CONTRACEPTIVE USE IN NYANZA PROVINCE

BY

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A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS, IN POPULATION STUDIES OF THE UNIVERSITY OF NAIROBI

2001

DECLARATION

This thesis is my original work and has not been presented for a degree in any other University.

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Grace Anyango Osiro

This Thesis has been submitted for examination with our approval as University Supervisors

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Signature _____

Dr. M. Kimani

DEDICATION

To my late brothers, Paul A. Osiro and Joshua O. Osiro, who passed away at the prime of their ages, not able to reap the fruits of their hard work.

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ABSTRACT

This study examines factors that influence contraceptive use in Nyanza province. These include education, employment, religion, ethnicity, exposure to mass media, spousal communication about family planning, age, marital status and number of children living. Nyanza province is of interest because of its' low level of current use of contraceptives which stands at 23.8%. The above contraceptive prevalence rate is unsatisfactory as it is below the national average.

A comparison with other areas in Kenya namely Central, Nairobi and Eastern provinces which have high contraceptive prevalence rates that is 56%, 45% and 38% respectively, suggest that Siaya, Kisii and South Nyanza districts have indeed portrayed a poor performance as relates to their adoption of birth control methods. Such a study is thus necessary as its' findings will help formulate appropriate policies and programmes to increase contraceptive use, hence reduction of the high fertility rate in the study region.

This research uses data from the 1993 Kenya Demographic and Health Survey. The operational framework developed by Bongaarts (1978) is adopted to guide the study. Frequencies, cross tabulations, chi-square test and logistic regression are used to analyse the data

Employment status and religion were found to be statistically insignificantly related to contraceptive use. The proportion of women using any contraceptive method rises with the number of children living. This is evident in the logistic regression results, which shows that women with four and above children living were likely to contracept, compared to those with

no children. The 40-49 age group too, was depicted as more likely to use modern contraceptives much more than other age groups. Marital status was however, negatively related to the use of any contraceptive method and the use of modern family planning methods. The currently and ever married women (widowed separated, divorce) were less likely to contracept.

Socio-cultural factors that influence use of any contraceptives in Nyanza Province include ethnicity and mass media. The level of contraceptive use is slightly higher amongst the Kisii at 1.9056 than the Luos at 0.8499. Likewise exposure to mass media programmes increases the likelihood of contraceptive use to 1.3966.

As expected, education stands out as a very influential socio-economic variable in the use of modern contraceptives. Women with secondary education and above were more likely to use modern contraceptives much more than those with primary education and those with no education.

Other than the above reasons for non-use of contraceptives in Nyanza province as mentioned in the 1993 KDHS include the desire to have more children, fear of side effects, menopause and hysterectomy, difficult, to get pregnant, lack of knowledge on application of certain family planning methods and religion.

For contraceptive prevalence rate to be raised in Nyanza province the study recommends the following, that family planning education be made available in both formal and informal institutions, that family planning intervention programmes advocate for gradual change in elements of culture that negatively influence contraceptive use and that there is need for

empowerment of women through formal education and employment as these will have positive influence on fertility regulation.

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LIST OF ABBREVIATION AND ACRONYMS

AIDS – Acquired Immunodeficiency Syndrome

CBD – Community Based Distributors

CBS – Central Bureau of Statistics

CPR – Contraceptive Prevalence Rate

CSO – Central Statistical Office

DHS – Demographic and Health Survey

DMP - Depo Metroxyprosterone Acetate

ECAP – Economic and Social Commission for Asia and the pacific

FP - Family Planning

FPAK – Family Planning Association of Kenya

FS – Female Sterilization

GOK - Government of Kenya

IUD – Inter Uterine Device

KCPS – Kenya Contraceptives Prevalence Survey

KDHS – Kenya Demographic Health Survey

MOH - Ministry of Health

ML – Maximum Likelihood

NCPD – National Council for Population and Development

NGO's - Non-governmental Organization

OLSE – Ordinary Least Squares Estimations

PACHILD – Pan Arab Project for Child Development

PC & MI – Population Council and macro International Inc.

PCIRD – Population Council and Institute for Resource Development

PID – Pelvic Inflammatory Disease

STD – Sexually Transmitted Disease

UDHS – Uganda Demographic and Health Survey

UN –,United Nations

UNICEF – United Nations Children Educational Fund

USAID – United States Agency for International Development

USA – United States of America

WHO - World Health Organization

CHAPTER ONE

INTRODUCTION

Low contraceptive use implies high fertility rates; this imposes high economic costs to individuals, families and to the nation as a whole A fast growing population demands that a nation's output of goods and services grow at a rate that is higher than the growth of the population if there is to be a positive change in the standards of living High fertility rates also indicate increased pressure on the country's natural resources that may lead to destruction of environment

The government of Kenya thus became concerned about the high rate of population growth after the 1962 population census which showed that the population was growing at a growth rate of 3 3% in 1989, the annual population growth rate in Kenya was estimated at 3 4% per annum one of the highest in the world (NCPD, 1989)

Since 1965, the government of Kenya has sought to reduce population through family planning Private individuals established the family planning Association of Kenya (FPAK) in 1957, but it was not until 1967 that the official national family planning component was integrated into the Maternal and Child Health Programme of the Ministry of Health

On the basis of the 1969 census, which provided evidence of a high fertility level, the government decided to launch a five-year (1974 - 1979), family planning programme. The specific goals of the programme were to reduce the high annual rate of natural population increase from 3.3 percent in 1975 to 3.0 percent in 1979 and to improve the health of mothers and their children under the age of 5 Initially, however, the family planning component of

Maternal and Child Health programme had limited success The 1979 census results indicated a population growth rate of 3 8 per cent per annum, which was higher than the projected growth rate of 3.0 percent This failure to achieve the targeted population growth rate could be attributed to short falls in the assumption used to arrive at the target. The plan to reduce the growth rate concentrated on the supply side of family planning services instead of putting emphasis on programmes aimed at changing family size norms

It was with the realization of the need to improve earlier weakness of the family planning programme that the government established the National Council for Population and Development, (NCPD, 1989) The council's mandate is to formulate population policies and to co-ordinate the activities of government ministries, non-governmental organizations and donors involved in population, integrated rural health and family planning programmes

Despite the above efforts to reduce the growth rate in Kenya, Nyanza Province, ranked fifth, with a total fertility rate of 5 8 births per woman amongst the eight provinces countrywide (NCPD et al , 1994)

Levels of fertility by province showed that Nyanza, Western, Rift Valley and Eastern provinces retain fertility rates that are above the national level. Which are 5 8, 6 4, 5 7, and 5 9 respectively Nairobi and Central province depicted the lowest fertility levels, that is 3 4 and 3 9 children per woman Whereas the current national average use of modern contraceptive is 33% it is 23 8% in Nyanza, 27 8% in Rift Valley and 25 1% in Western province The highest user rate is 56 0% in central province (NCPD et al , 1994) The above statistics suggest that the contraceptive prevalence rate in Nyanza province is lagging behind This study therefore attempts to find out reasons for low contraception use in the province

1.1 BACKGROUND INFORMATION'S OF STUDY AREA

This study covers Nyanza province. It is one of the eight province's into which Kenya is divided, in terms of provincial administration Nyanza province has since been divided and is currently consisting of twelve districts, Kisumu, Siaya, Bondo, Migori, Homabay, Rachuonyo, Nyamira, Kisii South Nyanza and Kuria However, this research will only cover Siaya, South Nyanza and Kisii districts These are the districts that were covered during the 1993, Kenya Demographic Health Survey, from which the data for this study are drawn

1.1.1 Location and Size

Nyanza province is bordered by Busia and Kakamega districts to the north and Nandi district to the north east To the south is the Republic of Tanzania and to the west is the Republic of Uganda while to the east is Kericho district It's total land surface is 16,157 sq. kilometres, with 3,645 sq km lying under water Nyanza province is divided into 35 divisions, which are then divided into locations and sub - locations for administrative purposes.

