistics were adopted to summarize the data, chats, tables, graph and percentages were used for presentation.

Also chi-square test was used. Chi-square is a statistical test commonly used to compare observed data with data we would expect to obtain according to a specific hypothesis.

The formula for calculating chi-square (X2) is:

X2= (o-e) 2/e; That is, chi-square is the sum of the squared difference between observed (o) and the expected (e) data (or the deviation, d), divided by the expected data in all possible categories.

Also correlation was used to test the relationship between education and other variables. Correlation is a statistical measurement of the relationship between two variables. Possible correlations range from +1 to –1. A zero correlation indicates that there is no relationship between the variables. A correlation of –1 indicates a perfect negative correlation, meaning that as one variable goes up, the other goes down. A correlation of +1 indicates a perfect positive correlation, meaning that both variables move in the same direction together.

The correlation r between two variables is:

$$r = \Sigma (xy) / \text{sqrt} [(\Sigma x^2) * (\Sigma y^2)]$$

Where Σ is the summation symbol, $x = x_i - x$, x_i is the x value for observation i, x is the mean x value, $y = y_i - y$, y_i is the y value for observation i, and y is the mean y value.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Female education creates awareness that their reproductive and health seeking behavior show a noticeable difference than illiterate women. Ample research has been carried out to find out the linkages between female education and fertility. It has been argued that female education empowers women mainly through four ways which includes; women involvement in family decision –making, autonomy and control over household resources, knowledge and awareness of the modern world and inter spousal communication bring about fertility decline (Jejeebhoy, 1992). Age at marriage of educated females is higher than their illiterate counterparts and the use of family planning methods is also greater among educated women. However, the duration and intensity of breast-feeding is lower among educated women than the illiterate women (Bankole, 1992). Another important linkage of female education and fertility works through the improved survivorship chances of their children. The health seeking behavior of educated mothers for the use of maternal and child health care services are better than illiterate mothers.

Although, the role played by female education is very helpful in slowing down population growth, the strategy of family planning program was evolved keeping in view the same objective but using a different approach for tackling the problem of population growth. The spread of female education would take more than a generation to produce results while family planning programs were designed as action oriented strategy that would facilitate a faster decline in fertility levels once the contraceptive technology is made available in the developing countries. It was debated at the outset of family planning

program that these be integrated with social development like increased female education as a crucial factor in the success of family planning program.

2.2 Fertility Decline in Developing Countries

Studies of fertility decline in the developing world have come to different conclusions about the presumed causes of these declines. But there is near unanimous agreement on two of the strongest influences on reduced fertility at both the individual and the community levels. These two influences are (a) the status of women/mothers (as measured by a number of indicators, but referring finally to some notion of gender equality, which is usually not the same thing as ‘‘prestige’’) and (b) the education of the women who become mothers. There are exceptions, of course, but on the whole the exceptions only serve to strengthen the case that these two indicators (gender equality and female education) both tend to depress fertility (Jejeebhoy, 1995).

The exceptions tend to be of two kinds. In the first kind, we have a few cases where gender equality or female education can actually increase (but more usually, leave unchanged), fertility levels. The second set of exceptions relate to cases where significant fertility declines have occurred in spite of the absence of any noticeable changes in gender equality or female education. The strength and the universality of the association between fertility and measures of gender equality and education have, not surprisingly, resulted in much speculation about the relation between education and gender equality. It has also led to the hypothesis that in fact education reduces fertility through the mediating effect of the gender equality that it encourages. Gender equality in this framework refers primarily to women’s control over resources and their own lives. This is another way of saying that, in a

system of gender equality, women have the autonomy to make decisions and to act on these decisions, whether these are decisions about household matters, the use of resources, or about their own right to mobility and to interaction with the outside world. Education or schooling is expected to contribute to all of these measures of female autonomy. In addition, it is believed to provide women with the tools to make informed or intelligent choices on these matters as well as to increase the confidence needed to act on these choices in the frequent face of opposition both within and outside the family (Jejeebhoy, 1995).

2.3 Conceptual Framework

Several efforts have been put forward in order to understand the determinants of fertility and attempt to formulate appropriate theories and models that explain reproductive behaviors. Davis and Blake's (1956) framework is perhaps the one which emphasized the role of socio-economic factors affecting fertility. Those authors made explicitly the distinction between factors which directly and indirectly influence fertility by identifying the direct factors referred to as proximate determinant or intermediate variables of fertility as they mediate between fertility and any other variables. Education for example has to affect fertility by affecting age at marriage or use of contraception and the age at marriage or contraception will transfer this effect directly to fertility. Furthermore, Bongaarts (1978) is of the opinion that in any population the actual level of fertility achieved by a woman is influenced by seven intermediate variables or proximate determinants: marriage, contraception, induced abortion, and lactation in fecund ability, fecund spontaneous intrauterine mortality and sterility. According to this author, the variables outlined above

together constitute a complete set of path ways through which socio-economic and cultural factors affect fertility. Education for example gives people access to more sources of information on contraception which is likely to affect fertility. Education is widely believed to provide economic skill and job opportunities are often rationed on the basis of the level of education achieved.

Therefore, an adaptation of this framework is used in this study in order to identify the effect of education on fertility in the area. Education affects fertility not only directly but also indirectly through proximate determinants or intermediate determinants. Indeed, it is generally hypothesized that "modern" individuals have lower fertility than more traditional individuals. In other words, people living in urban areas, those who are well educated, those working and wealthy ones are likely to have lower fertility than those who are rural, uneducated, those who are not working and poor (Chauhry, 1997).

Women's education, marital status, income and wealth may for example affect fertility directly or indirectly through proximate variables such as age at marriage, contraceptive use, and breastfeeding. It is generally hypothesized that, the more education a woman has, the older her age at marriage. In fact, education raise the age at which women marry, and thereby shift the age of entry into sexual unions, leading therefore to a decline in fertility, because of the reduction of childbearing span. Furthermore, education gives knowledge and information on contraceptive methods which may also lead to a decline in fertility.

Contraceptive use is primarily motivated by a desire to control fertility. It is among proximate determinants most likely to correspond to and change with fertility aspirations.

Differentials in contraceptive use are therefore expected to correspond to differentials in family size preferences.

Breastfeeding patterns may help explain socio-economic differences in fertility. An inverse relationship is often established between duration of breastfeeding and education. It is generally hypothesized that the more education a woman has, the less she breastfeeds. Fertility can also be directly affected by socio-economic factors. For example, it is generally hypothesized, as education increases, fertility declines.

Marital status has been pointed among the powerful determinants of fertility. Married women generally have more children than unmarried women of the same age. Traditionally, births to unmarried women were not accepted in most societies so that, women often began bearing children after marriage and continued throughout her reproductive life time as long as they remained married.

Income is another factor thought to be influential in women's behavior, through employment. A high or average level of personal income is likely to give women more opportunities to improve themselves and keep them in touch with technological innovation, leading thereby to a decline in fertility.

Ownership of household goods expressed by having radio or TV, combine with education might improve knowledge on contraceptive use which may lead to a decline in fertility as well. However, pattern of early and virtually universal marriage and low use of contraception which characterized the Sub Saharan Africa are likely to lead to a high level of fertility in this part of the world.

2.4 Education and Child Mortality

Over the last several decades, considerable progress has been made to lower child mortality rates throughout the world. Despite impressive achievements, each year approximately 9.7 million of the world's children die under the age of five from largely preventable diseases (UNICEF, 2007). Approximately one half of these child deaths take place in sub-Saharan Africa (SSA) despite the region having only one fifth of the world's children. United Nations Millennium Development Goals set for 2015 is to decrease child mortality by two-thirds from 1990 (United Nations, 1999). To make progress towards this goal, sub-Saharan Africa must experience a dramatic reduction in child mortality. Of the 836 million people who live in the sub-continent, 153 million reside in Nigeria, Africa's most populous nation (Population information programme, 1990). Plagued with one of the highest child mortality rates in the world, approximately 189 child deaths occur per 1,000 live births in Nigeria (UNICEF, 2009). For sub-Saharan Africa (SSA) to meaningfully progress towards the UN Millennium Development Goals, child mortality must be drastically reduced in Nigeria.

For decades, demographic research has pointed to the mass schooling of women as an important factor in widespread fertility and mortality trends (UNICEF, 2009). Until the 1970s, it remained unclear whether schooling was a proxy for other dimensions of socio-economic status or was independently related to child mortality. Caldwell's (1979) seminar work in Nigerian slums showed maternal schooling to be negatively associated with child mortality even after controlling for other dimensions of socio-economic status. Caldwell's (1979) research led to the widely shared conclusion that maternal education is a "classical determinant" of child health and the most significant social determinant of child mortality.

Since Caldwell's (1979) study, a large body of literature shows that maternal education, net of socio-economic status, decreases the odds of child mortality by an estimated two to five percent per additional year of schooling (UNICEF, 2009). Further research indicated the effect of maternal education on child mortality as consistent across both time and space (United Nations, 1995).

In spite of the overwhelming evidence highlighting the importance of mothers' education in determining child mortality, questions about the nature of the relationship remain (UNICEF, 2009). How does schooling influence a woman's later ability to decrease the odds of her child's death? For several decades, researchers have theorized and hypothesized a number of pathways from maternal schooling to child mortality. Perhaps the most conceivable is the increase in socio-economic status that education provides individuals.

2.5 Women's Education and Fertility

Women's education has long been recognized as a key factor influencing reproductive behavior and childbearing pattern (DESIPA, 2005). However, despite universal recognition of the fundamental rights to education, women's access to schooling remains inadequate (United Nations, 2003). According to demographic surveys, 42 percent of Nigerian women have never attended school. This has an adverse effect on their productive roles, as well as on their overall quality of life. The lowest levels of female educational attainment are found in sub-Saharan and northern Africa, where many women have never attended school and lack basic literacy skills (United Nations, 2003). Recent educational trends provides some basis for optimism specifically, school enrolment has

increased steadily in most developing countries over the past decades the gender gap has narrowed considerably in primary education (UNICEF, 1999). Primary school enrolment has increased by 11.1 percent for girls and 18.2 percent for boys respectively in Nigeria (UNICEF, 2003).

The pattern of lowest fertility among the most educated women holds for all societies. According to a study carried out by Roxembourg (1997), in every country examined, women with 10 to more years of school have much lower fertility than women who have not attended school. The largest difference in fertility rates among countries of region occurs in Latin America where the rate ranges from 3 to 5 children (Chauhry, 1997).

Better-educated women consistently want smaller families. In many countries, unwanted fertility rates are remarkably high, implying that women are far from having achieved satisfactory control over their productive lives. In most Latin American countries, desired family rates are estimated to be one or two children lower than actual rates (John, 1996). Unwanted fertility rates are lowest among educated women. This suggests that education improves reproductive choices and reduces discrepancies between desired and actual family sizes.

The effect of women's education on fertility rates is not limited to the demand for children; it also affects the ability and willingness to implement fertility preferences through contraception. Although women's knowledge of contraceptive option is generally incomplete, awareness of at least one method is fairly high. This is even true for regions characterized by low levels of contraception such as Sahara Africa (Rogers, 2001).

High rates of child mortality reduce the supply of children, which in turn is likely to increase the demand for children. The existence of a linear relationship between mother

and child mortality has been well established (UNICEF, 1999). About 29 percent of educated women with three living children want to limit childbearing while only 12 percent of women with no education and three living children want to limit childbearing (Mason, 1985). With a high rate of survival, parents can be certain that they need not have many babies in order to maintain their desired family size. Moreover, the death of an infant, the duration of breast-feeding and postpartum abstinence is curtailed, which promote fertility (UNICEF, 1999).

2.6 Women's Education and Use of Contraceptive

There appears to be a positive and significant relationship between female education and contraceptive use. Female education affects the use of contraception through the acquisition of knowledge regarding contraception and through increased spousal communication (Orubuloye, 1991). The role of schooling becomes more apparent in terms of detailed knowledge, the number of methods especially non-traditional methods known, the current use of the particular method and from where a particular method can be acquired (Chauhry, 1997). In India, 95 percent of the women with secondary education knew about the IUD whereas only 39 percent of the uneducated women had the knowledge of this method and birth control (United Nation, 2004).

In many developing countries it has been observed that even women who are highly educated do not have adequate understanding of reproductive physiology (Ainsworth, 1999). There is still a large gap between knowledge and actual practice of contraceptive. The education of women even primary level education also breaks another barrier to contraceptive. Lack of spousal intimacy, which restricts free discussion on use excuse

matters or issues related to contraception. Rogers, (2001) finds that 63 percent of women with higher education reported that they and their husband approve of contraceptive use. This compares with just 16 percent of women with no education. Education affects spousal communication through emotional autonomy. The number of unwanted pregnancies is lower among educated women than among the uneducated. The gap between desired family size and actual family size shows unmet need for contraception among uneducated women. Four out of every six births was unwanted at all or was wanted later by uneducated women whereas one out of every six birth was unwanted or wanted later by educated women (Orubuloye, 1991). Thus, female education in addition to having many other benefits also goes a long way in reducing fertility.

The relationship between women's schooling and contraceptive use can be expected to change as average levels of schooling, women's status and availability of family planning services are improved. In Botswana, Nigeria and Senegal, women's schooling has a strong positive relation with contraceptive. Two-third of all educated women knows and uses at least one method of contraception (UNICEF, 2009). Certain modes of family planning service delivery appear to have influenced the use of modern contraceptive methods. For example, in communities that received visits from mobile family planning units, the probability of use of modern methods was about 4 percent higher than in those that did not receive such visits (UNICEF, 2009). Availability of services through a community based distributor was issued a bicycle or had taken a course; the probability of current use was elevated among less educated women. This suggests that good training and reducing the cost of reaching the most disadvantaged women.

According to the United Nations, the percentage of married women using contraception is four times higher among women with 10 or more years of education than women having no formal schooling. Data from demographic health survey shows that for nine African countries, women with no education have large families of 6 to 7 children, whereas, better educated women have family sizes of 2 to 3 children. Despite these wide differentials in actual fertility, desired family sizes is surprisingly homogenous throughout the educational spectrum. While the least educated and the best-educated women share the same family norm, the gap in contraceptive prevalence between them ranges from 20 percent to 50 percent points. Better-educated women have broader knowledge, higher socio-economic status and better contraception use and less fatalistic attitudes towards reproduction than do less educated women (Orubuloye, 1991).

2.7 Religion, Culture and Family planning

Culture, religion, and local beliefs influence peoples' choices (Bosveld, 1998). To a large extent, these community norms determine individual childbearing preferences and sexual and reproductive behavior. Community and culture affect a person's attitude towards family planning, desired sex of children, preferences about family size, family pressures to have children and whether family planning accords with customs and religious beliefs (Ainsworth, 1999). Community norms also prescribe how much autonomy individuals have in making family planning decisions. The larger the differences in reproductive intentions within a community, the more likely that community norms support individual choices. Household and community influences can be so powerful that they can obscure the line between individual desires and community norms. For instance, in some

cultures, many women reject contraception because bearing and raising children is the path to respect and dignity in the society.

Everybody belongs to informal social networks that influence their behavior to some degree (Orubuloye, 1991). Social networks include the extended family, friends, neighbors, political groups, church groups, youth groups, and other formal and informal associations. During the course of the day, women often speak to other women about family planning and experience with contraceptive use. For many women, informal communication is a primary source of family planning information (UNICEF, 2001).

The influence of social networks is crucial to informed choice. Most people seek the approval of others and modify their own behavior to please others or to meet others' expectations (Orubuloye, 1991). In Nigeria and other West African Countries for example, some women said that, it was difficult for them to use family planning because their relatives or friends were not using it. These women were reluctant to be the first in their social group to use family planning (UNICEF, 2001).

People choose contraceptive methods that are commonly used in their community because they know that it is socially acceptable to do so, and they tend to know more about these methods. Many women use the same family planning method that others in their religion or social networks use (UNICEF, 2001). A 1998 study in urban Nigeria found that the more widely used a method was, the more attractive it became to others in the cities and villages (Orubuloye, 1991). Entire communities may encourage one type of contraceptive based on the choices of early contraceptive users, rather than individual needs. Even when people are aware of the side effects or failures experienced by other users of a method, sometimes they still prefer it because it is familiar (Orubuloye, 1991).

While social networks exerts a strong influence on more people's reproductive attitudes and behavior, family planning programs themselves influence social norms through the diffusion of new ideas about contraceptive use - (Cleland, 2001). Based on a review of studies over the previous two decades, research in 1996 found that programs have helped convert people's interest in having fewer children into a definite demand for contraception. They have done so largely by making contraceptive use more accessible, common and acceptable in many communities (UNICEF, 2001).

2.8 Conclusion

In some societies in Asia, and Africa, a woman's sense of identity, legitimization, recognition, security and prestige in the family is dependent on her having children. Although, very few studies have been carried out on this, evidence suggests that the education of women serves as an alternative means of gaining respect. As an educated person, an educated woman is considered to be knowledgeable if she earns her living by working in an honorable occupation; she is likely to be highly valued. Education brings in prestige for women in spite of not having many children. The education of women emerged as the most significant factors influencing fertility behavior. The differences between women with education and those without education with respect to fertility are statistically significant.

CHAPTER THREE

BACKGROUND TO THE STUDY AREA

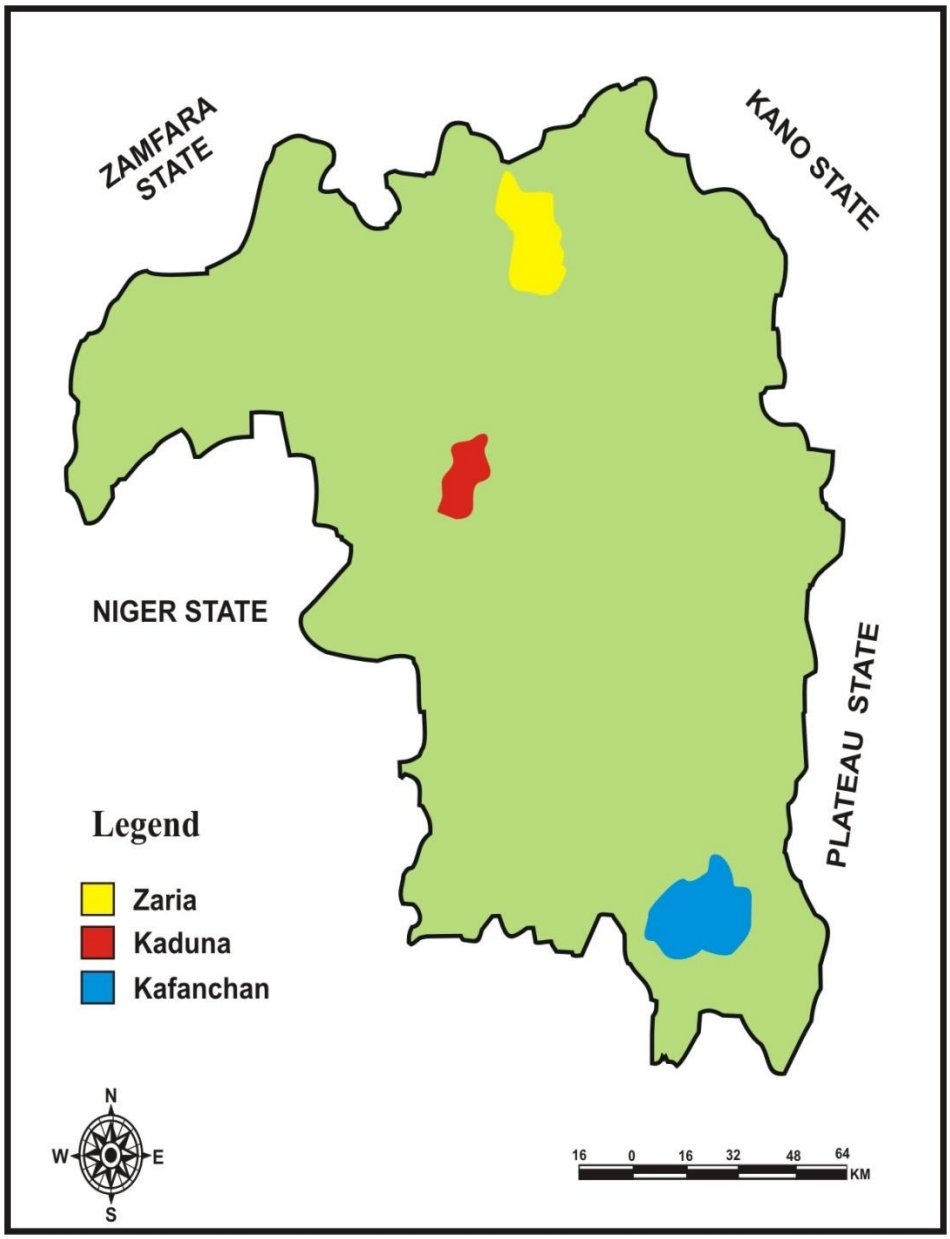
3.1 Location of the Study Area

Kaduna State occupies part of the Central position of the Northern part of Nigeria (with Kaduna as its capital) and shares common borders with Zamfara, Katsina, Niger, Kano, Bauchi and Plateau States. To the South-West, the State shares a border with the Federal Capital Territory, The State is located between longitude of 30^0 east of the Greenwich meridian and also between latitude 0900 and 11^0 30^0 North of the equator. The State occupies an area of approximately 48,473.2 square kilometers and has a population of about 6,066,562 million (2006 census). The entire land structure consists of an undulating Plateau with major rivers in the State including River Kaduna, River Wonderful in Kafanchan, River Kagom, River Gurara and Galma. The longest distance by road from north to south is about 290 kilometers and from east to west is about 286 kilometers (Kaduna State Ministry of Finance and Economic Planning, 1996). It has three major urban areas, Kaduna, Zaria and Kafanchan, which are accessible by truck A and B roads. Other urban centers are accessible by other state roads. The three major urban centers are also accessible by a railway line that runs from the extreme south of the state to the extreme north. Kaduna metropolis has an international airport and a local airport located in it.

Kaduna metropolis is the capital of the state and lies between Zaria and Kafanchan. The town is naturally divided into North and South by the River Kaduna, which has its source at kwai on the Jos Plateau and drains into the Niger River. Although majority live and depend on the rural areas, about a third of the State's populations are located in the three major urban centers of Kaduna, Zaria and Kafanchan. However, except in the

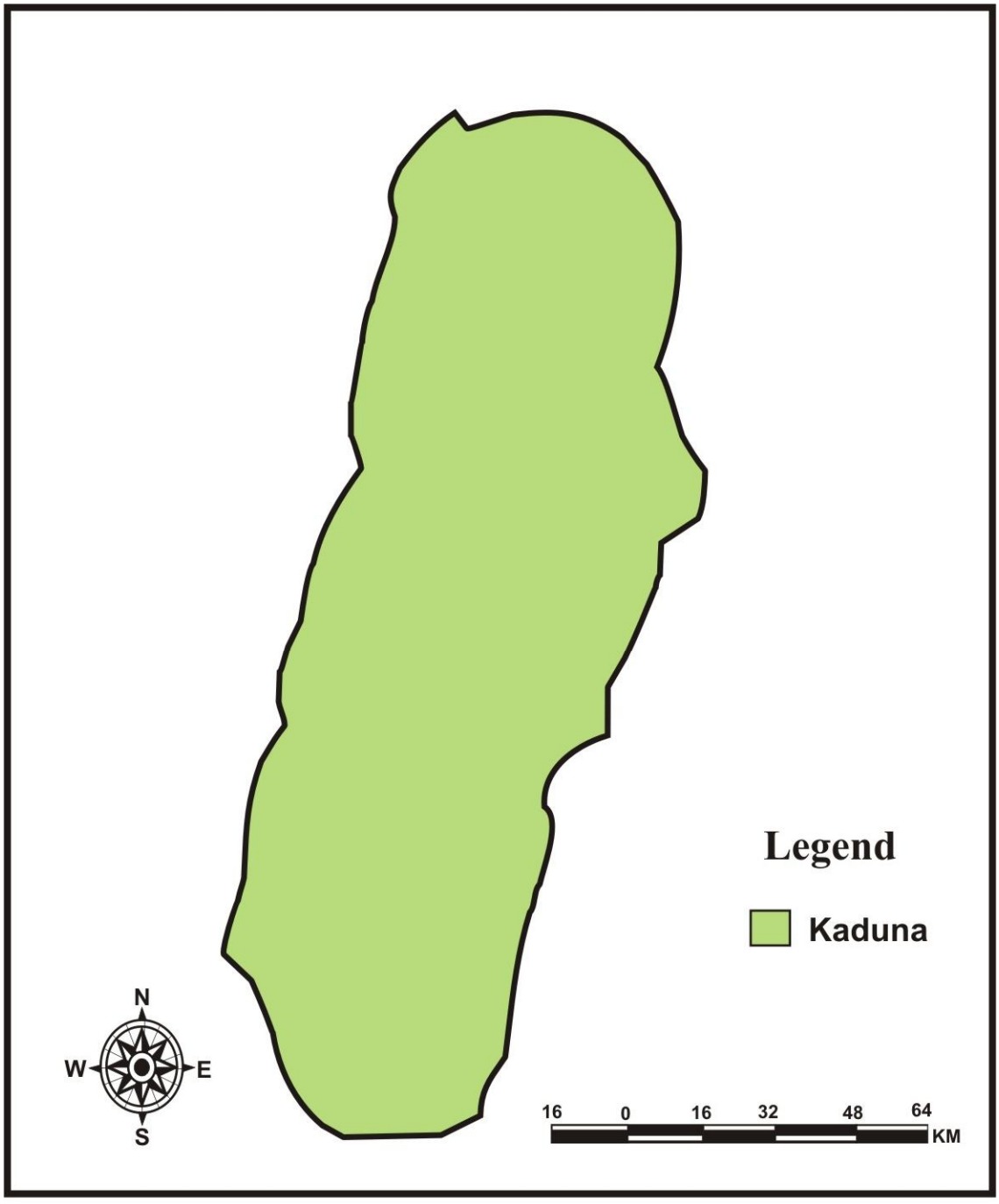
northwestern quadrant, the rural population concentration is moderate, reaching as high as over 500 persons per sq. km. in Kaduna, Zaria and the neighboring villages; 350 in Jaba, Igabi and Giwa and 200 in Ikara LGAs. Despite the provisional nature of the census results, observations of movements of young able bodied male laborers in large numbers, from rural villages to towns during the dry season and back to rural agricultural fields during the wet season, suggests a sizeable seasonal labor force migration in the state (Kaduna State Ministry of Finance and Economic Planning, 1996).

The seasonal labor migration has no effect on agricultural labor demands in the rural traditional setting. Indeed, some of these seasonal migrants come to town to learn specific trade or acquire special training and eventually go back to establish in the rural areas as skilled workers (e.g. masons, technicians, tractor drivers, carpenters, motor mechanics, etc). The effects of this may be helpful to the future social and economic development of the rural sector especially in the agro allied rural industries. The large number of secondary school leavers, polytechnic and university graduates provides a growing skilled labor force for the growing.



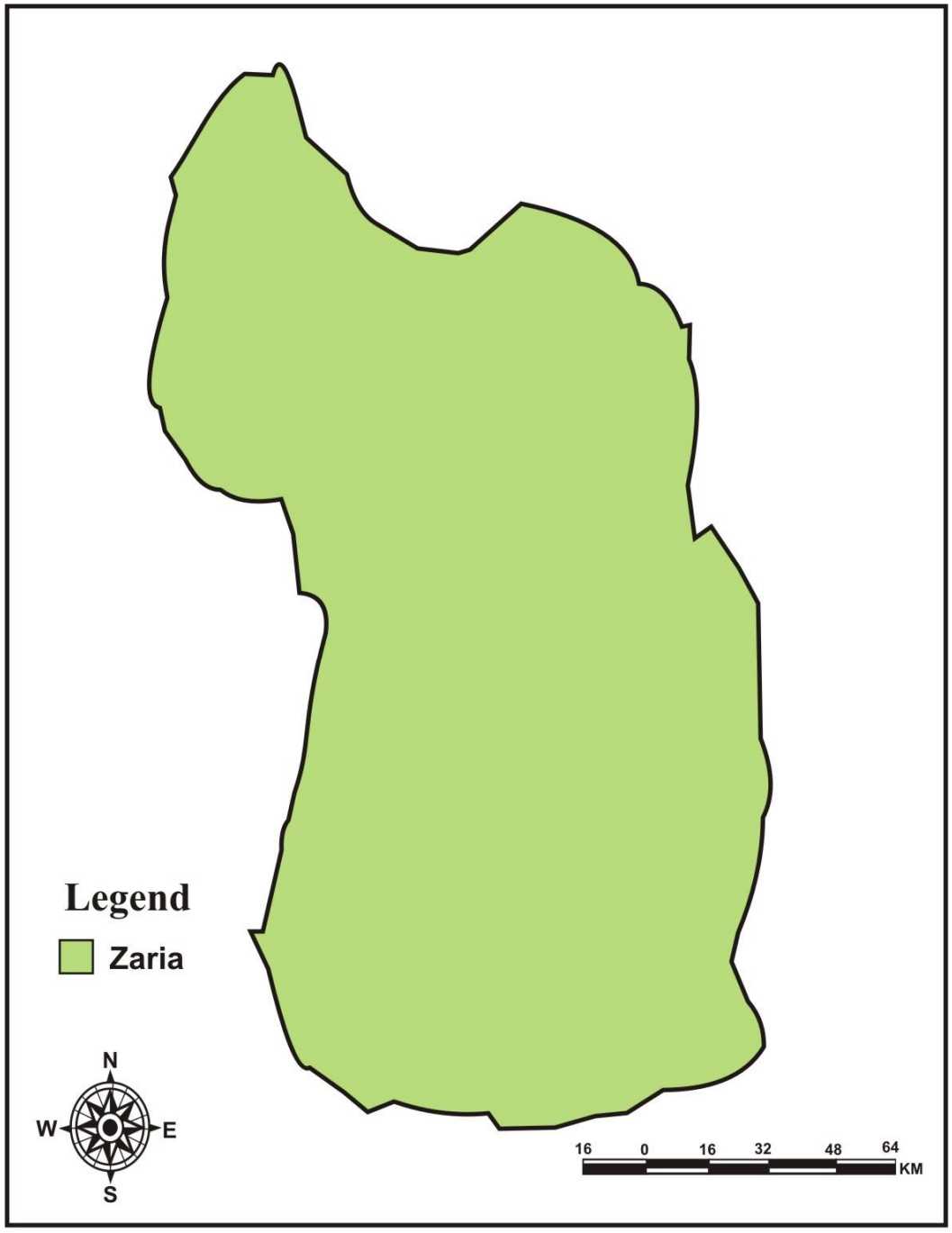
SOURCE: KASUPDA (1999)

FIG. 3.1 KADUNA STATE SHOWING THE STUDY AREA



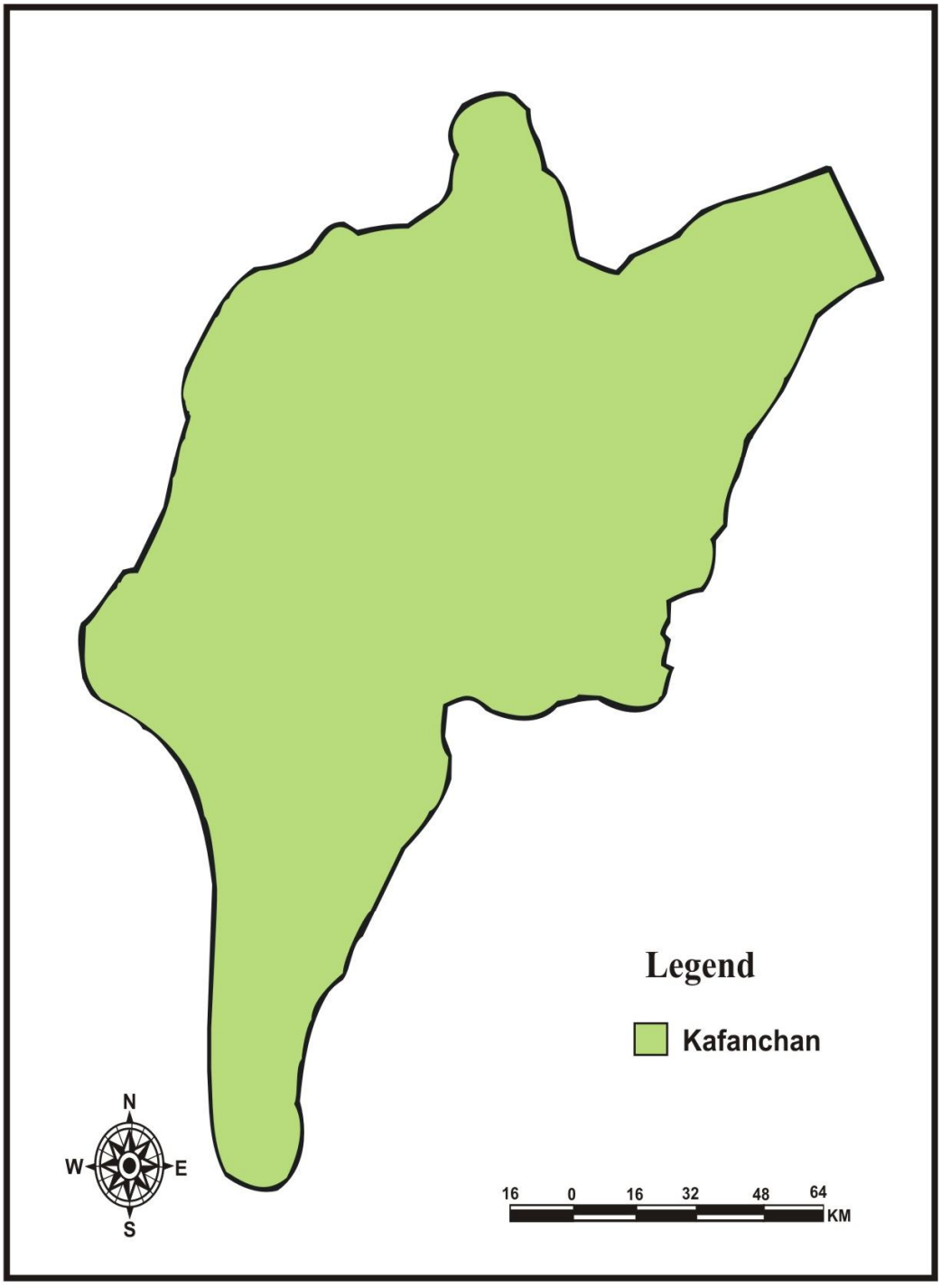
SOURCE: KASUPDA (1999)

FIG. 3.2 KADUNA SHOWING THE STUDY AREA



SOURCE: KASUPDA (1999)

FIG. 3.3 ZARIA SHOWING THE STUDY AREA



SOURCE: KASUPDA (1999)

FIG. 3.4 KAFANCHAN SHOWING THE STUDY AREA

3.2 Physical Characteristics

The geology of the area as a whole consists mainly of the Precambrian rocks of the basement complex. The present topography constitutes a rolling lowland plain generally below 610 meters above sea level. This is not unconnected with the prolonged denudation of the basement complex rocks, which underlie the area. The area consists of older granite, schist and quartzites in different composition. The land gradually slops down towards the west and the southwest and is drained by two dominant rivers (Rivers Kaduna and Gurara) (Kaduna State Ministry of Finance and Economic Planning, 1996).