1.1.2 Ethnic Composition

The ethnic composition of the province is mainly the Luo, Kisii and the Kuria people The Luo inhabit Siaya and South Nyanza districts, the Kisii, Kisii district while the Kuria are found in Kuria district

1.1.3 Demographic Profile

Nyanza province has a population of 3,507,160 according to the 1989 population census The intercensal growth rate between the 1979 - 1989 population census period was 2 83%. Its population is projected to be 5,288,000 by the 2000. In terms of the districts being studied, Siaya had an intercensal growth rate, increase of 3 0% in the 1979-1989 period,

South Nyanza 2.66% and Kisii 4.0% in the same decade. The populations of the three districts being studied as per the census were as follows, Siaya –639,437, South Nyanza – 1,066,583 and Kisii – 1,137,053. According to 1989 census too, the population growth rate declined between 1969 and 1979, but increased between 1979 and 1989. The population projections for Siaya, South Nyanza and Kisii districts by the year 2000 are 786,000, 1,693,000 and 1,831,000 respectively (Government of Kenya, 1993).

The population of Nyanza province is youthful according to its age structure. For example in Siaya and South Nyanza districts the 0-14 age group accounts for 49.5% and 47.7, respectively of their total populations. Information available on the two districts recently curved out from Kisii (namely Kisii and Nyamira) revealed that the young people in the 0-14 age bracket constitute about 15.0% and 53% of their respective district's total population. The proportion of primary school going pupils is 34% in South Nyanza and 24% in Kisii. The percentage of secondary going age (14-17) currently stands at 11.5% in South Nyanza and 6.4% in Kisii. The young population thus show the need for reservation of more resources for their sustenance and for provision of the infrastructure they will need (Government of Kenya, 1993).

The proportion of people aged 59 years is relatively less significant in Siaya. In South Nyanza and Kisii districts, this constitutes 4.5% and 3% of the total population, respectively. The economic implication of the population 0-14 years and 59 years is that they comprise of dependents of the working population.

In 1989 the sex ratio in the province was 98. The sex ratio in Siaya, South Nyanza and Kisii districts were 85, 92 and 93 respectively. The above suggest more females than males. The

female projected population in the province reveals a total of 2,749,00 females by the year 2000 The higher number of females compared to males suggest high fertility rates as these females are likely to reproduce therefore increased burdens on the working population in future (GOK, 1993).

The highest fertility was recorded in Nyanza province amongst other provinces with over 5 8 births per woman Kisii and Siaya districts were among districts listed as having high fertility rates in the country that is 7 2 and 6 8 births per woman respectively

The provincial estimate for average parity in 1989 showed a decline in the study region, that is from 7 8 in 1979 to 7 5 in 1989 Kisii and South Nyanza districts were termed as having showed sharp declines with Kisii initially having 8 9 children ever born per woman Despite the plausible decline shown in the province, the province's average parity still remains high compared to areas like Nairobi district which depict the national average pairty that is 4 8 children ever born per woman

Fig.1.1 **LOCATION OF STUDY AREA IN KENYA**

1.1.4 Economic Profile

Farming is the main economic activity undertaken in Nyanza province. About 80% of the population is engaged in agricultural activities. High and well distributed rainfall, supported by good soils enable successful growth of various crops in the lakeshore region, like maize, sorghum, beans, cassava, finger-millet, sweet potatoes, tobacco, rice, sunflower, cotton, sugarcane, coffee and pyrethrum (this is found mainly in Kisii). Fruits are also grown both for subsistence and commercial purposes. Examples of such are pineapples, bananas and mangoes. Small and large scale farming is practiced in this region, the former for cash crops and the latter for subsistence farming.

Livestock plays an important role as an income to the farmers in the study area. Apart from it's food value, the family savings are invested in livestock especially cattle. A family's success and security in social and economic pursuits are measured by the number of livestock one has. Other animals kept are sheep, goats, poultry, bees, rabbits and pigs. Most of the livestock kept are traditional breeds, slow progress in the modernization of this sector is attributed to factors like cultural beliefs, lack of capital for purchasing quality animals and inaccessibility to credit facilities and land ownership. This also hinders investment on land, which is communally owned and even encourages free grazing for local herds.

Fishing is the third most important economic activity after the above. It is mainly undertaken in Lake Victoria, rivers, dams and ponds. Apart from being a source of proteins, a good percent of the province's population derive their livelihood from this sector directly either as fishermen, traders, and indirectly as suppliers of complementary goods and services to the principal actors. With improved storage facilities, transportation and handling of fish, most people are likely to be attracted to this activity (GOK, 1993).

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The informal sector is yet another promising sector that presently employs about 20% of the total labour force. This sector includes a variety of skill areas namely, carpentry, metal work, motor mechanic repairs, tailoring e t c. With support through construction of more Jua Kali sheds, promotion of Jua Kali associations, provision of soft loans, availability of short courses to improve the different skill areas, business training and improvement of basic infrastructural facilities, the sector could make a greater contribution towards production and employment in the district

Industrial activities that take place in Nyanza province include sugar factories, fruit processing, vegetable canning, grain milling, bakeries, breweries, fish processing, refineries and ginneries, and production of animal feeds Cottage and small scale industries include processing of honey, wax, molasses, milk products and handcrafts Other than these, other popular economic activities in Nyanza Province include retail shops, vending and running of food kiosks The sale of second hand clothes too has spread throughout the district and continues to employ a substantial number of people.

Wage employment/public employment show a declining trend, because of the public sector policy of the Government to reduce employment under the structural adjustment programme Sources of private sector wage employment are co-operatives, professional services and non-governmental organizations It equally accounts for a small proportion of the work force

1 1 5 Infrastructure

This refers to transportation, education and health services in the region Transportation is one important factor looked at where accessibility to family planning services is involved The province has a good network of roads that are deemed to be well distributed in both

urban and rural area. Unfavourable climatic conditions, together with unsuitable topography sometimes make the roads impassable. This has necessitated high demand for bridges in the areas. Strengthening, recarpeting or resealing works on the already existing, but deteriorated bitumen roads, especially along the international route has an advantage of safeguarding the loss of capital investment. The utilisation of the roads vary according to the level of economic activities in the surrounding areas.