The soil in most parts of Kaduna state fall under the ferruginous tropical soils. Most of the soils contain between 30-40 percent clay at a reasonable depth, because of intensive leaching. Experts have noted that the nutrients holding capacity of this soil is not known to support intensive agriculture for long periods without the application of fertilizers and or manure. Some areas have permanently waterlogged soils (fadama). The Kafanchan area is studded with series of swampy areas that almost dry up between January and March. The plains in Kaduna State have undergone considerable changes over the years due to combined actions of both physical and chemical weathering (laah, 2003).

Kaduna State posses a tropical continental climate with very marked seasonal variations. The area is influenced by two distinct air masses that have tremendous effect on the climate of the State. The northeasterly trade winds, which are usually dry and dusty, are pronounced between November and March. The period is usually referred to as the harmattan period. The second type is the moisture-laden tropical maritime air mass that originates from the Atlantic Ocean and brings rain with it. The variations in the on-set of rainfall are attributable to the fluctuation of the boundary between these two air masses.

There is less distinction in the average maximum temperature in the southern areas; the hottest months in the north are March and April, while the coldest are December and January. Rainfall is very heavy in the southern part of the state and reaches an average of over 500mm per month between April and September. In the extreme north the monthly average is 146mm, while in Kaduna town it reaches a monthly average of 361mm (Ministry of Finance & Economic Planning). This pattern of temperature and rainfall determine the types of crops, animals and food production. The first rain of the year is usually experienced in the state in March/April and usually falls in thunderstorm showers. The rain reaches its peak in August (Mamman, 1992).

3.3 Historical Developments

Kaduna

Kaduna town grew up as important military command garrison and administrative and political headquarter of the defunct Northern Region, In 1976, when the General Murtala Mohammed administration created seven new states in Nigeria, North-Central State, with a capital at Kaduna, was renamed Kaduna State. It was made up of the two colonial period Provinces of Zaria and Katsina. When in 1991, the number of states in the country was increased from twenty-one to thirty; Katsina Province became Katsina State, while the old Zaria Province became the new Kaduna State. There are twenty-three local government areas (LGAs) in the state, although the number of ethnic groups is much larger (Kaduna State Ministry of Finance and Economic Planning, 1996).

The location of Kaduna town as a "junction" town has accelerated its growth. This would probably explain the reason Kaduna State is more cosmopolitan than any other state

in northern Nigeria (NPC, 1996). These attributes encouraged the growth of Kaduna and saw the establishment of residential area segregated on social lines. The reservation areas had the government officials and administrative units centrally located while the clerk areas were located far south around Makera and Kakuri. For administrative purposes, Kaduna had no strong tradition of indigenous political authority. A law was enacted in 1956 making Kaduna the capital territory of northern Nigeria. Kaduna then ceased to be part of Zaria Province and was then governed and administered as a separate local government area.

At inception Kaduna town, the urban district and the European Reservation Area covered an area of about 120km^2. With the passing of the township Ordinance law of 1917, Kaduna was considered as one of the 18th second class townships in Nigeria. The population was heterogeneous and could not be under a native administration. This further attracted people, mainly Yoruba and Igbo traders to Kaduna.

Kaduna town was freed from political complication because of the absence of very powerful tribal groups and existing town. This was of significance to the British colonist. The gentle undulating plains of Kaduna made it a suitable place to serve as the seat of the northern regional government.

Zaria

Zaria emerged at about the 10th Century as one of the trading centers of the old Hausa States. Zaria developed as a centre for exchange in local wares such as slaves, hides & skin and textiles. It also served as a junction for long distance trade from Yoruba and Nupe lands. Because of its strong political organization, it extended its rule to the 'pagan'

tribes of the southern part of Kaduna State. The traditional order of Zaria was destroyed when the British deposed the then Emir (Kwassau) in 1903 and established the colonial rule and took over the appointment and confirmation of emirs. However, the social structure of Zaria is based on close-knit kinship relationship.

Zaria is located to the north and is about 80 kilometers from Kaduna town. It is found on low plain of the high plains of Hausa land and is the most northerly of all the main towns in Kaduna State. It is the oldest of the three towns in Kaduna State with an organized oligarchy. Zaria is the gateway to the important towns of Kano, Funtua, Katsina, Gusau and Sokoto. It is home to some of the best educational institutions in Nigeria, some of these institutions include, the Ahmadu Bello University, with nearly 20,000 students, the Nigerian College of Aviation Technology (NCAT), the Federal College of Education Zaria (FCE), the Kaduna State Polytechnic, the Nigerian Institute of Transport Technology (NITT), Federal College of Leather Technology, College of Agriculture Zaria and a host of others.

Kafanchan

Kafanchan emerged as a railway station in the 1920s, because of its proximity to Jos. The town came under Hausa oligarchy as a result of the indirect rule of the British government. The very 'loose' traditional system of the natives was not ideal for the colonialist in their attempt to dominate the natives.

Kafanchan is located on the southern part of the State. The town is about 240 kilometers from Kaduna and stands astride the southern boundary of the high plains of

Hausaland. Kafanchan is almost surrounded by the slow flowing Rivers Matsirga and Sarki. These rivers provide extensive marshy lands for the cultivation of Rice.

The growth of the major towns in Kaduna State is the result of their accessibility to other towns in the country. All the towns are linked by very important railway lines and trunk 'A' roads. With the emergence of Abuja as the Federal Capital most of these towns, especially Kafanchan have grown in importance.

The political development of the north has Kaduna town and even the state as a whole as the nucleus. As the level of economic activities grew in Kaduna state the existing major cities like Kafanchan and Zaria, expanded in size and encouraged the growth of new cities that provide supplementary services. Some of these towns include: Birnin Gwari, Kachia, Jaji, Pambegua, Giwa, Saminaka, Makarfi and Karabu.

3.4 Population Growth and Distribution

The population of Kaduna State comprises the following major ethnic groups; Atyab (Kataf), Bajju (Kaje), Hausa, Fulani, Gbagyi, Ikulu, Kadara, Kagoro, Kuturmi, Jaba, Moroa and Ninzam. The population of Kaduna State is about 6,066,562 million (NPC, 2006) and with a growth rate of 3.8 per annum. Over the year's the population of Kaduna, Kafanchan and Zaria (the three major towns in the State) has been growing rapidly. The population of Kaduna municipal has spread beyond the limits of the municipality to include adjoining settlements of Rigasa, Nasarawa, Television, Sabon Tasha, Barnawa/Narayi, Ungwar Dosa, Ungwar Romi, Ungwar Borio and Trikania.

The establishment of a base for the West African Frontier Forces (WHAFF) in Kaduna was an important landmark that led to in-migration into Kaduna town and the

subsequent growth of adjoining towns. Indeed, this marked the beginning of the urbanization process and the creation of another complex city. Although there were already a sizeable number of railway workers in Kaduna town, this group migration stimulated a spate of individual migration into the city by relatives and friends of the soldiers.

The concentration of government employment opportunities and infrastructures in the town attracted a lot of people from other parts of the country to Kaduna. The changing economic and commercial status of the town also attracted investors and other professionals. There was equally the deliberate policy of government of attracting in-migrants into Kaduna in the attempt to secure enough labor to clear the surrounding bush and thereby free it from mosquitoes, tsetse fly and dangerous reptiles (Mamman, 1992).

Kaduna town has long been known as a social melting pot because of the level of social integration due to the assemblage of people from different societies in Nigeria and Africa. Part of the internal population dynamics in Kaduna town is the high level of rural-urban migration. Kaduna town with over 80 percent of all commercial activities and government patronage in Kaduna State has been growing at a more alarming rate than the other surrounding towns. This has accounted for the uneven distribution of population over the state. Kaduna state is the second highest with positive net-migration after Lagos State (NPC, 1996). However, the spate of religious crisis in the state is gradually causing a reverse in flow population in the last two years with increasing number of people opting for the Federal Capital Territory (FCT), Abuja.

As cities grow either as a result of in-migration or natural increase or a combination of both, other very distinct forms of living and working structures social and industrial

activities, such as demand for goods, social services and the rest, that will further trigger developments in roads and other transport networks.

The relatively high growth rate of 3.8 percent (NPC, 2006) implies that if present levels of mortality and fertility remain constant, and if there is no serious disaster to either make people leave the state (as we observed during the religious crisis of 2000) or come into the state, the population of the state will double in 25 years. However, this might be shorter if the current trend or rural urban migration continues unchecked (Mamman, 1992). Birth rate is still very high and total fertility rate (TFR) is 6.8 above the national median of 5.8. Although studies have shown that the total fertility rate (TFR) is declining in Kaduna State (Mamman, 1992), population is still expected to increase. The age distribution shows that more than half of the population is in the age group 0-19 year's (over 65 percent is in the age group 0-24). The pattern of age distribution in the state is consistent with past surveys and census. A growing young population is making increasing demands on the environment. The deterioration of the economy as a result of religious conflict has left many struggling to make a livelihood.

Although the indices show that Kaduna State has a fast growing population, the concentration of population is not even over space. The tree main towns in Kaduna State (Kaduna, Kafanchan and Zaria) have over 60 percent of the total population of the State. So any investigations on population that cover these towns will be more than an adequate representation of the total population of the state.

Some of the undesirable consequences of population in the state are increasing; such as gang-rape, drug abuse, armed robbery, overcrowding, sexual promiscuity, abortion, filth and general insecurity. This is against the backdrop that Kaduna State has one of the

highest rates of urban growth in Nigeria. Kaduna town is said to be growing at about 10 percent per annum (NPC, 1996). Although the religious crisis of 2000 cause some internal residential mobility and exodus of people, mainly Igbo traders from the east, the situation has since stabilized with more people seemingly coming into the state than before.

3.5 Economy of Kaduna State

The economy of Kaduna State is agricultural, supplemented by various non-agricultural traditional industries. Some of the main agricultural crops include Yam, Cassava, maize, cowpeas, guinea corn and millet.

Some of the major cash crops cultivated in Kaduna State include, cotton, ginger, groundnut and soya beans. Indeed, the British American Tobacco (BAT) Industry in Zaria owes its existence to the high quality tobacco leaves cultivated everywhere around Zaria. Until the collapse of the cotton industry in Nigeria, Kaduna dominated the cotton trade.

3.6 Commerce and Industry

Almost all the industries in Kaduna State are located in Zaria and Kaduna urban centers. Indeed, the entire heavy manufacturing industrial establishments are concentrated in Kaduna alone. Certainly, the locations are influenced by government policy and probably market. For example, the high concentrations of textile manufacturing industries in Kaduna with just two in Zaria, and none in Soba, Maigana or Saminaka, which are cotton-producing towns, illustrate the strong governmental control. Also, the Federal Government's decisions in the mid 1970s to locate a petroleum refinery and an automobile assembly plant (PAN) in the city further widened its industrial growth base and increased

the agglomeration in Makera, Tudun Wada, Kakuri, along Kachia Road (Kaduna State Ministry of Finance and Economic Planning, 1996).

Other major manufacturing industries in the city include Super Phosphate Fertilizer Company Ltd and Petro-Chemical Company Ltd. Again, all these are Federal Government Parastatals. There are other small to medium scale industries too numerous to list but are very important in providing potable equipment for rural dwellers' use (e.g. in old "Panteka" market, construction of metal doors, windows and frames, boxes, grinding stones, huller machines, kitchen wares, ox-plough blade, planters, shellers, etc. may be found). Certainly, there is need to encourage location of other industries outside Kaduna urban center in the future.

Mainly, the Ministry of Commerce and Industry arm of the State Government is now charged with the responsibility of maintaining a good economic climate. In order to promote industrial/commercial enterprises, the state government has put in place several infrastructural facilities. For example, in Kaduna and Zaria, up to seven and four industrial estates, respectively, have been laid out and provided with access roads, water and power.

Industries such as textiles, automobile assembly, petroleum refinery and numerous service industries in the south of Kaduna in addition to the numerous markets and small scale informal economic activities on streets, homes and public pavements are pull factors into Kaduna (Kaduna State Ministry of Finance and Economic Planning, 1996).

Kaduna is fast losing its position as an industrial city. Gone are the days when the city was the home of many textile industries. Among them were the Kaduna Textile, Arewa Textile, Supertex, Finetex, Nortex and United Nigeria Textile Limited, UNTL. Apart from UNTL, all others have since shut their factories, thereby throwing several thousands of

workers into the job market. Ironically, while the textile industries have folded up, the two brewery companies in the city are expanding and producing at maximum capacity. They are the Nigerian Breweries Limited, NBL, and the International Beer and Beverage Industry, IBBI, all located in the Southern part of the city (Laah, 2003).

Kaduna is also bubbling with commercial activities. Although commercial activities are evident everywhere, the main spine of Ahmadu Bello Way along with the central market is the centre of commerce. Most bank branches are located around this area. No particular ethnic group controls this market. The market is representative of the various interest groups, which had grown very rich through buying and selling. Curiously, it is estimated that more than 50 percent of the traders live in Kaduna South. This explains why there is massive vehicular and human traffic which translates into a huge traffic problem particularly on the only bridge at Ahmadu Bello Stadium and all the roads leading up to it on both the north and south banks of the river from 6.30 a.m. to 9.00 a.m. and from 5.30 p.m. to 7.30 p.m. and sometimes longer if there is a traffic accident on all weekdays and Saturday respectively (Akpan, 2007).

3.7 Ethnic Composition and Culture

Kaduna State forms a portion of the country's cultural melting point. Apart from six major ethnic groups found in the State, there are over twenty other ethnic minority groups, each with its language and arts or religion different from the other. Works of art and pottery (e.g. the "Nok Terracotta") found in the southern parts suggests that it is a major cultural centre. Among the major ethnic groups are Kamuku, Gwari, Kadara in the west, Hausa and Kurama to the north and Northeast. "Nerzit" is now used to describe the Jaba, Kaje, Koro,

Kamanton, Kataf, Morwa and Chawai instead of the derogatory term "southern Zaria people". Also, the term "Hausawa" is used to describe the people of Igabi, ikara, Giwa and Makarfi LGAs, which include a large proportion of rural dwellers who are strictly "Maguzawas."

In the north, the Hausa and some immigrants from the southern states practice Islam and majority of the people in the southern LGAs profess Christianity. The major Muslim festivals are the "Salah" celebrations of "ldEIfitri" and "ldEIKabir", while Christmas, New Year and Easter are observed by the Christians. Two traditional festivals of significance are the "TukHam" and "Afan" in Jaba and Jama'a LGAs respectively. Prominent among the traditional arts, are leather works, pottery and indigopit dyeing with Zaria as the major centre.

3.8 Urban and Rural Development and Patterns of Human Settlement

The pattern of human settlement throughout the State is tied to the historical, political and socio-economic forces the area has been subjected to, from the pre-colonial to post colonial period. Prior to the advent of the British occupation, the basic unit of human settlement was the extended family compound.

As compounds grew, the needs for security and defense led to a higher hierarchy of settlements called "Garuruka" (towns). These towns were protected by walls with a titled/administrative head appointed by higher political authority, the "Sarki". This pattern of settlement dominated the Hausawa cultural groups to the north (i.e. Giwa, Igabi, Zaria,

Sabon Gari, Kudan, Makarfi and parts of lkara LGAs) (Kaduna State Ministry of Finance and Economic Planning, 1996).

Higher settlement hierarchy than the rural extended family compounds in other parts of the state was delayed, until the development of social amenities and infrastructure such as motor and rail road, Christian Missionary establishments and recently, produce buyers, markets and administrative reorganizations gave impetus (settlements such as Birnin Gwari, Kuda'a, Kachia, Zango Kataf, Kwoi Sambam Kagoma and Saminaka are good examples).

It is the impact of these historical and cultural developments on settlement pattern and probably because of the nature of the rural economy (agrarian) that created the dominance of the two urban centers (i.e. Zaria and Kaduna) in the state.

3.9 Problem of Urban Primacy

The growth of Zaria urban settlement, though influenced by historic circumstance and the political authority it wielded prior to the 19th century, is also the result of deliberate establishment of educational institutions. First, as a centre for Arabic/Quranic studies, with its fame reaching Sokoto and Borno kingdoms in the northwest and northeast respectively.

Second, the establishment of the Agricultural Vocational School in Samaru (1923) and a Research Station for animal husbandry at Shika (now National Animal Production Research Institute NAPRI) in 1928; followed by Government's secondary and higher institutions of learning such as Zaria Government College (now Barewa College) which started in 1922 in Katsina. The establishment of the Nigerian College of Arts, Science and

Technology gave additional thrust not only by expanding the built up area but increasing the population (Kaduna State Ministry of Finance and Economic Planning, 1996).

Between 1962 and 1992, Zaria, as an urban centre, has been transformed from an educational centre to a rapidly growing manufacturing industrial city sprawling for more than 25km. stretch along Kaduna-Sokoto motor road. Similarly, founded in 1917 as an administrative headquarters, Kaduna held a leadership position in the former Northern Region well into the late 1970s (Kaduna State Ministry of Finance and Economic Planning, 1996).

Changes in the political structure of the country in 1967, 1975 and 1991 successively eroded her powerful leadership position as the newly created states were given autonomy. Even the Interim Common Services Agency (ICSA), a body established to oversee the common economic interests of the former Northern Region and located in Kaduna, could not protect the gradual loss of her past leadership in the northern state.

Although Kaduna, as an urban centre, has ceased to be the political leader, it has gradually evolved and is growing to be a powerful commercial, industrial and financial nerve centre. Indeed, the location of the popular International Trade Fair in Kaduna and the increasing presence of the Federal Government through the location of several parastatals, have further strengthened the city's new evolving leadership position. The two urban centers alone command up to a third of the state's total population (i.e. about 1,512,000).

Most of the remaining settlements are small and located in the vast, rich agricultural lands. As a result of the dominance of the two urban centers, there is a continual drift of young men and women into them. Thus, a lot of social facilities such as housing, schools, health institutions, portable water and electricity are inadequate and under serious pressure.

Consequently, the unskilled men and women roam the city streets in large numbers jobless or, at best, underemployed. Getting this potential rural labor force back to the countryside may have to await comprehensive rural development. Two other groups of rural urban migrants are conspicuous; these involve children (under 20 year's) coming in large numbers from as far as Illela and Jibiya, border towns in Sokoto and Katsina States respectively; and several scores of men, (between 25 and 40 year's) mainly from Kano/Jigawa States (Kaduna State Ministry of Finance and Economic Planning, 1996).

The children come from the end of September to early July as pupils in Quranic schools or dry season migrant workers ("yan cin rani" in Hausa) and reside mostly in Zaria. Older immigrants, also come into the cities as "Fadama" farmers and market gardening workers ("yan lambu" in Hausa) (Kaduna State Ministry of Finance and Economic Planning, 1996).

3.10 Agriculture, Forestry and Other Basic Activities

The agriculture and forest resources are enormous in Kaduna state. On the gentle rolling high plains, the tropical ferruginous soils have been intensively used for cereal and cotton cultivation. Although the soils are poor because of leaching and poor cover management, but with good conservation and land management practices, it is capable of supporting calcium-rich annual grass for livestock development. In the north of latitude 10^{o}N, the soil is good for production of large quantities of cotton lint and seed for which Soba, Makarfi, Kudan, Ikara, Kubau, Kauru and Lere LGAs are known. Yam and maize have successfully been producing high yields with the use of fertilizer in recent times, especially in Igabi, Giwa and Birnin Gwari LGAs. In the well-watered southeastern part,

the rich darker soils are used for cultivating cereals, cassava, rice and the famous southern Kaduna ginger (Chitta in Hausa).

In the fadamas, the dark grey clay soils (vertisols) have become highly valued and are focused on for intensive agricultural activities especially during the dry season. Large areas of such fadamas are being used for economically valuable market gardening for growing tomatoes, chillies, sweet pepper, okra, onion, Irish potato and sugar cane using traditional "shadoof" irrigation (in the floodplains/fadama of Galma and Tubo basins). Presently, the traditional irrigation scheme is too small and laborious to cope with the rate of expansion and agricultural development of the fadama lands. The State Government is intensifying feasibility studies and seeking interested industrialists and agro-allied companies to invest in the area. In April 1993, the State Government approved the commissioning of pilot schemes for sugar processing industry in Makarfi, Kudan, Ikara and Kubau LGAs using the sugar cane grown under irrigation and rain systems.

Recently, grapevine growing has been introduced and has gained wide acceptance on small but intensively cultivated farms. A few large-scale vineyards have also been established on the lower Galma valley near Zaria. Small farm holdings of ten to fifteen vines produce between 200 and 300 kg. That these small farms produce mainly for local markets, in Kaduna, Kano, Plateau and the Federal Capital Territory, suggests that the state has considerable potentials for vineyard development.

Except in some favorable localities along the riverine areas and in the southern LGAs, there are limited forest resources. Much of the woody shrubs in the northern parts have been felled for fuel wood. Because of the annual bush fires during the long dry season, the grass straw traditionally used for roofing in the rural areas is becoming scarce.

In the south, there are good stands of hard tropical trees such as mahogany and raffia palm bushes. These are still being exploited for building construction. State and local governments are embarking on improving the vegetation cover in the state by planting fast-growing and drought-resistant trees in large plantations, called Forest Reserves.

Despite a substantial faction of the state's annual budget being allocated to the development of agriculture, productivity is still comparatively low. This is partly because of the shyness of the State Government in getting involved in commercial agriculture and partly because of the many different arms of the Ministry that make demands on the limited financial resources. So, like the Federal Government, Kaduna State has concentrated on encouraging farmers, by providing certain capital-intensive infrastructure (e.g. irrigation, earth dams like in the Tubo valley), supplying them with improved seeds and subsidizing farm inputs. Since most farmers lack the capital and are not ready to take risks, only a handful of individuals (mostly retired military officers and top civil servants) have involved themselves in medium-scale commercial agriculture. Even so, majority only grows grains (especially maize and beans) to meet local market demands or use it for personal small livestock breeding.

An entrepreneur, UAC Farms, in the late 1980s, started investing in commercial grain farming at Kidandan, some 90km east of Zaria along Birnin Gwari Road. However, the venture is now producing improved seeds for farmers, mainly maize, sorghum and rice. Certainly, with increasing demands for cereals, livestock feeds and as raw materials for breweries, and presently, because it is practically non-existent in the state, commercial agriculture in grains on a large scale will be highly profitable.

Despite the present poor rangeland conservation and management practices, Kaduna State has the potentials to produce large quantities and good quality livestock for consumption in the state and for inter-state trade. Indeed, the area bounded by parallel $10^{0}30'$ and longitude $8^{o}00'$ westward, possesses development potential for excellent rangeland to support large-scale livestock production. The National Animal Production Research Institute (NAPRI) at Shika near Zaria also offers good veterinary/technical advice and services. There is good infrastructure already established for good take-off of beef, mutton, pork, poultry and dairy products in large quantities for national markets. Furthermore, based on the livestock rearing habits, love for it as food, and a probably large market for pork in the area and many southern states, there is need for a good piggery industry in the southern Kaduna area.

3.11 Livestock

Livestock resources in the state are still on a small scale, and are used mainly to raise cash during emergencies or meet demands during religious festivals. Based on the 1991 livestock survey in urban Zaria and its rural fringe alone, there were over 16,000 heads of cattle (zebu), about 180,000 goats, 138,000 sheep and rams, 10,000 pigs, 55,000 rabbits and over 880,000 birds (poultry mainly chicken, kept in commercial farm pens and on traditional free-range in compounds). In the southern parts, pig rearing is dominant. The number of pigs in the area is not known. However, considering the urban livestock surveys in Zaria and Kaduna in 1991, most of the pigs are kept and owned by people from Jama'a, Sanga, Zango Kataf, Jaba, Kachia and Kagarko Local government areas.

3.12 Minerals

In Birnin Gwari LGA, the graphite, kyanite and rutile reported to be in large quantities are good sources of raw materials for pencils and welding electrodes and ceramic industries. Even the ease to mine magnetite/haematite in the same locality is still being exploited locally for making local iron implements; but it has the potential to support small to medium furnace for production of iron billets that can in turn be used in small scale industries. Also, some broad river valleys in the northwestern quadrant are rich sources of sand and granite rocks (for crushing) and clay (especially) kaolinite that are already being exploited in the building industry.

CHAPTER FOUR

BACKGROUND CHARACTERISTICS OF THE RESPONDENTS

4.1 Introduction

This chapter focuses on the background characteristics of women within the age of fertility in Kaduna state. The discussions are based on the findings of the research. The background characteristics considered include demographic, socio-cultural, economic and educational attainment of women. Considering the educational attainment of the women is important because often, women's educational attainment and fertility is largely influenced by their background characteristic.

4.2 Age of Respondents

The data on age distribution is presented in Table 4.1.

Table 4.1 Age Distribution of the Respondent

Age Group	Number of Respondents	Percentage (%)
15-19	17	4.0
20-24	40	9.5
25-29	70	16.7
30-34	120	28.6
35-39	99	23.6
40-44	44	10.5
45-49	30	7.2
Total	**420**	**100**

Source: Field Survey, 2010.

Of the 420 respondents in the data in Table 4.1, 28.6 percent are between the ages of 30-34 years. 23.6 percent fall between the ages of 35-39 years, 16.7 percent are between

the ages of 25-29 years, others are 10.5 percent (40-44 years), 9.5 percent (20-24years), while 7.2 and 4.0 percent are between 45-50 years and 15-19 years respectively.

Out of the 420 respondents 346 (82.4 percent) are below the age of 40 years while 74 or 17.6 percent are 40 years and above. This confirms earlier study by Mamman (1992) in his study of fertility differentials in Kaduna metropolis observed that the heavy concentration of the youthful population reveal the high rate of rural-urban migration of youth in search of jobs and excitement of city life. Kaduna, Zaria and Kafanchan, it would be remembered are administrative, educational, industrial and commercial towns, with relatively brighter prospect of employment opportunities.

4.3 Ethnicity of Respondents

The data on ethnic composition of the study area is presented in Fig 4.1

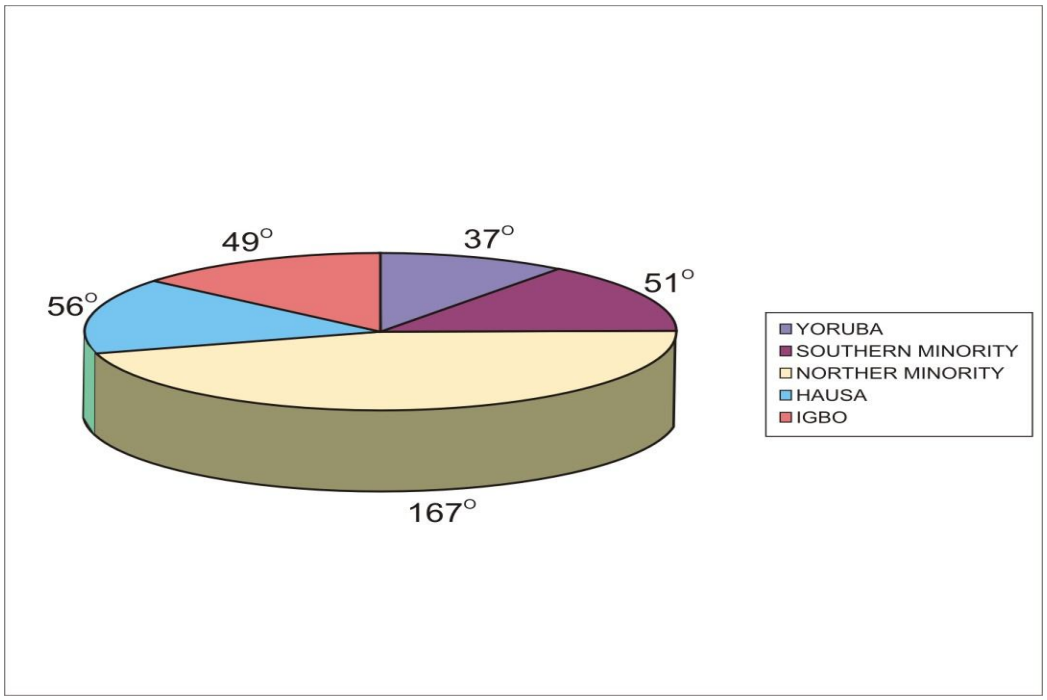


Fig 4.1. Distribution of Respondents by Ethnicity.
Source: Field Survey, 2010.

The distribution shown in Fig 4.1 indicate that northern minority ethnic groups constitute the bulk of the respondents (46.4 percent), Hausa 15.5 percent, southern minority ethnic groups 14.3 percent, and Yoruba 10.2 percent. The larger number of northern minority and "others" as indicated above do confirm the fact that Kaduna has a population concentration of many ethnic groups from all over the country.

4.4 Religion of Respondents

The data on religious affiliation of respondents is shown on Fig. 4.2

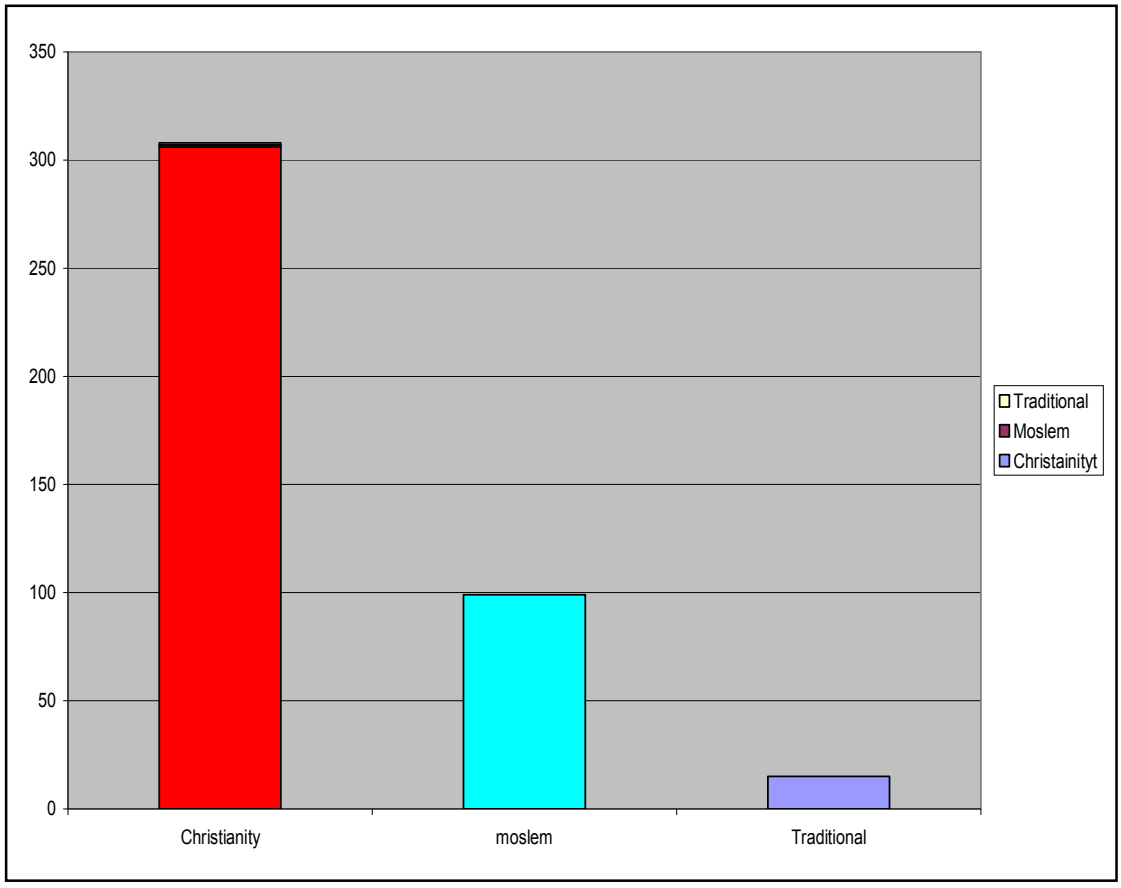


Fig 4.2 Distribution of respondents by religion
(Field: Survey, 2010.)

The bulk of data in Fig 4.2 reveal that ($^2/_3$) of the respondents (72.9 percent) are Christians of various denominational backgrounds, 23.6 percent are Muslims and 3.6 percent are traditionalist. The fewer number of Muslims is due to religious and cultural reasons which made female respondents to be reluctant and uncooperative in answering questions.

4.5 Education of Respondents

The data on educational attainment is presented in Table 4.2.

Table 4.2 Distribution of Respondents by Educational Attainment.

Educational Attainment	**No of Respondents**	**Percentage (%)**
Non-schooling	15	3.6
Koranic/primary	67	16.0
Secondary	185	44.0
Tertiary	153	36.4
Total	**420**	**100.0**

Source: Field Survey, 2010.

The data in Table 4.2 shows that the bulk of the respondents (44 percent) attained secondary school, closely followed by (36.4 percent) with tertiary education while 3.6 percent had primary/koranic education, 3.6 percent had no formal education.

The data shows that 80.4 percent had minimum of secondary school education. While 19.6 percent of the respondents had primary school certificates or had not attended school at all. This confirms earlier findings by Core Welfare Indicator Questionnaire Survey (CWIQS) data for Kaduna State 2006 which indicate that 34 percent of female age group between 15-19 years has never attended school.

4.6 Occupation of Respondents

The data on the occupation of respondents is presented in Table 4.3.

Table 4.3 Distribution of Respondents by Occupation.

Occupation	No. of Respondents	Percentage (%)
No response	10	2.4
Professional/technical workers	7	1.7
Farmer	35	8.3
Clerical	63	15
Sales workers	23	5.5
House wife	87	20.7
Petty trader	47	11.2
Adm. executive manager	13	3.1
Civil servants	135	32.1
Total	**420**	**100**

Source: Field Survey, 2010.

The data in Table 4.3 shows that 30.2 percent of the respondents are teachers in various level of education in either public or private schools. This shows that most of the women had secondary and tertiary education. Also 20.7 percent of the respondents are house wives, 11.2 percent are engage in petty trading as a way of self employment, and 8.3 percent are engaged in farming. Administrative managers 3.1, percent, while professional/technical workers 1.7 percent and the clerical workers 1.5 percent.

The study reveals that less than 35 percent of the respondents work in the formal sector. Studies have shown that women participation in the formal sector in African countries have always been low compared with Asia and Latin American countries (Cleland, 2004).

4.7 Income of Respondents

The data on monthly income of respondents is shown in Table 4.4.

Table 4.4 Distribution of Respondent by Monthly Income.