The education and training institutions include 784 pre-primary schools, 2828 and 293 primary and secondary schools respectively, 14 teachers training colleges, 2 farmers training institutions, one medical training institute and several schools for pupils with various disabilities. Education makes both men and women change their attitudes about family size and desires. The mentioned educational facilities may thus influence the contraception practice in the region (GOK, 1993).

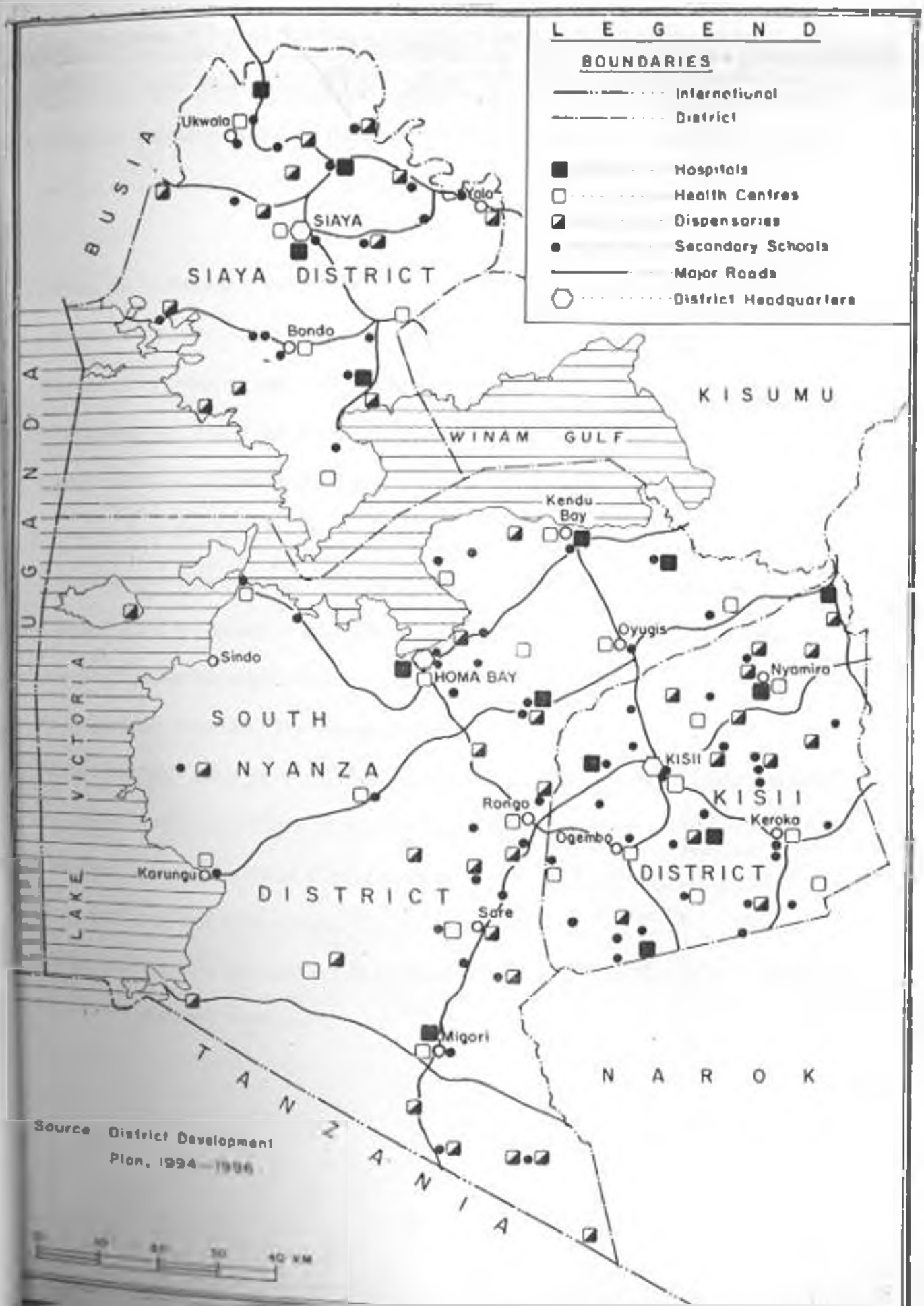
Kisii, Siaya and South Nyanza districts have well over 214 health institutions. These include district hospitals, health centres and dispensaries. The government and non-governmental organizations such as missionaries and private individuals run these institutions. Some of the hospitals are over utilized because of few health centres in certain areas like Nyamira. Other health institutions are under utilized due to unavailability of essential components such as water, electricity and maternity wards. Lack of trained personnel and medical facilities are also a major problem in the existing health institutions in the study area.

Given the low contraceptive prevalence rate, plans are underway to intensify family planning programme as revealed by the various District Development plans. Currently family planning services are provided in government health facilities, as well as by certain NGO's

and in some private clinics There are trained community based providers of contraceptives as well as community based distributors (CBD) agents

The low contraceptive prevalence rate in the province that is 23 8% and 15.2% and 12.8% in Siaya and South Nyanza respectively, are attributed to certain traditional values and customs High mortality rates, occurrence of side effects, fear of side effects and spousal objection are other obstacles mentioned Lack of awareness and lack of access to health facilities in South Nyanza are yet other hindrances cited for low contraceptive practice In Kisii as per its District development plan, the cultural belief of having many children for social security during old age is being discarded Trends in family planning indicate that current acceptance rate is increasing 40 3% Apart from the above, other factors promoting family planning in this area include community based distribution of contraceptives also known as the "reach clinic" which have penetrated into the area and reached more deserving cases Literacy classes have also contributed positively by raising awareness amongst leaders Despite the above efforts, the contraceptive prevalence rate in this area and the province as a whole is still comparatively low and there is need to improve the current interventions (GOK, 1993)

Fig. 1.2: INFRASTRUCTURAL MAP OF NYANZA PROVINCE



1 1 6 Social Organizations and Cultural Beliefs

The inhabitants of Nyanza Province's response to fertility regulation depends partly on the province's social environment and it's cultural set up These socio-cultural and socio-economic factors as shown by (Bongaarts, 1978) influence contraceptive use, and could perhaps explain why the study region's lagging behind in it's fertility regulation efforts

Among the terms used in social demographic literature along side status of women includes, patriachy, women's and men's situational advantage Ca'ent sees patriachy as the distribution of power and resources within families such that men maintain power and control of resources and women are powerless and dependent on men (Caen et al, 1979) Dixon defines status of women as the degree of women's access to and control over material resources (including food, income, Land and other forms of wealth) and to social resources (including knowledge, power, decision making and prestige) within the family in the community and the society at large (Dixon, 1978) These definitions in part, refer to some aspects of gender inequality, which could have an impact on women directly or indirectly as family planning recipients The following are examples of social - cultural arrangement that indicate the low status of women in Nyanza Province. This may be useful for better understanding of the inhabitants of the study region in relation to contraceptive use. Land is a principal factor of production in this Lakeshore region, which is predominantly agricultural In the traditional land tenure systems access to land was opened to all members of the family lineage while control over land and its products was vested on mostly the male members of the clan or community as a whole

Amongst the Luo, Kisii and Kuria property ownership, and inheritance customs were biased against women. For example, husbands were legally acknowledged as title deed holders and they could pledge or dispose of land without their wife's consent. The resent law amendments are only practical to the educated women and those living in urban areas. The uneducated and rural woman is still subject to discrimination in terms of property ownership and inheritance.