Monthly Income	**No. of Respondents**	**Percentage (%)**
₦10,000	68	16.2
₦11,000 - ₦ 20,000	60	14.3
₦21,000 - ₦ 30,000	100	23.8
₦31,000 - ₦ 40,000	160	38.1
₦41,000- ₦50,000	20	4.8
₦51,000 and above	12	2.9
Total	**420**	**100.00**

Source: Field Survey, 2010.

The data in Table 4.4 reveals that 38.1 percent receive income between ₦31, 000 – ₦40, 000 closely followed by those with N21,000-N30,000(23.8 percent). while 14.3 percent received between ₦11, 000- ₦20, 000, 9.5 percent earn less than ₦ 10,000, 4.8 percent earn ₦41, 000 - ₦50, 000 and the remaining 12 percent earn ₦ 51,000 and above.

An examination from Table 4.4 reveals that low income earners constitute 30.5 percent of the respondents. For the purpose of this research, the low income group can be defined as all wage earners and self-employed people whose income is N20, 000 and below

per month. Current statistics according to the national housing policy of the Federal republic of Nigeria (2000) indicate that about 75% of Nigerians fall into this category. The middle income earners constitute those earning between N20, 000 to N40, 000 per month, while the upper income group is made up of those earning between N50, 000 per month and above.

4.8 Years of Work of Respondents

The data on years of work of the respondents is presented in Table 4.5.

Table 4.5 Distribution of Respondents by Years of Work

Years of Work	**No. of Respondents**	**Percentage (%)**
Less than one year	23	5.5
2-5	80	19.0
6-9	160	38.1
10 year's above	50	11.9
Never worked	107	25.5
Total	**420**	**100**

Source: Field Survey, 2010.

The data in Table 4.5 shows that 38.1 percent have worked for between 6-9 years. 25.5 percent has never worked, 19.0 percent have worked for 2-5 year's, and 11.9 percent worked for 10 years and above while 5.5 percent have worked for less than 1 year.

CHAPTER FIVE

REPRODUCTIVE BEHAVIOR AND FERTILITY LEVEL

5.1 Introduction

Demographers and social scientists have recognized the effect of biological, socio-economic, cultural and religious factors on fertility. This section therefore focuses on the reproductive behavior and fertility levels of respondents.

5.2 Marital Status of Respondents

Marital status constitutes a demographic characteristics which involves biological, economic, legal, cultural and, in many cases, religious aspects. It is the most important factor in population dynamics since it affects fertility tremendously (Mamman, 1992). The period of time spent in marital union is important as it affects the relative contribution of women to fertility.

An analysis of the data in Fig. 5.1 reveals that 81.7 percent are married, 9.8 percent are separated or divorced. 4.5 percent are widow and the remaining 9.0 percent are single. The single women are more likely to be unwilling to and conservative in giving out information on their productive behavior (even though they are sexually active) because of the general expectation by society of the singles to remain chaste until marriage. However information was obtained from single women since many single ladies have children, without being married.

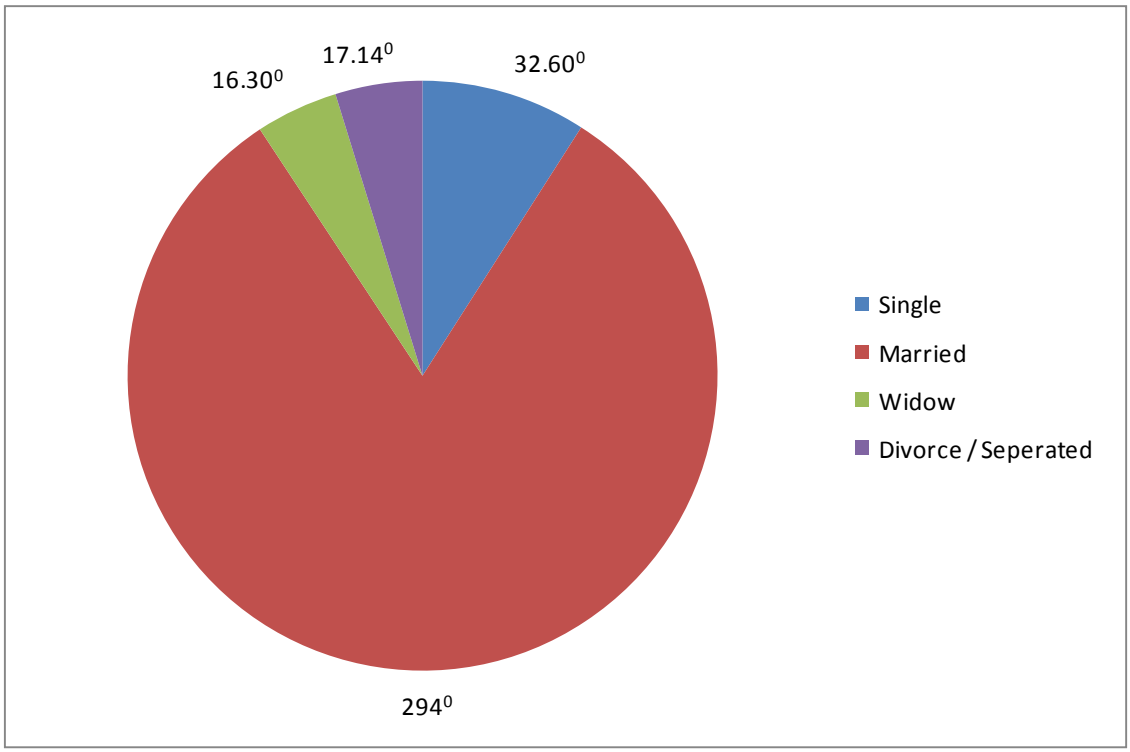


Fig 5.1 Distribution of Respondents by Marital Status.

Source: Field Survey, 2010.

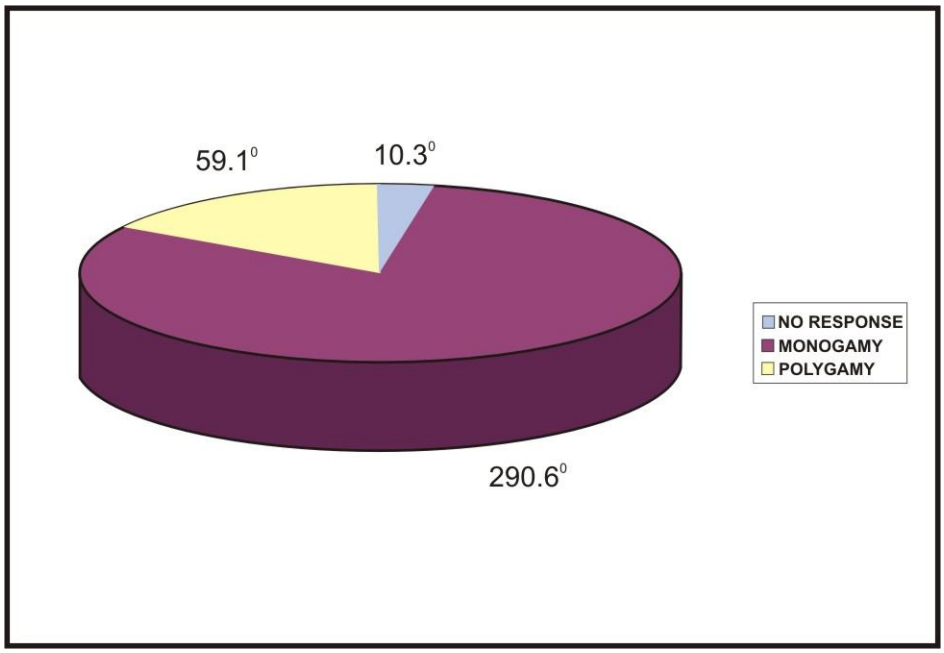
The incidence of divorce/separation appears to be low (4.8) in this society which suggests a fair stability of the marriage institution. This stability in marriage according to Mamman, (1992) is 'an indicator of stronger family or marriage ties'

5.3 Type of Marriage of Respondents

The data on respondents by type of marriage is shown in Fig 5.2

An analysis of Fig 5.2 reveals that the percentage distribution of currently married women who are in monogamous union is 80.7 percent, while 16.4 percent are polygamous. 2.9 percent did not respond to the question.

The information shows that there is low rate (about 16.4 percent) incidence of polygamous unions as at the time of the survey. The proportion of women in polygamous unions declined by 5.4 percent for all women between 1990 and 1999 (Federal Office of Statistics, 2002 IRD/Macro International Inc. 1992).



Source: Field Survey, 2010

Fig. 5.2 Distribution of respondents by type of marriage

5.4 Age at First Marriage of Respondents

In traditional societies where marriage is universal and where women enter into marital unions early, the level of fertility, tends to be related to age at first marriage.

The data on the age at first marriage of respondents is presented in Table 5.1.

Table 5.1 Distribution of Respondents by Age at First Marriage

Age At Marriage	No of Respondents	Percentage (%)
< 15	67	16.0
15-19	85	20.2
20-24	133	31.7
25-29	95	22.6
30-34	30	7.1
35-40	10	2.4
Total	**420**	**100**

Source: Field Survey, 2010.

The data in Table 5.1 shows that 22.6 percent of the respondents got married between the age of 25-29 years , 31.7 percent 20-24 years, closely followed by 7.1 percent at 30-34, 20.2 percent married at about 15-19 years , while the remaining 2.4 and 16.0 percent were married at the age of 35-40 years and 15 years and below respectively.

Table 5.1 reveal that 64 percent of the respondents got married when they were 20 years and above. The delay might be due to educational pursuit. This relationship between women's schooling and age at first marriage has been found in almost all fertility studies. This has great implications for fertility of couples in union. According to Bankole, (2007) in his study of "Women's Education, Autonomy, and Reproductive Behavior: experience Developing Countries" found that age at marriage is higher in the urban areas and among women in the Southern regions. These patterns of differentials provide some grounds to expect further rise as the population becomes more urbanized and more women attain higher education.

5.5 Years in Marital Union of Respondents

The data on respondent's years of marital union is shown in Table 5.2.

Table 5.2 Distribution of Respondent by Years in Marital Union

No. of Years in Marital Unions	No. of Respondent	Percentage (%)
No response	38	9.1
2 and below	20	4.7
3-6	112	26.7
7-10	110	26.2
11 above	140	33.3
Total	**420**	**100**

Source: Field Survey, 2010.

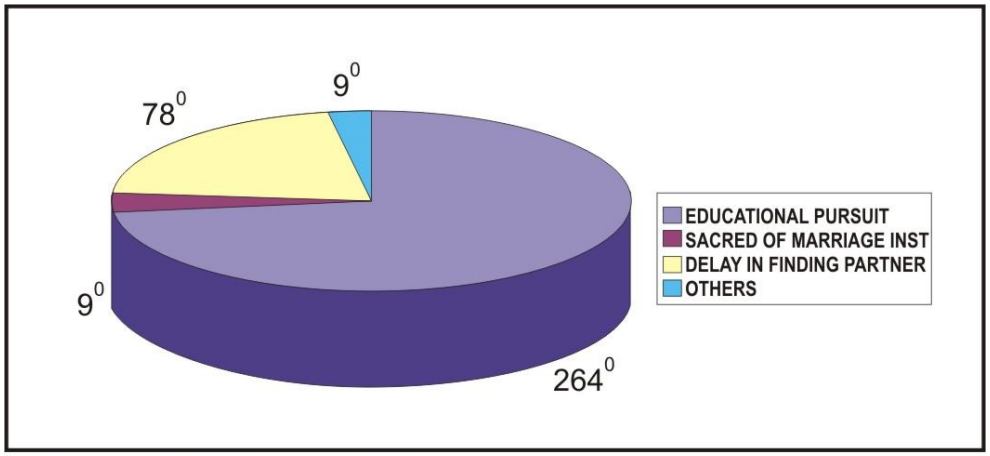
The data in Table 5.2 reveals that 33.3 percent have been married for over 11 years and above, closely followed by 26.2 percent married for 7-10 years, 26.7 percent 3-6years while the remaining 4.7 percent less than 2years. About 85 percent of women have being in marital union for 3 years and above. The most probable explanation is that there is pressure on couples to stay together to cater for the children of the union (Mamman, 1992). The NDHS (1996, 2003, and 2006) found that 71 percent, 68 percent, and 69 percent of women ages 15–49 were in union. The figure for most years into the future was set at 70 percent.

5.6 Reasons for Delay in Marriage

The stated reasons for delay in Marriage are shown in Fig 5.3

The data in Fig 5.3 shows that about two-third ($^2/_3$) of the respondent (73.3 percent) indicated educational pursuit as reason for marrying late. Age at first marriage invariably increases with higher level of education (United Nations, 2000). While 21.6 percent indicated that they married late due to delay in finding life partner. Also 2.5 percent are

afraid of the marriage institution. While the remaining 2.5 percent stated other reasons such as broken relationships, lack finance on the part of partner amongst others. Orubuloye (1998) in a paper tattled "Fertility transition in Nigeria in the era of structural adjustment" noted that marriage is now generally delayed as many boys and girls postpone marriage in order to consolidate their careers and earning capacities. In addition, the strong desire for better education is aiding the postponement of marriage among many boys and girls.



Source: Field Survey, 2010

Fig 5.3 Distribution of Women by Reasons for Delaying Marriage

5.7 Fertility and Child Mortality

The linkage between infant and child mortality and fertility are well known. Increased child survival chances are expected to generate a decline in fertility, a mechanisms by which families were perceived to have ensured the attainment of desired family size. In the face of perceived high infant and child mortality, the fear of extinction encouraged high procreation with the hope that some of the births would survive to carry on the lineage. The traditionally high values placed on marriage ensured not only its

universality but also its occurrence early in life with the consequence that child bearing started early in life and in most cases continued until late in the reproductive span.

The data on respondent's number of children is shown in Table 5.3.

Table 5.3 Distribution of Women by Number of Children

Actual No. Children	**No. of Respondents**	**Percentage (%)**
No response	3	0.7
1-2	89	21.2
3-4	248	59.1
5-6	74	17.6
7-8	6	1.4
Total	**420**	**100**

Source: Field Survey, 2010. Mean=4.6

The information in Table 5.3 reveals that majority of women (59.1) percent have between 3-4 children, while 21.2 percent have 1-2 children, also 17.6 percent have 5-6 children and the remaining 1.5 percent have up to 6 children. The mean number of children is 4.6. This is lower than the TFR 6.00 for the country in 1991 (NPC 1994) and a total fertility rate (TFR) of 5.8 in 1994 (FOS, 1997). But the mean TFR of 4.5 is the same with that of north central Nigeria in the report of NDHS (1996).

5.8 Child Mortality of Respondents

The 2007 edition of "The State of the World's Children" by UNICEF ranked Nigeria as the country with the 14th lowest child survival rates in the world. Since independence in 1960, Nigeria has maintained a very low average annual rate (0.3%) of

under-5 mortality reduction. Nigeria has only succeeded in reducing childhood mortality rate by 5.3% in 45 years, from 207 deaths per 1000 live births in 1960 to 194 deaths per 1000 live births in 2005, a value that is approximately three times less than the global target of reduction for the year 2000. A baby born in Nigeria is about 30 times more at risk of death, before the age of five, than a baby born in an industrialized country.

The data on number of death is shown in Table 5.4.

Table 5.4 Distribution of Respondents by Number of Dead Children.

Number of death children	**Respondents**	**Percentage (%)**
1-2	59	71.1
3-4	22	26.5
5 and above	2	2.4
Total	**83**	**100**

Source: Field Survey, 2010.

An analysis of the distribution of number of dead children in Table 5.4 shows that 71.1 percent lost (1-2) children, 26.5 percent (2-4), 3.6 percent (5 and above). According to UNICEF, (2007), child mortality is reducing at a very low average annual rate (0.3%) of under-5 mortality reduction.

5.8.1 Causes of Children's Death of Respondents

The data on the causes of children's death is presented in the Table 5.5

Table 5.5 Distribution of Respondents by Causes of Children's Death

Causes of Children's Death	Number of Respondents	Percentage (%)
Malaria	32	38.6
Diarrhea	25	30.1
Cholera	8	9.6
Measles	7	8.3
Jaundice	6	7.2
Others	5	6.1
Total	**83**	**100**

Source: Field Survey, 2010.

The data in Table 5.5 shows that 38.6 percent of children died of malaria, 30.1 percent indicated diarrhea, 9.6 percent cholera, 8.3 percent measles, while the remaining 7.2 and 6.1 percent indicated jaundice and others respectively. The results above confirm earlier report that malaria is responsible for over 80 percent of children's death in sub-Saharan Africa. According to UNICEF, (2002) Malaria is responsible for 30% of childhood mortality, 25% of infant mortality and 11% of maternal mortality (UNICEF, 2002).

5.9 Family Size Preference of Respondents

The data on the desire for more children is presented in Table 5.6.

Table 5.6: Distribution of respondents by desire for more children

	Wife's desire for more children		Husband's desire for more children		Husband and wife's desire for more children		In-law's desire for more children	
Respondents	No	%	No	%	No	%	No	%
Yes	91	21.7	88	21.0	89	21.2	102	24.3
No	289	68.8	275	65.0	282	67.1	291	69.3
Undecided	40	9.5	57	13.0	49	11.7	27	6.4
Total	**420**	**100**	**420**	**100**	**420**	**100**	**420**	**100**

Source: Field survey, 2010.

The data in Table 5.6 shows that the bulk of women 68.8 percent do not want more children, while 21.7 percent said they want more children, and the remaining 9.8 were undecided.

Also 65 percent of the women indicate that their husband does not want more children, while 21 percent said that their husband wants more children, and the remaining 13 percent were all undecided. The data for both husband and wife revealed that 67.1 percent do not want more children, while 21.2 percent want more children and the remaining 11.7 percent were undecided.