Patterns of house hold decision making, particularly rural women in the study region have not changed significantly in male headed households, especially when the man has the only income, he makes the final decisions on crucial household matters, reproductive health inclusive (UNICEF, 1992).

Access to and control over resources both social and material, enables the women have greater financial independence, thus not requiring financial support from their children, this leads to reduction of the need for many children. It also improves their position within the family's authority structure, enabling a woman to make decisions and act on matters concerning her reproductive health. Inaccessibility to resources on the other hand makes child bearing, the only fulfillment to women who are dependent on their husbands hence low contraceptive use.

Other explanations for the nature of reproductive health in Nyanza province could be based on multisectoral interventions and initiatives at national level. This has brought about a lot of disparity in income and wealth amongst Kenyan's especially at provincial level. For example members of a particular ethnic group in the past and present have continued to occupy particular regions in the country. For example Nyanza province is being largely inhabited by

the Luos, Luhyias, Kisii's and Kurias This togetherness of the different ethnic groups brings about collective behaviour which could be disadvantageous, in that a hostile physical environment will limit, the ability of it's inhabitants to compete in the national economy (UNICEF, 1992)

For historical, political and cultural reasons different communities manifest different degrees of entreprenuership Some ethnic groups accept new ideas such as wage employment, cash crops, husbandry and rural-urban migration more readily than others, giving them a head start in economy which continues to pay dividends today For instance, some of the rewards for competitive economy found in central province include better infrastructure This could directly or indirectly influence contraceptive use, as socio-economic factors are known to affect fertility regulation This could be a contributing factor to the low contraceptive use in Nyanza, compared to central which indeed has a high contraceptive prevalence rate

1.2 PROBLEM STATEMENT

Fertility trends in Nyanza province revealed by the Kenya Demographic Health Surveys of 1989 and 1993 show a decline in the fertility rate from 7 1 to 5 8 children per woman. This is below Central provinces total fertility rate, which showed the largest fertility drop amongst the 8 provinces in Kenya that is, from 6 0 to 3 9 children per woman

Although fertility has declined, a number of districts in the study region remains corridors of high fertility. Furthermore, the provincial demographic profile highlights, the lakeshore region as recording a TFR of over 7 children per woman compared to Nairobi province where women had 3 8 children each Whereas the current national average use of contraceptives is 33%, it is 23 8% in Nyanza province, with the highest user rate of 44 9% recorded in Central

province (NCPD et al., 1994)

As for the districts, contraceptive prevalence is highest in Nyeri district, where 64 percent of currently married women use a family planning method. This level is comparable to those found in economically developing countries and some developed countries At the other end of the spectrum are rural areas in Siaya and South Nyanza amongst other districts, with a contraceptive prevalence rate of 15 2% and 12 8% respectively

The knowledge of contraceptive methods and the source from where they can be obtained was extremely high amongst women in Nyanza province that is 99 1% and 95 9% respectively This positive trend was observed in all the provinces across Kenya Central province had the highest percentages in terms of knowledge of both family planning methods and the source from which they could be obtained These were at 99.8 and 97 1 percent respectively. (NCPD, 1994)

Thus despite the high knowledge of family planning methods and their sources contraceptive use is low in Nyanza province. Factors that influence contraceptive prevalence in this area are not known This study therefore attempts to investigate low contraceptive use in the province

1.3 JUSTIFICATION OF THE STUDY

This study seeks to examine some demographic, socio-cultural and socio economic factors that affect use of family planning methods in Nyanza. It aims to find out why the practice of contraception is low yet existing knowledge on contraceptive and its sources are high in Siaya, South Nyanza and Kisii as revealed by the 1989 and 1993 Kenya Demographic and

Health Survey among other fertility surveys Identification of factors influencing the use of contraception, is important as they will be used to assess the performance of family planning and hence improvement of the contraceptive prevalence rate in the province.

Information on this subject would give policy makers insight into health related development strategies in the targeted area in general These findings will be useful in initiating policies and programmes in line with the social, cultural and economic practices as per this particular province s need This is because provincial boundaries run along ethnic boundaries and there must be certain practises in this region working against family planning programmes resulting in poor contraceptive prevalence compared to other areas

Few studies have been carried out in Nyanza province as regards contraceptive use in this region Therefore apart from being a source of information the research will fill certain gaps that exist in the knowledge on this subject in the lakeshore region It is expected too that the study will provide a basis upon which further research can be done

1.4 OBJECTIVES OF THE STUDY

1.4.1 General Objectives

To establish the factors affecting contraceptive use in Nyanza province

1.4.2 Specific Objectives

1. To examine the effects of socio-economic factors, namely education and employment on contraceptive use
2. To examine the effects of socio-cultural factors, mainly spousal communication on family planning, ethnicity, religion and mass media on contraceptive use

3 To examine the effects of demographic factors such as age, marital status and the number of children living on contraceptive use

4 Make recommendations based on findings that could be used by Family Planning Programmes to improve current interventions in Nyanza Province

1.5 SCOPE AND LIMITATION OF THE STUDY

Kisumu district, although part of the Nyanza Province is excluded, because it was not covered in the Kenya Demographic and Health Survey, 1993, from which the data of this study are drawn. This study thus leaves out a big proportion of the population in the province

Secondly after the 1993 KDHS, the province has had various divisions done within it. This has resulted in additional districts. The said division may have unforeseen effects on the study as it is based only on 3 districts among the initial four

The survey's sample size in the province focuses on 1350 women of reproductive ages 15-49. Out of the above, 241 and 193 were 'currently using any contraceptive method' and 'modern contraceptive' respectively. Although the above number of cases successfully went through the data analysis process, they are fairly small sample sizes.

Lastly, as much as there is need for focus group discussions to be carried out in Nyanza Province so as to enrich the study or supplement the quantitative data by Kenya Demographic and Health Survey 1993 on contraceptives use in South Nyanza, Siaya and Kisii on female contraception. This is not possible due to limited financial resources

Thus despite the fairly good Infrastructural facilities Nyanza province still retains a total fertility rate of 5.8 which is above the national level that is 3.4. The Lakeshore region has a low contraceptive prevalence rate at 23.8%, still below the national average use of contraceptives, which stands at 33% (NCPD et al , 1994).

The study therefore sets out to examine some factors that influence contraceptive use in Siaya, South Nyanza and Kisii districts, covered in the 1993 KDHS Identification of these factors is a step towards improvement of family planning performance hence reduction of the high contraceptive prevalence rate in the said Province

CHAPTER TWO

LITERATURE REVIEW

This chapter first gives a literature review the nature and merits of the commonly used contraceptives It also looks at past studies on socio-economic, Socio-cultural and demographic factors selected for this study, that influence contraceptive use, both in developed and developing countries The second section is an overview of some theories and theoretical framework that have been used to study fertility. A modification of the Bangaarts model on determinants of fertility (Bongaarts, 1978) is adopted for this research Lastly are the research hypothesis and definitions of the key concepts used in this study, are discussed

2.1 CONTRACEPTIVES

The modern contraceptives in this study include the pill, IUD, injectables. Diaphragm, spermicides, cervical cap, condom, female and male sterilization and implants. The nature and merits of the above contraceptives are discussed below while side effects of the same are effectively brought out in chapter 5

2.1.1 Oral Contraceptives

The pills come in two types, progestine – only oral contraceptives (mainly used by breast feeding women) and the combined oral contraceptives which contain two hormones similar to the natural hormones in a woman's body Oral contraceptives stop ovulation (release of eggs from the ovaries) and also thicken the cervical mucus making it difficult for the sperms to pass through (Hatcher et al , 1997)

Pills are very effective if used correctly and effectively, that is, the likelihood of a pregnancy occurring is 0 1 per 100 for women in their first year of use. The monthly periods are regular and lighter, there are fewer days of bleeding and menstrual cramps are milder The oral contraceptive can be used at any age from adolescent to menopause and can be used by both women with or without children, the method is reversible and fertility returns soon after stopping use of this pills Other than prevention of iron deficiency aneamia, pills help prevent ectopic pregnancies, endormtrial cancer, ovarian cancer, pelvic inflammatory disease and Benign breast disease Finally, there are also emergency oral contraceptives that can be used after unprotected sex

2.1.2 Intrauterine Devices (IUDs)

The Inter Uterine Device (IUD) most widely used, is a small flexible frame with copper wire or copper sleaves on it. It is inserted in a female uterus through the vagina It has two strings or threads tied to them and they hang through the opening of the cervix into the vagina The user can check that the IUD is still in place by touching the strings. It works chiefly by preventing sperms and the eggs from meeting.

The above method is very effective if used correctly That is, there is a likelihood of 0 6 pregnancies per 100 women in the first year of use The advantages include, no hormonal side effects with copper bearing or inert IUDs The most widely used IUD – the TCU – 380A lasts at least 10 years while the inert IUDs never need replacement, this method is also immediately reversible – women with their IUDs removed become pregnant as quickly as women who have not used IUDs, the copper bearing and inert IUDs too, have no effects on amount or quality of breast milk and can be inserted immediately after child birth or after induced abortion Finally is that this method has very little to remember, does not interfere

with sex, can be used through menopause and has no interactions with any medicines (Hatcher et al, 1997)

2.1.3 DMPA - Injectable contraceptive

There are three injectable contraceptives Depo-Medroxyrogesterone acetate – DPMA given every 3 months and NETTEN – also called noristerat, Norethindrone enanthate and norethisterone enanthate given every 2 months Monthly injectable contraceptives include Cyclofem, Cycloprovera and Mesgyna The most commonly used is the DPMA which contains progestin similar to the natural hormone that a woman's body makes The hormone is released slowly into the blood stream The DPMA stops ovulation and also thickens the cervical mucus, making it difficult for sperms to pass through (Hatcher et al , 1997)

The above modern method of contraceptive, DPMA is termed as safe and very effective in most women It results in 0 3 pregnancies per 100 women in their first year of use It is private – no one else can tell that a woman is using it, it is a long term pregnancy prevention method but reversible and does not interfere with sex. Other than these, it can be used at any age, nursing mothers as soon as six week after childbirth can use and it There are also no estrogen related complications such as heart attack. It also helps prevent certain forms of cancer, uterine fibroids and ectopic pregnancies. There are special advantages for some women using DMPA that is, it makes seizures less frequent in women with epilepsy Sickle cell crisis too, may become less frequent and less painful

2.1.4 Vaginal methods

The Diaphragm/spermicides/cervical cap are vaginal contraceptive methods a woman places in her vagina shortly before sex The diaphragm is a soft rubber cup that covers the cervix

and should be used with spermicidal jelly or cream. The spermicides include foaming tables, melting suppositories, melting film, jelly and cream. The cervical cap is like the diaphragm, but smaller. The spermicides kill sperms or make them unable to move toward the egg while the diaphragm and cervical caps block sperms from entering uterus and tubes where the sperm could meet the egg

According to Hatcher, the above methods are safe and are termed as women – controlled methods. They are easy to use with little practice and there is no need to see a health adviser before using the diaphragm / spermicide / cervical cap. Contraception just when needed will occur and no daily action is thus needed like in the case of oral contraceptives. They have no side effects from hormones and do not effect the breast milk. The above help prevent some STDs and conditions caused by STDs – pelvic inflammatory disease (PID), infertility, ectopic pregnancy and possibly cervical cancer. The effectiveness depends on whether a woman uses a vaginal method correctly every time she has sex and which vaginal methods she uses (hatcher et al., 1997)

2.1.5 Condom

Hatcher et al., (1997) describes condom as a sheath or covering made to fit over a man erect penis. They are sometimes referred to as rubber or skins and are known by different brand names. Some condoms are coated with dry lubricant or with spermicide. Different sizes, shapes, colors and textures may be available

Condoms prevent STDs including HIV / AIDS as well as pregnancy when used correctly. They help protect against conditions caused by STDs – pelvic inflammatory disease, chronic pain and possibly cervical cancer in women. They can be used immediately after childbirth

and have no hormonal side effects. Condoms are easy to keep on hand in case sex occurs unexpectedly and can be used without the supervision of the healthcare provider. They are easy to obtain and are sold in many places.

2.1.6 Female Sterilization

The F.S. also known as voluntary surgical contraception or tubal ligation involves blocking off or cutting the two follapian tubes which carry eggs from the ovaries to the uterus, with the tubes blocked the female eggs cannot meet the sperms. The most common approaches are minilaparotomy and laparoscopy It is a safe and simple surgical procedure that can be done with local anesthesia and light sedative Proper injection procedures are required It is permanent, that is a single procedure leads to life long, safe and very effective family planning It involves nothing to remember, no supplies needed and repeated clinic visits required. Despite the short term surgical complications, there are no long term side effects.