The data in Table 5.6 reveal that 69.3 percent indicates that their parents/in- laws do not want them to have more children. 24.3 percent indicated that their parents/in-laws want them to have more children, while 6.4 percent were undecided. The influence of social

networks is crucial to informed choice. Most people seek the approval of parents, friends and associates and modify their own behavior to please others or to meet others' expectations in decision making with respect to fertility (Orubuloye, 1991). The trend of a decline in the demand for children, portrayed by the NDHS(1996) were couples wanting no more children in 1981/82 and 1990, particularly if comparison was drawn between the i981/82 and 1999 data. Not only was the overall mean ideal number of children lower in 1999 (6.7 in 1999 as against 8.36 in 1981/82), parity-specific mean ideal number of children was lower for all parities in 1990 Bankole, 2007.

5.10 Sex Preferences of Respondents

The data on sex preferences is presented in Table 5.7

Table 5.7 Distribution of Respondents by Sex Preference

Preference	**No. of respondents**	**Percentage (%)**
Male	205	48.8
Female	187	44.5
No response	28	6,7
Total	**420**	**100**

Source: Field survey, 2010

The data in Table 5.7 shows that the bulk of 48.8 percent have male children, 44.5 percent say they have female. While 6.7 percent did not responsd to the question. This confirms previous studies which emphasis the importance of son preference in Sub-Saharan Africa. According Anisworth, (1999) Community and culture affect a person's attitude

towards family planning, desired sex of children, preferences about family size, family pressures to have children and whether family planning accords with customs and religious beliefs. Also In gender-stratified societies as in Africa and South Asia, according to Orubuloye, (1991) a son preference is a common feature. It is a couples desire to have living sons, they will end up having 3.9 children on an average.

5.11 Reason for Having More Than Ideal Number of Children.

The data on reasons for having more than ideal number of children is shown in Table 5.8.

Table 5.8 Reasons For More Than Ideal Number Of Children.

Reason	**No. of Respondents**	**Percentage (%)**
No Responds	86	20.5
Ignorance of conceptive use	62	14.8
In-laws/Parents wish	128	30.5
Husbands Wish	102	24.3
Others	42	10.0
Total	**420**	**100**

Source: Field Survey, 2010.

The data in Table 5.8 shows that 30.5 percent of the respondents indicate that they have more than ideal number of children due to the influence of in-laws/parents, 24.3 reveal that it was their husbands wish. 14.8 percent indicate that they were ignorant of the use of contraception, while 10.0 stated other reasons such as contraception failure, fear of losing children among others.

5.12 Education, Actual and Desired Family Size of Respondents

The data on education, actual and desired family size is presented in Table 5.12.

Table 5.9 Distribution of Respondent's Actual and Desired Number of Children by Education

Level of Education	Mean (x) actual number of children	Mean (x) desired number of children	Mean (x) difference
Non schooling	6.4	6.0	0.4
Primary/koranic	5.8	5.4	0.4
Secondary	5.1	4.9	0.2
Tertiary	4.2	3.0	1.2
Total	**5.4**	**4.8**	**0.6**

	Calculated value	Critical value	Degree of freedom
Mean actual no. of children by education	746.60	4.11	21
Mean desired number of children by education	601.739	32.67	21

Source: Field Survey, 2010.

An examination of women's actual and desired number of children by education is very important towards understanding future fertility behavior of women. Table 5.9 presents a comparative analysis, which shows that the mean for actual number of children for all level of education (5.4) is more than the mean for desired number of children (4.8).

It is also observed that all educational levels prefer smaller family size to their present family size. Women with tertiary education desire the least number of children (mean of 3.0) compared with none schooling (mean of 6.0).

Furthermore, it is observed that the mean for both actual and desired number of children decreases with the level of education. The mean for actual and desired number of children for non schooling is 6.4 and 6.0 respectively as against 4.2 and 3.0 respectively for tertiary level of education.

To the relationship between actual and desired number of children by education, we use chi square test. The result presented in the bottom panel of Table 5.12 shows higher calculated values of 746.60 and 601.739 for actual number of children by education and desired number of children by education respectively. The degrees of freedom are 21 for both, while their critical values are 4.11 and 32.67, respectively. This shows that the alternative hypothesis which states that women educational attainment affects fertility negatively. This is confirmed by other studies, Mundi (1999) and Mamman (1992) observed that women education influences fertility negatively. Also UNICEF, (2007) observed that women education results in fertility decline and women empowerment in developing countries.

5.13 Breast Feeding of Respondents

Breastfeeding is universal in Nigeria and women traditionally breastfeed their children and abstain from sex for fairly long period of time.

The data on length of breast feeding is shown in Table 5.10.

Table 5.10 Distribution of Respondent by Duration of Breast Feeding.

Duration Of Breast Feeding in Months	**No. Of Respondents**	**Percentage (%)**
No Response	13	3.1
1-4	32	7.6
5-8	68	16.2
9-12	127	30.2
13 and above	180	42.9
Total	**420**	**100**

Source: Field Survey, 2010.

The data presented in Table 5.10 revealed that 42.9 percent breast fed for a period of 13 months and above, while 30.2 percent said they breast fed for between 9- 12 months, 16.2 percent breast fed for between 5-8 months and 7.6 percent breast fed for 1-4 months. According to Cleland, (2001) Education affects the supply of children through four intervening factors or variables; these are age at marriage, breast-feeding, postpartum abstinence and child mortality.

5.13.1 Education and Breast Feeding of Respondents

The data on women's education by length of breastfeeding is shown in Table 5.11

Table 5.11 Distribution of Women's Education by Length of Breastfeeding

	1 – 4 months		5 – 8 months		9 – 12 months		13+ months		Total	
Education	No.	%	No.	%	No.	%	No.	%	No.	%
Primary/Koranic	0	0.0	23	24.5	39	41.5	32	34	94	100
Secondary	0	0.0	66	63.5	29	27.9	9	8.7	104	100
Tertiary	0	0.0	171	77	30	13.5	0	0.0	222	100
Total	120	28.6	245	58.3	42	10.0	13	3.1	420	100
Calculated $x^2 = 384$				Critical x^2 P0.05 = 12.59			Degree of freedom = 6			

The data presented in the Table 5.11 shows that education influence the period of breastfeeding, women who have attained tertiary education 77.0, 13.5 percent breastfed for 5 – 8 months and 9 – 12 months respectively. Also those with secondary education 63.5, 27.9 and 8.7 percent breastfed for 5 – 8 months, 9 – 12 months and 13 months and above respectively. While those with primary/koranic education breastfeed for longer periods of over 13 months.

This relationship is shown statistically in the lower panel of Table 5.11. The chi-square test with respect to education by period of breastfeeding shows that the calculated value of 384 with 6 degree of freedom at 0.05 levels of significance is more than the table

value of 12.59. Therefore the alternative hypothesis that the period of breastfeeding decreases with increasing level of education is accepted.

The findings confirms Orubuloye (1998) "Fertility transition in southwest Nigeria in the era of structural adjustment which reveals a negative relationship between levels of women educational attainment and breast feeding. Also Balogun (2006) also found similar result in her study on the impact of women's schooling on fertility and contraceptive use which reveal that women with higher education breastfeed less compared to women with lower education.

5.14 Birth spacing of Respondents

The data on birth spacing is shown in Table 5.12.

Table 5.12 Distribution of Respondents by Birth Spacing.

Period of Birth Spacing In year's	**No. of Respondents**	**percentage (%)**
No Response	19	0.7
1	2	0.4
2	186	44.3
3	162	38.6
4	48	11.5
5	19	4.5
Total	**420**	**100**

Source: Field Survey, 2010.

From the data in Table 5.12, 44.3 percent indicates that they space their children for 2 years, 38.6 percent said 3 years. 11.5 percent 4 years. 4.5 percent 5 years and above, and the remaining 0.4 percent one year. According to UNFPA, (2000), in southern Nigeria, over 50 percent of women with higher education want to space their birth by three year's while 20 percent of women with no education want to space their birth by two years.

5.14.1 Education and Birth Spacing of Respondents

Table5.13 Distribution of Women's Education by Child Spacing.

Birth spacing in years							
	1	**2**	**3**	**4**	**5**	**total**	
Education	No %	No %	No %	No %	No %	No %	Mean (x) child spacing
Primary/koranic	21 31.3	46 68.7	0 0.0	0 0.0	0 0.0	67 100	1.3
Secondary	0 0.0	85 90.4	9 9.6	0 0.0	0 0.0	94 100	2.1
Tertiary	0 0.0	55 21.2	153 51.9	48 18.5	3 1.2	25 100	3.0
Total	21 5	186 44.3	162 38.6	48 114	3 0.7	42 100	2.5
Calculated X^2 = 30.148		**Critical X^2 = 0.05 = 15.51 = 0.01**			**Degree of freedom 8**		

Source: Field Survey, 2010.

The data in Table 5.13 shows that the range of birth spacing increases with the level of education. Women with primary/koranic education have a mean of 1.3 compared with mean of 2.1 and 3.0 of secondary and tertiary education respectively.

The result presented in the bottom panel of Table 5.12 shows higher calculated values of 30.148. The critical table values with 8 degree of freedom at 0.05 and 0.01 levels of significance were 15.5. Since the calculated values are higher than the table values, the null hypothesis saying that women educational attainment has no relationship with fertility is rejected and the alternative hypothesis which says women educational attainment has a relationship with education is accepted. This shows that there is positive relationship between women's educational attainment and child spacing.

The findings seems to confirm Bankole (1992) and Ahmad (1991) findings on positive relationship between women's educational attainment and birth spacing, similarly in her study of "women educational status and fertility behavior in the Federal Capital Territory (FCT) Nigeria Mundi (2009) observed that birth spacing increases with higher education.

5.15 Income and Ideal Number of Children of Respondents

An examination of women's actual and desired number of children with respect to income is very important towards understanding the effect of income on fertility behavior of women. Table 5.14 presents a comparative Table of their actual and ideal number of children by to income.

The data on respondent's actual and desired number of children by income is presented below.

Table 5.14 Distribution of Respondent's Actual and Desired Number of Children by Income.

Income	Mean (x) actual no. of children	Mean (x) desireed no. of children	Mean (x) difference
10,000	1.3	3.5	2.2
11,000 – 20,000	2.3	4.6	2.3
21,000 – 30,000	3.3	5.5	2.2
31,000 – 40,000	4.3	5.8	1.5
41,000 – 50,000	5.3	3.0	-2.3
50,000 and above	7.3	5.5	-1.8
Total	**4.0**	**4.7**	**0.7**

Source: Field Survey, 2010.

The data in Table 5.14 data shows that with the exception of those within the income range of ₦40, 000 and above, women in other income groups prefer an addition of two children to their current family size. It is observed that those in the higher income group have higher number of actual and desired children as against those in the lower income group. This shows that income influences fertility positively. The general mean for actual number of children is 3.7, while the desired number of children is 4.5. This finding confirms Jejeebhoy, (1994) on his paper "women's education, fertility and the proximate

determinates of fertility" observed that in sub Sahara Africa women with high income tend to have higher desired number of children because of their ability to provide for their basic needs.

5.16 Ethnicity and Ideal Number of Children of Respondents

The data on respondent's actual and desired number of children by ethnicity is shown below.

Table 5.15 Distribution of Respondent's Actual and Desired Number of Children by Ethnicity.

Respondent's tribe	Mean (x) actual no. of children	Mean (x) derived no. of children	Mean (x) difference
Yoruba	3.5	4.7	1.2
Igbo	4.3	4.9	0.6
Hausa	5	5.5	0.5
Northern minority	5.5	5.8	0.3
Southern minority	5.0	5.7	0.7
Total	**4.7**	**5.3**	**0.6**

Source: Field Survey, 2010.

An examination of women's ethnicity by actual and desired number of children in Table 5.15 reveals that all ethnic groups prefer an addition of one child to their present family size. The Yoruba ethnic group desires the least number of children (mean of 3.5) compared with Northern minority ethnic group (mean of 5.5).

Generally, the mean desired family size for all ethnic groups is 5.3 against the mean actual of 4.7 children indicating a mean difference of 0.6 between the actual and desired number of children. This finding is a little different from NDHS (1999) finding of 5.8 as the mean ideal number of children per woman in central Nigeria.

5.17 Marital Status and Ideal Number of Children of Respondents

The data on respondent's actual and desired number of children by marital status is shown Table 5.16

Table 5.16 Distribution of Respondent's Actual and Desired Number of Children by Marital Status.

Marital status	**Mean (x) actual no. of children**	**Mean (x) desired no. of children**	**Mean (x) difference**
Married	6.0	4.7	-1.3
Widow	5.0	3	-2.0
Divorced	4.0	5	1.0
Separated	3.4	4.6	1.2
Total	**4.6**	**4.3**	**-0.3**

Source: Field Survey, 2010.

The result of the data in Table 5.16 reveals that women who are separated from their husbands had the least number of actual children (mean of 3.4). The women who are widowed and married desire a reduction of two children, while the divorced women want a reduction of one child. The separated group prefers an addition of one child. The desired

family size for all the group of women is 4.3 as against the actual indicating a mean difference of 0.3 between actual and desired number of children. The finding reveals that married women tend to have more children than women who are widow, divorced or separated. Laah, (2003) found similar result in his study of "The Demographic and Socio-Economic Effect of HIV/AIDS in Kaduna State", observed that married women had more children than divorced, separated and widowed women.

5.18 Years in Marital Union by Ideal Number of Children.

The data on respondent's actual and desired number of children by years in marital union is shown Table 5.17.

Table 5.17 Distribution of Respondent's Actual and Desired Number of Children by Years in Marital Union.

Years In Marital	Mean (x) actual no. of children	Mean (x) desired no. of children	Mean (x) diffenence
15 – 19	1.6	5.0	3.4
20 – 24	2.6	4.8	2.2
25 – 29	3.4	4.5	1.1
30 – 34	3.8	4.4	0.6
35 – 39	4.1	4.5	0.4
40 – 44	5.2	4.7	-0.5
45 – 50	6.1	4.4	-1.7
Total	**3.8**	**4.6**	**0.8**

Source: Field Survey, 2010.

An analysis of the data in Table 5.17 shows that women who are married at the age of 15 – 19 years have the highest actual and desired number of children compared to others. This may be due to the fact that they have been married for more years (15 – 19years) compared to others. Women who married at the age of 15 – 19 and 20 – 24 years prefer to reduce their family size by one child; others still prefer an addition of between 1 to 2 children in addition to their present number of children.

Also the mean desired number of children for all current duration of marriage is 4.6 as against their actual 3.8 children indicating a mean difference of 1.2 between the actual and the desired number of children.

5.19 Religion and fertility of Respondents

Adherence to one religion or the other is universal in Nigeria and this has a profound influence on the way of life of those people including reproductive issues. Religious beliefs and injunction came out as one of the reasons for the number of children that people have (Bankole and Fayisetan, 1995). Religion is considered as one of the important factors influencing human fertility behavior and family size.

The data on religion by actual and desired number of children is shown in Table 5.18.

Table 5.18 Distribution of Respondent's Actual and Desired Number of Children by Religion.

Religion	**Mean (x) actual no. of children**	**Mean (x) derived no. of children**	**Mean (x) diffenece**
Christianity	3.8	4.1	0.3
Islam	4.9	5.8	0.9
Traditional	7.0	4.5	1.0
Total	**5.3**	**4.8**	**0.1**

Source: Field survey, 2010.

The data in Table 5.18 shows that the Christians have the least desire number of children (mean of 4.1,) compared with the Islamic religious group who desire the highest mean (5.8). With the exception of traditional religion, the Islamic religious group and the Christian religious group prefers an addition of one child to their current family size. Generally, the desired number of children for all religion groups is 4.8 as against their actual 5.3 children indicating a mean difference of 1.9 children between the actual and ideal number of children. Balogun, (2006) found similar result in her study of "the impact of women's schooling on fertility and contraceptive use". She found that women with Islamic religion had higher fertility than women of other religion.

5.20 Type of Occupation by Ideal Number of Children

Table 5.19 Distribution of Respondent's Actual and Desired Number of Children by Occupation.

Occupation	Mean (x) actual number of children	Mean (x) desired number of children.	Mean (x) difference
Teaching	3.3	4.1	0.8
Farmers	6	6.6	0.6
Clerical officers	3.8	5.0	1.2
Sales worker	3.6	5.2	1.6
House wife	6.2	6.0	-0.2
Petty trader	4.1	6.0	1.9
Adm./executive manager	5.0	6.0	-1.0
Medical	5.0	5.0	-0.8
Others	6.2	3.5	-3.5
Total	**4.8**	**5.3**	**0.1**

Source: Field survey, 2010.

The data presented in Table 5.1 shows those teachers that desires the least number of children (Mean of 4.1) compared to farmers who desires the highest mean 6.6. Generally, the desired family size for all women is 5.3 against their actual 4.8 children indicating a mean difference of 0.5 children between the actual and desired number of children. This finding is not very different from the NDHS (1999) finding of 5.8 as the mean ideal number of women in central Nigeria.

CHAPTER SIX

EDUCATION AND FERTILITY DIFFERENTIALS

6.1 Introduction

The role of fertility in population dynamics has long been recognized by demographers and other social scientists. They also recognized the importance of some socio-economic factors which constantly play an important role to bring about fertility differentials in different places through the influence they have on fertility variables such as intercourse, conception and gestation. This section focuses on the influence of some of these factors which include; education, marriage and family planning.

6.2 Education and Women's Fertility of Respondents

Studies on the effect of education on fertility with respect to the direction of the relationship (whether positive or negative) have yielded inconsistent results so far. The general belief that education acts as an inhibiting factor on fertility has motivated more researchers into examining the fertility levels of women by their educational attainment.