2.1.7 Vasectomy

It is a safe, simple and quick surgical procedure that can be done in a clinic or office, with proper injection - prevention procedures by a health care provider (Hatcher et al , 1997) It involves making a small opening in the man's scrotum (the sack that holds his testicles) and then closing off both tubes that carry sperms from these testicles The man can still have erections and ejaculates, but the semen no longer makes a woman pregnant as it contains no sperms

It is very effective, convenient and permanent that is, 0 15 pregnancies have been reported per 100 men in the first year after the procedure It has no effect on one's sexual performance or sensation There is nothing to remember except to use condoms or another

effective method for the first 20 ejaculations, there are no supplies needed and no repeated clinic visits required Unlike F S it is easier to perform and less expensive if there is a charge

2.1.8 Norplant implants

The Norplant implants system is a set of 6 small plastic capsules Each capsule is about the size of a small match stick The capsules are placed under the skin of a woman's upper arm Norplant capsules contain progestine, similar to a natural hormone that a woman's body makes It is released very slowly from all 6 capsules, the capsules supply a steady, very low dose A set of Norplant capsules can prevem pregnancy for at least 5 years It may prove to be effective longer The Norplant implants thickens the cervical mucus making it less difficult for the sperm to pass through It also stops ovulation in about half of the menstrual cycles.

Norplant is very effective for up to 5 years, for instance 0.1 pregnancies may occur per 100 women in their first year of use It requires no daily pill taking and repeated visit to the clinic Fertility returns almost immediately after capsules are removed and can be used by nursing mother's starting 6 weeks after childbirth Insertion and removal of norplant capsules require minor surgical procedures by a specially trained provider Other than the above advantages the N.I helps prevent iron deficiency anemia, ectopic pregnancies and endometrial cancer

2.1.9 Fertility awareness based methods

Fertility awareness means that a woman learns how to tell when the fertile time of her menstrual cycle starts and ends (the fertile time is the time when she can become pregnant)

A woman can use several ways to tell when her fertility begins and ends Calendar calculation; this involves one to count calendar days to identify the start and end of the fertile time The number of days depends on the length of the previous menstrual cycles

Cervical secretions when a woman sees or feels cervical secretions she may be fertile Basal body temperature (BBT): a woman's body temperature goes up slightly around the time of ovulation (release of an egg) when she could become pregnant. Lastly, is the Feel of the cervix as the fertile time begins, the opening of the cervix feels softer, opens slightly, and is moist When a woman is not fertile the opening is firmer and closed

Fertility awareness helps a woman know when she could become pregnant The couple then avoids pregnancy by changing their sexual bahaviour during these fertile days They can thus abstain from vaginal intercourse This is also referred to as periodic abstinence and Natural Family Planning (NFP), secondly the couple can use barrier methods namely condoms, diaphragm and spermicide Use of withdrawal that is, taking the penis out of the vagina before the ejaculation also known as coitus interruptus is yet another method of avoiding pregnancy during fertile periods

According to Hatcher et al , 1 in every 5 women who practice periodic abstinence is likely to be pregnant, while 1 in every 33 women who adopt cervical secretions as a way of finding out about fertile period is bound to get pregnant Once learnt, the fertility awareness methods can be used to avoid pregnancy or to become pregnant according to the couples wishes

2.2 SOCIAL ECONOMIC FACTORS

2.2.1 Education

There is an extensively positive association between female education and contraceptive use (Caldwell, 1982) This is further evidenced by the demographic and health surveys conducted by macro-international since late 1980s The DHS reveals contraceptive prevalence rates as lowest in sub – Saharan Africa, apart from Zimbabwe, Kenya and Botswana which are said to have reached moderate prevalence levels Levels are also moderate in North Africa where contraceptive use is reported by 33% to 50% of currently married women Indeed lowest levels of female educational attainment are found in Sub – saharan Africa and North Africa where a large proportion of women have never attended school and lack basic literacy skills This low educational standards could thus explain the low contraceptive prevalence rates as revealed above

In Asia and Latin America where favourable educational attainment are found, contraceptive use is reported as moderate to high with prevalence rates ranging from 48% in Indonesia to 65% in Thailand Although in Latin America, namely Bolivia, Guatemala and El-Salvado contraceptive prevalence rates are below 33% The three areas are also reported to be far from reaching the goal of universal literacy (Castro et al , 1995)

In Brazil and Columbia contraceptive use is reported by about 33% of all married women surveyed These countries have achieved fertility reduction through establishment of their formal education The conclusion drawn from these surveys is that throughout the world there seems to be a strong inverse relationship between the amount of educational attainment and the level of fertility (Castro et al , 1995)

The influence of education on fertility is assumed to have been derived from various dimensions of the educational experience. Schooling provides literacy skills, enable pupils to process a wide range of information and also stimulates cognitive development Schools are also important agents of socialization with a crucial role in shaping attitudes, opinions and values Exposure to new ideas and alternative lifestyles might lead a person to question traditional norms and practices In addition to promoting cognitive and attitudinal change education opens up economic opportunities and provides a vehicle for social morbility. All these educational assets have a pervasive influence on women's lives, shaping both production and reproductive roles (Kesarda et al , 1989, Eiseman, 1987; Devnrus, 1992).

Educated women are also less prone to have a fatalistic attitude towards life and to accept the unpredictability of unregulated fertility In many traditional societies, where contraception is not a socially sanctioned practice, education can play an important legitimizing role, enabling women to engage in new patterns of behaviour, by enhancing women's control over reproductive choices. Beckman states that because of their literacy and greater familiarity with formal institutions and health progress, educated women are also better informed about available contraceptive options and sources (Beckman, 1983) Furthermore, once they have made the decision to regulate their fertility, educated women are more likely to use contraceptives effectively thus having lower rates of discontinuation (Grady et al , 1981)

Education exerts a large influence on women's contraceptive practices Although the magnitude of contraceptive gap among educational strata varies greatly across societies. The better educated surveyed, displays the highest rates of contraceptive use in every country Differential are large even in countries where the overall level of contraceptive prevalence rate is lower than 10%, the gap between the upper and the lower educational groups exceeds

20% Differentials in North Africa countries are sizeable, highly educated women have contraceptive prevalence rates of 27 to 38 percentage points high than the uneducated women Except for Indonesia differentials are relatively small in the Asian countries examined In Latin America region countries with large differentials in contraceptive prevalence by education such as Bolivia, Ecuador, Guatemala, Mexico and Peru co-exist with countries with moderate differentials such as Columbia and Dominican Republic (Castro et al., 1995).

In most societies, reliance on modern methods of contraception increases significantly with education In approximately two thirds of the countries analyzed, modern contraceptives prevalence rates among highly educated women exceed those of the uneducated women by 20% Only a few countries including Ghana, Tunisia and Thailand have differentials in the use of modern contraceptives by education relatively small One exception to the prevailing patterns is observed in Sri Lanka where use of modern methods decline with women's education, largely the declining use of sterilization Although modern methods are usually responsible for the over-all rise in contraceptive prevalence induced by education, use of traditional methods increased considerably with education in a number of countries, including Mali, Tunisia, Bolivia, Guatemala and Peru This suggests that the impact of schooling on women's contraceptive choices may be conditioned by cultural factors In all these countries the increased use of traditional methods among educated women is confined to practice of periodic abstinence.

Differentials by education tend to lessen as a society's overall level of contraceptive prevalence increases The social diffusion hypothesis suggests that education divergence in contraceptive behaviour can be expected to be largest in societies at the initial and middle

stages of the fertility transition, where better educated strata emerge as forerunners in the adoption of family planning Differentials are assumed to narrow at the final stages of the transition as fertility regulation ceases to be an innovative behaviour and becomes habitual among most women regardless of educational background For example in the Demographic Health Survey involving 26 countries, educational differentials are small in countries with low fertility and high contraceptive prevalence rates e g Sri Lanka and Thailand Furthermore cross-national comparisons reveal that contraceptive use rates among uneducated women in more developed countries are usually higher than contraceptive among highly educated women in less developed countries This implies that the impact of education, though pervasive, is not identical in every society It also indicates that other sources aside from formal schooling systems are operating as channels of communication networks of diffusion of contraceptive knowledge and behaviour

Earlier studies based on World Fertility Survey data, documented that contraceptive use increased monotonically with female education and that even a few years of schooling can have significant impact on fertility regulation practices According to the DHS the pattern in contraceptive use by education is also found to be nearly linear and monotonic especially in countries that have reached moderate levels of contraceptive prevalence, implying that school attendance, however short, prompts a visible change in contraceptive behaviour In Latin America, countries with low prevalence rates the relative increase in contraceptive use is proportionally larger across lower education categories (Castro et al , 1995) In Bolvia, Ecuador and Guatemala for example, the proportion of contraceptive users among women with 1 - 3 years of schooling is twice as large as that among women who have not attended school This pattern suggests that in these societies, breaking the barrier of entrance into the school systems represents a crucial step in changing women's attitude and behaviour towards

fertility regulation Yet in sub–Saharan African countries with low contraceptive prevalence, the opposite pattern is observed. Sizeable increases in contraceptive use are confined to high education categories.

2.2.2 Employment Status

Access to family planning is an essential feature of the opportunity structure for women in terms of relationship between work and fertility, particularly at the phase of modernization process, when childbearing requires increased supervision and women opportunities for employment expand Whereas both opportunities can improve women's status and create the motivation for lower fertility, effective fertility control is essential for women to take full advantage of available market opportunities As long as events of conception, pregnancy and childbirth have a significant element of chance and are spread out, over the major portion of women's reproductive years, the rewards to girls and women for making significant investments in education and skill development are diminished, through discriminatory, treatment in the labour market and through their own inability to plan for and sustain steady economic activity.

It has been observed that jobs that take women far from home for long hours discourage child bearing. According to Newland, what employment offers women is above all a higher degree of control over their own lives,- they are no longer dependants She claims that child bearing becomes the only fulfillment to all women's needs only in those societies that are isolated, lack opportunities for remunerative employment and are blocked by illiteracy from contact with the larger world (Newland, 1977)

A consistent positive association between women's paid work and use of contraception in developed countries has emerged from years of research. Economic development, improvement in life expectancy, the rise in real market wage and the spread of mass education are factors leading to a rise in the cost of child bearing to families, hence desires for small family sizes. For instance in Columbia, 62% of employed women were said to be contracepting compared to 51 7% of the unemployed

In the Phillipines, a study was done to find out the relationship of urban women's employment to their health – service and contraceptive use Data was drawn from the Cebu longitudinal Health and Nutrition Survey of a 12 month birth cohort of 3,000 Filipino infants and their mothers Multivariate analysis revealed significant differences across types of work for the likelihood of practicing contraceptive use at one year post partum Wage workers in the white collar jobs are significantly more likely than those not employed for pay to have adopted a contraceptive method in the year following child birth Women who are self employed are also significantly more likely than those not employed for pay to be using contraceptives Blue collar wage work and piece-work employment have no relationship to contraceptive use The study concludes that work related autonomy encourages women to exercise control in their reproductive lives (Miles – Deon and Brewster, 1998)

In Asia, Grameen Bank and Bangladesh Rural Advancement Committee- BRAC, two programmes that empower women by providing small loans for self employment activities, were researched on to find out the effect of contraceptive use and empowerment A woman level of empowerment was defined here, as a function of her relative physical mobility, economic security, ability to make various purchases on her own, freedom from domination within the family and political and legal awareness. The findings suggest that

Grameen Bank programme has a strong effect on contraceptive use amongst participants The differences in rates between Grameen (59%) and BRAC (43%) were striking Grameen Bank programmes contributes to women's empowerment on credit than BRAC does, a greater percentage of its participants receive loans, have independent incomes and contribute substantially to their families support In addition Grameen Bank weekly meetings increases the women's mobility and visibility, exposing them to new ideas and helps them become more confident and more skilful at interacting in public sphere The Grameen Bank also provides minimal education and promotion of contraceptive use The Banks' greater emphasis and effectiveness in strengthening women's economic rates and their reproductive roles appears to explain partly why its members were more likely than women in the comparison group to use contraceptives (Schuler and Hastemic, 1994)

Few studies have examined explicitly the relationship between women's socio-economic position and contraceptive use in sub-Saharan Africa. In a study using the 1988, Togo Demographic and Health Survey Gage explored the linkages between various indicators of women's position and spousal communication about contraceptive use He found out that the likelihood of contraceptive use is significantly higher among women who worked for cash and who participated in rotating credit or saving schemes (Gage, 1995)

A report examining contraceptive behavior and abortion amongst women, with particular emphasis in women's education and employment status in Kinshasa, Zaire, revealed that employees have the highest prevalence of Life time contraceptive use, followed by self-employed women and non-employed It also revealed that the employees who received primary and secondary education were more likely to use a modern method currently, than the self or non-employed Women at the University level essentially did not appear to differ

with respect to employment studies in family planning (Shapro and Tombase, 1994)

2.3 SOCIAL-CULTURAL FACTORS

2.3.1 Ethnicity

Culture refers to a historically transmitted pattern of meanings embodied in symbols, a system of inherited conceptions expressed in symbolic forms by means of which men communicate, perpetuate and develop their knowledge about and attitudes towards life It reflects the shared meanings of a society and regulates the behavior of members whether individuals or groups Warwick states that, family planning and contraceptive use are influenced by kinship and reproductive decision making, which varies across regions, racial and communal divisions and religions In his study examining culture and the management of family planning programmes, he found out that the Indonesian family planning programme is a case in which elements of culture are positive. Other programmes particularly those in sub-Saharan Africa have more of a negative cultural environment for action The family planning programme implementation, he observed, depends on certain aspects of culture These includes the understanding, acceptance and continued practice of family planning by clients; and the communities in which the clients live, including collective attitudes towards family planning and local pressure put on the clients who participate among other aspects (Warwick, 1988)

Other studies have shown that culture acts through ethnicity in that, there are customs within certain tribes that make it difficult for couples within these communities to regulate their fertility. Some of these traditional beliefs and practices are discussed below. In India high fertility levels and low contraceptive use are attributed to their preference for male children Here a son is considered to be the proper heir to the family name and property He is also

thought to be essential for the continuation of the lineage The verdict blessing for a woman who is married in India is, 'may she bear ten sons and make of her husband the eleventh (Lahiri, 1975). Lahiri in his studies in urban cities of India found that an average of two sons and one daughter was considered to be ideal If a family never achieved this, women would continue to high parities