The data on the effect of women's education on fertility is presented in Table 6.1.

Table 6.1 Distribution of Respondent's Educational Attainment and Fertility.

Levels of Education	**No. of Respondents**	**Mean (x) No. of live birth**
Non Schooling	15	6.4
Primary/Koranic	69	5.8
Secondary	185	5.1
Tertiary	153	4.2
Total	**420**	**5.4**
Calculated value	**Critical value**	**Degree of freedom**
746.601	43.77	30

Source: Field Survey, 2010.

The data presented in Table 6.1 shows that women without formal education have the highest mean number of children (Mean 6.4), those with Primary/koranic (Mean 5.8), Secondary (Mean 5.1) and Tertiary have (Mean 4.2). This reveals that education has a negative effect on fertility. This relationship is also established in the Chi-square test.

The chi-square test with respect to the effect of women's educational attainment on fertility shows that the computed chi-square value at thirty (30) degree of freedom is 0.05; the level of significance is more than the table value of 43.77. Although the difference between the calculated (746.601) and the table value (observed) (43.77) is much, the hypothesis which states that there is no significant effect of women's educational attainment on fertility is rejected and the alternative hypothesis i.e. there is significant effect of women's educational attainment on fertility is accepted. This confirms previous studies by Mamman (1992) and Mundi, (2001) which reveal that the education of women influences fertility behavior negatively.

Juarez, (1995) in his study of "The impact of women education in Latin America" discovered that women education empowers women and gives them autonomy in making reproductive decisions which result in fertility decline.

6.3 Education and Age at First Marriage of Respondents

The data on education and age at first marriage is shown in Table 6.2

Table 6.2 Distribution of Respondents by Education and Mean Age at First Marriage.

Educational Level	No. of Respondents	Mean (x) Age At First Marriage
None schooling	15	15
Primary / koranic	41	17.8
Secondary	185	22.2
Tertiary	153	28.3
Others	26	19.9
Total	**420**	**103.2**

Source: Field Survey, 2010.

The data in Table 6.2 above shows that women who have tertiary education recorded a mean of 28.3 years at first marriage, while those with no formal education record a mean of 15 years. Those with primary/koranic education have a mean of 17.8 years while those with secondary 22.2 years.

This reveals a difference of 13.3 year's between women who had tertiary education and those with no formal education. The fact that the better educated women married late, reduces their length of exposure to the risk of pregnancy.

This in turn influences fertility negatively. Education tends to increase the age at first marriage thereby decreasing the number of years that can be devoted to childbearing. This relationship between women's schooling and age at first marriage has been found in almost all fertility studies.). According Jeffery, (1996) 70% of women with education get

married roughly two or five years later than uneducated women. Therefore age at first marriage invariably increases with higher level of education (United Nations, 2000). Age at first marriage is affected by education through decision-making autonomy, and interaction with wider world, emotional autonomy and self-reliance (Jejeehoy, 2001).

6.4 Education, Fertility and Marriage of Respondents

The data on education by mean live births and mean age at first marriage is shown in table 6.3.

Table 6.3 Distribution of Respondent's Education by Mean Live Births and Mean Age at First Marriage

Educational level	**Mean (x) age at first marriage**	**Mean (x) live births**
Non schooling	15.0	6.4
Primary/koranic	17.8	5.8
Secondary	22.2	5.1
Tertiary	28.3	4.2
Total	**20.8**	**5.4**

Source: Field Survey, 2010.

The data presented in Table 6.3 shows that women with no formal education who marry (mean age of 15.0 years) have a mean of 6.4 live births compared with women with primary/koranic education that have been married by age 17.8 have a mean of 5.8 children. Similarly, women with secondary education who are married by 22.2 have a mean of 5.1 children compared with women with tertiary education who have a mean of 4.2 children because of their higher age at first marriage 28.3.

Mamman (1992) had found similarly results in his study of every married women in Kaduna, whereby, mean partly decreased with increasing age at marriage from 5.6 children for women who entered their first union at about age 15 to a mean of 3.9 children for women who entered their union at 28 and above. The Population Information programme (P.I.P) (1990), noted that in countries where women marry young such as Bangladesh, fertility rate tends to be high, over 200 per 1000 women for those age at 15 – 19. In African countries, U.N. (1997), notes that fertility appears to be higher for women with few years of education than for women with no education but their fertility tends to decline with more years of education.

6.5 Education and Other Variables of Respondents

The data on education and other variables is shown in Table 6.4

Table 6.4 Correlation Test Result of Education by Other Variable

	Coefficient	Degree of freedom	P	R-critical	Remarks
Actual number of children	0.321	411	0.005	0.195	Rejected
Desired number of children	0.465	411	0.005	0.195	Rejected
Marital status	0.169	411	0.005	0.195	Rejected
Income	0.387	411	0.005	0.195	Rejected
Knowledge of family planning methods	0.274	411	0.005	0.195	Rejected
Use of family planning	0.589	411	0.005	0.195	Rejected
Source of family planning knowledge	0.507	411	0.005	0.195	Rejected

Source: Field Survey, 2010.

The data presented in Table 6.4 shows the correlation results of education by other variables affecting fertility. The observed correlation coefficient of all variables is greater than the R-critical values at 411 degree of freedom at 0.005 levels of significance. This means that education and these variables are significantly related. The correlation test result for actual numbers of children by education shows the observed correlation coefficient of 0.321 is greater than the R-critical value 0.195 at 411 degree of freedom. This means that education and actual numbers of children is significantly related. Therefore the null hypothesis which says actual numbers of children is not a function of education is rejected and the alternative hypothesis which says actual numbers of children is a function of education is accepted. Also the correlation test result of desired number of children by education shows that the correlation coefficient of desire number of children 0.465 is greater than R-critical 0.195 at 411 degree of freedom. This means the null hypothesis which says desired number of children is not a function of education is rejected and the alternative hypothesis which says desired number of children is a function of education as accepted. This confirms earlier study by Mcdonald, 2000, 'Gender Equity in Theories of Fertility Transition, In Population and Development studies', said there is great relationship between education, actual and desired number of children and suggests that an increase in education decreases the demand for children because it increases the opportunity cost of women's time. Studies by Mamman (1992), Mundi, (2001) and Balogun, (2006) also reveal that the education of women influences fertility and other variables such as Actual number of children, desired number of children, income, Knowledge of family planning methods, Use of family planning, and Source of family planning knowledge

The data in Table 6.4 also shows the correlation result of marital status by education. The observed correlation coefficient of 0.169 is greater than the R-critical 0.195 at 411 degree of freedom. It therefore follows that the relationship between marital status and education is significantly related. Therefore education is a critical determination of marital status.

The correlation result for income by education also reveals that the observed correlation coefficient of 0.387 is greater than R-critical 0.195 at 411 degree of freedom. This implies education have significant influence on income. Therefore the null hypothesis that income is not a function of education is rejected and the alternative hypothesis is which says education is a function of income is accepted. Mcdonald , 2000, suggests that female education may also allow women to marry more educated spouses, which also increase household permanent income.

Furthermore the correlation result of knowledge of family planning methods, use of family planning and source of family planning knowledge shows that the observed correlation coefficients of 0.274, 0,589 and 0.507 are greater than the R-critical values of 0.195 at 411 degree of freedom. Hence there is significant relationship between education and knowledge of family planning, use of family planning and sourced of family planning knowledge. Mcdonald, 2000, said education may improve women‘s knowledge and use of contraceptive methods, healthy pregnancy behavior and education may enhance females‘ ability to process information, potentially increasing their knowledge of contraception options. Education may also improve a wife‘s bargaining power inside her marriage.

6.6 Family Planning of Respondents

The use of family planning in Nigeria is very low only 10% of currently married women use a modern family planning method (Orubuloye, 1991). The low utilization of modern family planning methods invariably factors into the high fertility, maternal, and child mortality rates in the country (NDHS, 1999). Family planning is the planning of when to have and use birth techniques to implement such plans. Other techniques commonly used include sexual education, prevention and management of sexually transmitted diseases, pre-conception counseling, management and infertility management (Orubuloye, 1991).

6.7 Knowledge of Family Planning of Respondents

The data on knowledge of family planning is shown in Table 6.5.

Table 6.5 Distribution of Respondent's Knowledge of Family Planning.

Knowledge of Family Planning	No. of Respondents	Percentage (%)
No response	12	2.9
Yes	346	82.3
No	62	14.8
Total	**420**	**100**

Source: Field Survey, 2010.

The data in Table 6.5 shows that 82.3 percent of respondent had knowledge of family planning, 14.8 percent indicate that they have no knowledge of family planning while 2.9 percent did not respond to the questions. According to UNICEF, (2002)

education is the main determining factor in acquiring family planning knowledge and purposeful use of family planning methods.

6.8 Education and Use of Family Planning method

The data on education and use of family planning method is shown in Table 6.6.

Table 6.6 Distribution of Women's Education by Use of Family Planning Method.

Education and Use of family planning method						
Levels of Education	**Yes**		**No**		**Number of respondents**	
	No.	**%**	**No.**	**%**	**No.**	**%**
Primary/koranic	61	14.5	6	9.0	67	16
Secondary	94	22.4	0	0.0	94	22.3
Tertiary	197	46.9	62	23.9	259	61.3
Total	**352**	**83.8**	**68**	**16.2**	**420**	**100**
Calculated value		**Critical value**			**Degree of freedom**	
384		12.59			2	

Source: field survey, 2010.

The data in Table 6.6 shows that the use of family planning method is not uniform across educational levels. But it indicates a high use of family planning methods by respondents irrespective of educational level. It is observed that 352 (83.8 percent) of women claimed to have used at least a method of family planning. There are however variations among various levels of education. The data shows that 46.9 percent of women with tertiary education use family planning method, followed by 22.4 percent of women

with secondary education and 14.5 percent with primary education. This shows that use of family planning increases with level of education.

In statistically establishing the relationship among the various levels of education, that is primary/Koranic, secondary and tertiary educational level. The result presented in Table 6.4 shows higher calculated value of 384. The critical value with 2 degree of freedom at 0.05 and 0.01 levels of significances were 12.59 since the calculated values are higher than the table values, the alternative hypothesis that use of family planning increases with level of education is accepted. The findings Confirms Cochrane's, (1996) and Mundi's, (2001) findings on the effect of women's education and use of family planning methods, which shows a positive relationship between levels of women educational attainment and use of family planning methods.

6.9 Knowledge and Practice of Family Planning of Respondents

The data in Table 6.7 on knowledge and practice of family planning shows some disparities between the knowledge and practice of family planning.

Table 6.7: Distribution of Women by Knowledge and Practice of Family Planning Method.

Responses	**Knowledge of family planning method**		**Practice of family planning**	
	No.	**%**	**No.**	**%**
No response	12	2.9	17	4.0
Yes	346	82.3	271	64.5
No	64	14.8	132	31.3
Total	**420**	**100**	**420**	**100**

Source: field survey, 2010.

The data in Table 6.7 indicate a high knowledge of family planning methods as indicated by 82.3 percent of women. However, in terms of use, only 64.5 percent of women who have heard of a method have practiced family planning. This result confirms Mundi, (2001) in her study of "women participation in labour force and fertility behavior: case study of federal capital territory Nigeria", which reveal that knowledge of family planning (78.4) is higher than practice of family planning (57.9) among women in the study area.

6.10 Type of Family Planning Method and Use.

The data on methods of family planning is shown in Table 6.

Table 6.8 Distributions of Respondents by of Family Planning methods and use

Methods of Family Planning	No. Of Respondents	Percentage (%)
No response	17	4.0
None use	115	27.3
Pills	58	13.8
Abortion	26	6.2
IUO	28	6.7
Condom	68	16.2
Injectibles	49	11.7
Withdrawal	26	6.2
Abstinence	20	4.8
Rhythm / luxury	12	2.9
Sterilization	1	0.2
Total	**420**	**100**

Source: Field Survey, 2010.

The data in Table 6.8 shows that condom is mostly used with 16.2 percent. This is followed by pills and injectibles with percentages of 13.8 and 11.7 respectively. Others are withdrawal (6.2 percent), abstinence (4.8 percent), IUD (6.7 percent), abortion (6.2 percent), rhythm (2.9 percent) 4.0 do not use any of the method and 0.2 percent said sterilization. Generally, the fact that majority of users of family planning methods are women with higher levels of education which helps to explain the lower fertility among them compared with women with no education and lower levels of education. Table 6.5 compares the respondent's knowledge and use of family planning method by educational levels.

6.11 Source of Family Planning Knowledge of Respondents

The data on Source of Family Planning Knowledge is shown in Table 6.9.

Table 6.9 Distribution of Respondents Source of Family Planning Knowledge

Source of information	**No. of Respondents**	**Percentage (%)**
Government family planning unit	20	4.8
Radio/Television	47	11.2
Peers and friends	20	4.8
Parent/relative	57	13.6
News Papers/magazines/Books	46	10.9
church/mosque	72	17.1
Hospital/planning unit	136	32.4
Others	22	5.2
Total	**420**	**100**

Source: Field Survey, 2010.

The information in Table 6.9 reveal that 32.4 percent of women acquired the information from the hospital/planning unit and 13.6 percent indicated through discussion with Parent/relative, 17.1 percent (family planning unit of church and mosque), 10.9 percent (reading from books /magazines/news papers) while the remaining 11.2, 4.8 and 4.8 percent indicated radio/television, peers and friends and government family planning unit and others 5.2 percent.

6.12 Purpose of family planning of Respondents

The data on purpose of Planning Knowledge is shown in Table 6.10.

Table 6.10 Distribution of Respondent Purpose of Family Planning.

Purpose of contraceptive use	**No. of respondent**	**Percentage (%)**
Birth spacing	327	77.9
Termination of child bearing	18	4.3
Others	75	17.9
Total	**420**	**100**

Source: Field Survey, 2010.

The data in Table 6.10 shows that 77.9 percent indicated that their purpose of family planning is for birth spacing, 4.3 percent said it is for termination of child bearing and the remaining 17.9 percent for others. The findings show that over two third (2/3) of women use family planning for the purpose birth spacing. According Bankole, (1994) noted that family planning can help meet women's needs and avoid unwanted pregnancy thereby, avoiding the risk of child bearing and abortion.

6.13 Education and Purpose of Family Planning of Respondents

The data on respondents' education and purpose of family planning is shown in Table 6.11.

Table 6.11 Distribution of Respondents' Education and Purpose of Family Planning.

Education	**Birth spacing**		**Termination of pregnancy**		**Others**		**Total**	
	NO	%	NO	%	NO	%	NO	%
Primary/Koronic	67	100	0	0.0	0	0.0	67	100
Secondary	94	100	0	0.0	0	0.0	94	100
Tertiary	166	64.1	18	6.9	7.5	29.0	259	100
Total	**337**	**77.9**	**18**	**4.3**	**75**	**17.9**	**4.20**	**100**

Source: Field Survey, 2010.

The data in Table 6.11 shows that 77.9 percent use family planning for birth spacing, 4.3 percent for termination of pregnancy and 17.9 for other. Based on levels of education, 100 percent of both primary/koranic and secondary women indicate birth spacing. While for those with tertiary education 64.1 percent indicate birth spacing, 6.9 percent for termination of pregnancy and 17, 9 percent for other purposes. The result confirms Mundi's (1999) finding which reveal that women with tertiary education utilize family planning for various purposes compared with those with primary/koranic and secondary. According to (Rogers, 2001) the principal reason for family planning is birth

control which is enhanced by women education and autonomy which gives them right to act and protect their own reproductive health.

6.14 Reasons for Adopting a Particular Family Planning Method of Respondents

The data on reasons for adopting a particular family planning is shown in Table 6.12.

Table 6.12 Distribution of Respondent by Reasons for Adopting a Particular Family Planning.

Reason for adopting a method.	**No. of Respondents**	**Percentage (%)**
Effectiveness	59	14.0
Affordability	136	32.4
Convenience	50	11.9
Approval by husband	90	21.4
Availability	32	7.6
Others	53	12.6
Total	**420**	**100**

Source: Field Survey, 2010.

An analysis of the data in Table 6.12 revealed that 32.4 percent of indicate that the reason for adopting a particular family planning method is affordability, 14.0 percent stated effectiveness, 11.9 percent of the respondent said convenience. 21.4 percent approval by their husbands, 7.6 percent availability while the remaining 12.6 percent others.

The findings however, seem to confirm mundi's (1999) finding which reveals that majority of women tend to patronize family planning methods that are affordable and

approved by their husbands. One has to consider the preferences of his or her partner when choosing a birth control option. For example, some men do not like to have sex using a condom. In that case, birth control pills might be a better choice for preventing an unwanted pregnancy, according to the National Institute of Health (laah, 2003). Efforts to foster equity in decision making and raise awareness about reproductive right of the family, community and society also promote informed choice of family planning (Rogers, 2001). As woman gain more autonomy, they are better able to claim their rights as individuals including the right to act and protect their own reproductive health.

6.15 Conclusion

This chapter has summarized some of the evidence available on the effects of women education on fertility. It was observed that variations in fertility levels among different levels of education in Kaduna state show the effect of education on fertility.

This, has been illustrated in the study, fertility is negatively affected by levels of education. Better educated women tend to be more receptive, innovative to factors that contribute to fertility declines.

CHAPTER SEVEN

SUMMARY AND CONCLUSION

7.1 Main findings of the study

Majority of women are between 30-34 years old; with a general mean (x) age of 31.3. While majority of the women (81.6) were married. 80.7 percent of these were in monogamous union. Educationally, most of the women have not been educated beyond post-primary levels. Some of the reasons identified for this were linked to parents' withdrawal of females from school for marriage, hawking and farm work, early pregnancy and lack of sponsors.

The average age at first marriage for women who have attained tertiary education is 28years, secondary education 22.2 years and koranic/primary and below 17.8 and 15 years. The observed mean parity for women with tertiary education is 3.6; secondary education 4.4 while those without education is 6.0. The mean number of children for all respondents is 4.6.

Most of the respondents as indicated by 72.9 percent of women are Christians. Majority of the respondents are northern minority consisting about 46.6 percent. Occupationally, most of the women (30.2 percent) are teachers in either government or private schools and other informal activities. Over 20.7 percent of the active ones are house wives and 15 percent in the civil service. Following the type of employment they engaged in the income levels of women are generally low.

A general overview of the influence of educational attainment on fertility reveals an inverse relationship between women educational attainment and fertility. We found

fertility among better educated women to be lower than women with no formal education. The effect of education on fertility seems to be through influencing women's attitudes to age at marriage, knowledge and practice of contraception, perceived cost, benefits of children and ideal family size among others.

Though marriage is universal in the study area, the better educated seem to marry later (mean of 28.3 year's) compared with their uneducated counterpart who marry at a mean age of 15 years. This has implications for the woman's fertility, for age at marriage is related to fertility in many respects. It represents the number of year's available for child bearing, the consequences of early marriage for females have well been documented in the literature. These include increased health risks associated with child bearing such as Visico vaginal fistulae (VVF), as well as reducing the tendency for educational development. (NPC, 1996). Delayed age at first marriage should in general be understood in terms of its potential to cause fertility decline and raise women status by allowing women to develop their career (Davis, 1984). In other words, as women delay marriage they have opportunity to complete their education, to develop remunerable skills and to choose their husbands or to choose not to marry at all. It is therefore desirable to put in place appropriate machinery for the enforcement of the provision of the national policy on population on the minimum age (18 year's) of marriage for females.

The study also reveals a wide spread of knowledge of contraception use among women (83.7 percent), the proportion using it varies with educational attainment, those with tertiary education (46.9 percent), secondary (22.4 percent), and primary/koranic (14.5 percent). What this means is that at least primary/koranic level of education is required for women to maximally benefit from family planning programmes. Such programmes are

necessary so that they would be able to determine the timing of the pregnancies and the number of children they would want to have. Bankole, (1994) noted that family planning can help meet women's needs. Women can avoid unwanted pregnancy thereby, avoiding the risk of child bearing and abortion. With better health and more control over her time, the woman is able to perform her customary role for herself, for the children she has and for her community. In view of the above, there is need to educate women on the advantages of family planning and making the method of contraception available to them.

Furthermore, the study also reveals that women with better education desire smaller family sizes. The observed parity for women with tertiary education is 3.6 while those without education are 6.0. This shows a difference of 2.4. The expressed ideal family size differs among different cultures and religious backgrounds. Also it reflects the different attitudes of women to the costs/benefits of children. These attitudinal changes are related to the economic transformation that has changed the economic value of children. As societies move from rural agricultural to urban industrialized economics, the economic value of children decrees such that the children are regarded as burden than asset. Caldwell (1982) had observed that fertility is likely to decline when parents no longer benefit from the wealth of their children.

The study also reveals that better educated women with high income have lower fertility due to increased female autonomy and bargaining power in fertility decisions than those with little or no education. The educated women are empowered; hence tend to take control over their reproductive life.

7.2 Suggestion for future research

At this point, we suggest that future research be conducted in Kaduna state, to identify the effects of women's educational attainment on fertility in rural areas.

Research could also be conducted to compare the impact of education on fertility of women in strictly urban and strictly rural areas in Kaduna state.

7.3 Conclusions

Excessively rapid growth of population has been increasingly recognized as a proper area of public policy intervention by many governments. The concern is, of course, not with demographic growth per see, but rather with its negative implications for the attainability of a wide range of desirable goals in the sphere of economic and social development. Finding other means of controlling rapid demographic growth is a real concern of the countries with excessively high levels of fertility.

There is a consensus that education is one of the most important means of reducing fertility. Although education is considered to be an important instrument that affects population trends, it is necessary to know what type of education can play this role. For the relationship between fertility and education to generate policy implications, it is necessary to know what particular characteristics of education increase or decrease fertility and their relative importance. Knowledge of the education-fertility relationship is especially relevant for development planning because education can be directly influenced by government policy. Among national population where fertility is considered an obstacle to development, detailed knowledge of the education-fertility relationship would doubtlessly facilitate decisions concerning educational levels, curriculum content, the structure of

educational system, and ultimately, the division of resources between education and other competing programs. Accordingly policy-makers have been warned that any attempt to use the relationship between education and fertility for policy purposes requires a better understanding of the circumstances in which an inverse relation is likely to arise any way it does not arise in other circumstances.

7.4 Recommendations

The following recommendations are made based on the study.

Some of the striking issues arising from the study are female withdrawal from school for marriage and farm work, while others drop out due to early pregnancy and lack of sponsors. Parents may withdraw girls from school because of the traditional view of female education as wasteful and unnecessary, since the woman will finally marry and become an asset to her husband and not to her paternal family (W.F.S. 1987). As long as this view continues to be upheld, women would always be educationally disadvantaged. There is therefore need to change the attitude of parents especially those in the rural areas by enlightening them on not just the short term but also the long term benefits of women education, for once a woman is educated, the society generally benefits from the family. In addition, government needs to take firm stand on the issue of parents found guilty of this, to serve as a deterrent to others. Compulsory schooling laws should be straightened not to discriminate between boys and girls.

In addition to these, possible reabsorbing strategies could be designed to reabsorb women who have dropped out of school or who could not go to school due to lack of sponsorship, early pregnancy and other reasons. Similarly, more boarding schools should

be established for girls. Above all, there is need for training more female teachers and the design of curriculum be made relevant to future employment so that women do not stay unemployed for too long, which again would discourage parents from sending their female children to school.

Also, our study also found out that knowledge of family planning is higher than its use. The Kaduna state government should also make contraceptives available and affordable to both rural and urban areas so that all women can afford contraceptives and family planning services. Also follow up systems should be introduced so that perceived side effects of contraceptives are dealt with immediately and effectively to encourage use of contraceptives among women.

Another issue arising from the research is that most women are full time house wives, they are either engaged in agriculture and other related jobs largely because they are either not educated or have low educational attainment or are educated but have no good jobs. The implications as indicated by our data are that as long as women continue to be backward educationally and their occupational status continues to be low, their fertility levels will be high. Therefore any efforts at improving the lives of women by giving them soft loans to start business and provide job opportunities will empower them and ultimately reduce and fertility.

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DEPARTMENT OF GEOGRAPHY

AHMADU BELLO UNIVERSITY ZARIA

QUESTIONNAIRE SURVEY INSTRUMENT

Dear Madam**,**

I am a student of Geography Department, Ahmadu Bello University, Zaria. I am undertaking a research on "THE EFFECT OF WOMEN EDUCATION ATTAINMENT ON FERTILITY IN KADUNA STATE, NIGERIA". This research is in partial fulfillment for the award of M.Sc. Geography degree.

Any information provided would be treated with the highest level of confidentiality. I will be grateful if you will assist in completing these questions. Please answer the questions in full by ticking the right box.

Thank you.

INSTRUCTIONS

Should be used only if the woman herself is available to be interviewed, ask women of 15 years and above who are married or have been married. Use additional questionnaire forms if there is more than one married woman in the household.

WOMAN'S BACKGROUND

1. Age: (a) <15 yrs [ ] (b) 15 – 19 yrs [ ] (c) 20 – 24 yrs [ ]
   (d) 25 – 29 yrs [ ] (e) 30 – 34 yrs [ ] (f) 35 – 39 yrs [ ]
   (g) 40 – 44 yrs [ ] (h) 45 – 49 yrs [ ] (i) 50yrs and above [ ]
2. Ethnic group _____
3. Religious affiliation (a) Christian [ ] (b) Muslim [ ]
   (c) Traditional [ ] (d) No religion [ ] (e) other (specify) _____

4. What was the highest level of school you attained?

(a) No schooling [ ] (b) Koranic/Primary [ ]

(c) Junior Sec Sch. /Senior Sec. School (d) Tertiary [ ]

(e) Others specify _____

5. What is your occupation?

(a) Professional and Technical related worker [ ]

(b) Teacher [ ] (c) Admin. Executive and Managerial [ ]

(d) Clerical [ ] (e) Farmer [ ] (f) Sales worker [ ]

(g) House maker / Housewife [ ] (h) Working proprietor retail and petty trade [ ]

6. How many years have you worked outside home since marriage?

(a) Never worked [ ](b) Worked for one year or less [ ]

(c) Worked for 2 – 5 year's [ ] (d) Worked for 6 – 9 year's [ ]

(e) Worked for 10 year's and above [ ]

7. How much is your monthly income?

(a) Below N20, 000 [ ] (b) N30, 000 – N50, 000 [ ]

(c) N60, 000 – N70, 000 [ ] (d) N70, 000 and above [ ]

8. Do you receive financial income from any other source?

(a) Yes [ ] (b) No [ ]

9. If yes state the source _____

MARRIAGE HISTORY

10. Marital Status

(a) Single [ ] (b) Married [ ] (c) Divorced/Separated [ ]

11. Age at first marriage

(a) 15 – 19 year's [ ] (b) 20 – 24 yrs [ ] (c) 25 – 29 yrs [ ]

(d) 30 – 34 yrs [ ] (e) 35 yrs and above [ ]

12. For those who married later from 30 and above, why did you delay marriage?

(a) To attain certain level of education [ ]

(b) Scared of marriage institution [ ] (c) Takes time to get the right partner [ ]

(d) Others (specify) _____

13. Are you and your husband/partner living most of the time together in the same household? (a) Yes [ ] (b) No [ ]

14. Number of years in marital union. (a) < 2yrs [ ] (b) 3 – 6 yrs [ ]

(c) 7 – 10 yrs [ ] (d) 10 yrs and above [ ]

15. Type of marital union. (a) Monogamy [ ] (b) Polygamy [ ]

(c) Others (specify) _____

16. If polygamy, how many wives including yourself does your husband have?

(a) None [ ] (b) Number [ ] (c) Don't know [ ]

17. Have you been married more than once?

(a) Yes [ ] (b) No [ ]

(b) If yes, number of times _____

(Number)

18. How many sons and how many daughters have you given birth to that are still alive?

(a) None [ ] (b) Sons [ ] (c) Daughters [ ]

19. How many sons and how many daughters who were born alive died?

(a) None [ ] (b) Sons [ ] (c) Daughters [ ]

20. Do you know the cause of death?

(a) Yes [ ] (b) No [ ]

21. If yes, what caused the death?

(a) Malaria [ ] (b) Measles [ ] (c) Bari Bari [ ] (d) Titanus [ ]

(e) Diarrhea [ ] (f) Small pox [ ] (g) Cholera [ ]

(h) Others (specify):_____

INSTRUCTIONS: Interviewer, make sure that the woman include the children who might be staying away from home.

Now I want to ask you some questions about each of your children whether they are alive or dead, starting from the first one you had.

	22	23	24	25
No. of Child	**What month and year did your 1st, 2nd, 3rd etc. birth occurred.**	**Was it a boy or girl**	**Is this child living?**	**If dead, how old did he live?**
1.	Month …….. Year ……. Year's age ……	[ ] Boy [ ] Girl	Yes [ ] No [ ]	Year's…… Months …….
2.	Month …….. Year ……. Year's age ……	[ ] Boy [ ] Girl	Yes [ ] No [ ]	Year's…… Months …….
3.	Month …….. Year ……. Year's age ……	[ ] Boy [ ] Girl	Yes [ ] No [ ]	Year's…… Months …….
4.	Month …….. Year ……. Year's age ……	[ ] Boy [ ] Girl	Yes [ ] No [ ]	Year's…… Months …….
5.	Month …….. Year ……. Year's age ……	[ ] Boy [ ] Girl	Yes [ ] No [ ]	Year's…… Months …….
6.	Month …….. Year ……. Year's age ……	[ ] Boy [ ] Girl	Yes [ ] No [ ]	Year's…… Months …….
7.	Month ……..	[ ] Boy	Yes [ ]	Year's……

	Year …… Year's age ……	[ ] Girl	No [ ]	Months …….
8.	Month …….. Year …… Year's age ……	[ ] Boy [ ] Girl	Yes [ ] No [ ]	Year's…… Months …….
9.	Month …….. Year …… Year's age ……	[ ] Boy [ ] Girl	Yes [ ] No [ ]	Year's…… Months …….
10.	Month …….. Year …… Year's age ……	[ ] Boy [ ] Girl	Yes [ ] No [ ]	Year's…… Months …….

Some pregnancies of many women end in still births, miscarriages, or induced abortion.

Have you had any pregnancies which ended in these ways?

(a) Still birth [ ] (b) Miscarriage [ ] (c) Induced abortion [ ] If none skip to Q.

	26	**27**	**28**
No. of Child	**In what month and year did your 1st, 2nd, 3rd etc. such pregnancy ends?**	**If uncertain, interviewer determine between which live births the event occurred**	**How many months did that pregnancy last?**
1.	Month …….. Year…….. Uncertain [ ]		Months …….
2.	Month …….. Year…….. Uncertain [ ]		Months …….

3.	Month …….. Year…….. Uncertain [ ]		Months …….
4.	Month …….. Year…….. Uncertain [ ]		Months …….
5.	Month …….. Year…….. Uncertain [ ]		Months …….

FERTILITY PREFERENCES

29. Do you plan to have another child in addition the one(s) you already have?

(a) Yes [ ] (b) No [ ] (c) Undecided [ ]

30. Does your husband want to have another child in addition to the one(s) that you already have?

(a) Yes [ ] (b) No [ ] (c) Husband undecided [ ]

(d) Don't know husband option [ ]

(a) How many children all together does your husband want you to have?

_____ _____

Sons Daughters

31. Does any of your parents or in-laws want to have more children in addition to the one(s) that you already have?

(a) Yes [ ] (b) No [ ] (c) Parents/In-laws undecided [ ]

(d) Don't know parents/in-laws opinion [ ]

(a) How many children all together does your parents/in-laws want you to have?

_____ _____

Sons Daughters

32. If you could choose exactly the number of children to have in your whole life, how many boys and how many girls would you like to have?

_____ _____

Sons Daughters

33. Does it matter whether you have boys or girls?

(a) It matters [ ] (b) Doesn't matter [ ]

34. If respondent has more than four children and still wants more, why do you want so many children as the case may be?

(a) Happiness and strength associated with larger family [ ]

(b) Price and prestige [ ] (c) Ignorance of contraception [ ]

(d) Old age security [ ] (e) Cheap labor [ ] (f) Fear of child death [ ]

(g) Others _____

(Specify)

35. If respondent has four (4) children and below; ask, why do you want so few children as the case may be?

(a) To raise 'quality' children [ ] (b) The times are hard [ ]

(c) Obeying government regulation [ ] (d) others (specify) _____

36. If respondent is having more children than her 'ideal number', ask her, why is she not having exactly that number she considers 'ideal'?

(a) Ignorance of contraception [ ] (b) In-laws/parents wish [ ]

(c) Husband's wish [ ] (d) others (specify) _____

37. For how many months on the average do you breastfeed your children?

(a) 1 – 4 months [ ] (b) 5 – 8 months [ ] (c) 9 – 12 months [ ]

(d) 13 months and above [ ]

38. If you could choose, how long an interval would you like between having one baby and the next?

(a) One year [ ] (b) Three year's [ ] (c) Four year's and above [ ]

CONTRACEPTIVE KNOWLEDGE

39. Have you heard of family planning?

(a) Yes [ ] (b) No [ ]

40. What are some of the methods of family planning or contraceptives that you know and make use of?

	METHODS KNOWN	METHODS USE
None	[ ]	[ ]
Pills	[ ]	[ ]
Abortion	[ ]	[ ]
IUD	[ ]	[ ]
Condoms	[ ]	[ ]
Diaphrams	[ ]	[ ]
Injectibles	[ ]	[ ]
Withdrawal	[ ]	[ ]
Abstinence	[ ]	[ ]
Rhythm	[ ]	[ ]
Lactational Amenorrhea method	[ ]	[ ]

Female Sterilization [ ] [ ]

41. What is your source of knowledge of family planning?

(a) Through discussions with friends [ ]

(b) Personal reading from related books [ ]

(c) Family planning units (government organized) [ ]

(d) Family planning units (church/mosque organized) [ ]

(e) Nurse in the hospital [ ]

(f) Others (specify) _____

42. Are you using contraceptive for birth-spacing or for the termination of child bearing?

(a) For child spacing [ ] (b) for termination of child bearing [ ]

43. What determine the method of family planning you adopted?

(a) Ability to afford cost [ ] (b) Convenience [ ] (c) approval by husband [ ]

(d) Others (specify) _____

44. If at the time of interview (the respondent is not using any birth control measure) find out if such a woman will wish or like to use it in the future.

(a) Will like to use [ ] (b) Will not like to use birth control device [ ]

(c) Don't know [ ]

45. As a Christian, Muslim, Traditional, Religion, adherents, (underline the one that applies to you). Do you think the use of contraceptives as a means of birth control is alright?

(a) Yes [ ] (b) [ ]

46. Have you ever stopped the use of contraceptive?

(a) Yes [ ] (b) [ ]

47. If yes, state why (tick as appropriate)

(a) Side effect [ ] (b) Religious problem [ ] (c) Husband decision [ ]

(d) Lack of access [ ] (e) Cost [ ] (f) Others (Specify) _____