In most parts of Africa too studies have found that the preference for male children often encourages the continuation of reproduction beyond medically, socially and economically reasonable limits, where the male child or the desired number of male children proves difficult to get This same desire for male children has also helped perpetuate polygamy (UNICEF, 1992)

Cultural studies by the practices of sub-Sahara African tribes have revealed that for most ethnic groups, family size desires are very high For example, a World Bank Report observes, that Kenyan's desire seven to eight children for reasons of security in old age and in case of illness and disability (World Bank 1989). Children were also seen as a source of emotional satisfaction According to Caldwell (1987b) high fertility is valued in Africa where increasingly, man provides the best form of investments to control the land and it's products In areas where infant mortality was high, fertility rates were equally high so as to help 'replace' the lost children

Children as an economic resource, can be interpreted in different dimensions in different parts of Africa In Nigeria, couples give birth to many children with the hope that in future one would grow up to be successful enough to support the family and also promote it's name (i.e. that is so and so's son/daughter). For example, below is a Yoruba proverb with such

implications "The child that is good is for the father, and the child that is bad is for the mother". This proverb expressed ideas about relationships between men, women and children, in Ekiti Yoruba society. In this particular society, if a child is successful financially and socially, it will be recognized by its father who may stress rural authority. If a child has failed in life the proverb suggests that only its mother will love and remember it, which underlies the strong emotional ties between mother and child. The proverb also illustrates what Caldwell refers to as 'situational gain' with respect to their children's affiliation and future support in such societies. This situations has implications for fertility, in that the benefits of having many children occur to men, while the difficulties of rearing many children are borne by the mother.

Another reason for large family size desire in developing societies, is that status for both women and men is often enhanced by the number of their offspring, where life offers few opportunities for attainment of status, children are the measure of a man's wealth and men's demand for methods to stop or limit births are low. In polygamous systems where jealous and envy prevails within lineages or class, social power in community can be mobilized by large families. Such families will not advocate for contraceptive use (Ochola-Ayayo, 1988).

In the East and other parts of Africa arranged marriages for young girls is often a common feature. This has its roots in the African culture whereby future partners gotten through [illegible] are said to make good wives. More often than not, the victims of arranged marriages are young girls of 15-17 years of age. This has implications for fertility, since age at first marriage is a major determinant of completed family size, as it determines the span of time that a married woman spends in bearing children. A higher age at marriage means that a woman has a shorter reproductive period in which to bear children. On the other hand if a

woman spends all her reproductive years in marriage, she will have the opportunity to have more children Other than this, the young girls who are victims to arranged marriages lack education or marketable skills needed to gain access to alternative employment in informal or formal sectors as school life has been denied of them once they get married This minimum schooling also contributes to her limited decision making capacity as regards her reproductive health resulting in low contraceptive use As shown earlier, women with no education and no employment are not likely to use contraceptives (UNICEF, 1992)

In various cultural contexts 'gate keepers' of communities against non-governmental and governmental organizations bringing in new ideas or latest technologies into a community include village leaders, headmen, chiefs and politicians Attitudes of these people towards the above termed as new technology, can strongly influence the community's attitude For example, attitudes of village leaders in rural India towards family planning were found to have strong influence on use of contraceptive methods and continuation rates

The persistence of the ideology of male superiority and authority over their wives reproductive health was and is still a factor affecting contraception in developing countries and elsewhere in the world Studies in Nigeria found out that Nigerian men, even those with university education living in the U S believed that women should not practice family planning without the consent of their husbands An example is from (Isiugo, 1991), who with focus group discussions, demonstrates that husbands influence with respect to decisions concerning family planning and fertility is profound among the major ethnic groups, and that it is accentuated in the northern part of the country by a policy that forbids women from [illegible] family planning services without their husbands consents.

In East Africa too, sociological and institutional factors exist, favouring African men in matters affecting marital and family life (UNICEF, 1992) Men play an important role as heads of households, they are custodians of interests of their lineage and protectors and providers of their families, and therefore the ones who make majority of decisions pertaining to family life and society in general Thus men's attitude towards women's sexuality is one of primary cultural barriers to the use of contraceptive

The extended family is also recognised by most rural communities, in their decision making patterns For instance, Caldwell, (1983) located fertility decision making not with biological parents, but with the older members of the husbands lineage or his kinsfolk The concept of the couple has been ignored or treated at best as not existent He is further reported as saying that the wife merely co-operates with the husband, the ancestors, and even God in creating

Low contraceptive use is also rooted in traditional norms, beliefs and values about family as a seasoned institution of procreation Unless family planning programmes can penetrate these imperatives they might never succeed (Ocholla Ayayo 1988) He further says that the final goal in Africa marriages is to have children amongst which must be boys and girls Barrenness, he says is feared both in life and death The barren in this case, always the woman, is pitied, despised and ridiculed In some cases bride wealth may be returned Several ethnic groups consider barrenness arising from several causes namely friction between husband and his parents, the omission of obligation towards senior kinsmen, constant reminder from neglected ancestors, witchcraft and sorcery Others have linked it to side effects, of contraceptive hence low contraceptive use. Caldwell (1987b) supports the [illegible] that ancestral worship even where monotheistic religions exists, Africans still believe in power of ancestral forces which encourage high fertility Barrenness is considered a

punishment from the gods or witches. Caldwell says that traditional religion encourages high fertility by eliciting divine rewards to parents with many children, while signaling to the ancestors of the couples who regulate their fertility that today's generation disregards they well being

2.3.2 Religion

Although research shows minimum percentage figures of people opposed to contraception on religious grounds, religious affiliations remains an important cultural aspect in understanding fertility regulation world wide

The UN International Conference on Population and Development held in Cairo, in 1994 was portrayed sensationally as battle between reactionary Catholic and Muslims on one side and progressive scientific and humanitarian forces including many religious believes on the other, enhancing the study's proposition that contraceptive use is influenced by religion among other factors

The most contentious issues that could not be resolved included reproductive health and family planning services, reproductive rights and abortion among other issues. The conference theme of empowering women everywhere to control their own lives – including whether to have children, how many and when, a decision, the UN Secretary thought as a basic right that must be protected and encouraged, was not received in good taste by the two religious groups The Catholics were reported as objecting to phrases like reproductive health and fertility regulation The Islams too saw abortion and contraception as a violation of the principle of Islam. They thought it was an attempt to impose the decadent western values to the Muslim world

Other works that show a relationship between religion and contraceptive use were recorded by (Goldscheider and Mosher, 1988). They carried out a study on religious affiliation and contraceptive use in changing American patterns in (1955 – 82) and found out that the highest rates of sterilization was among Protestants than Catholics, Jews and those of no religion. Ranking next for the Protestants and Catholics was the condom followed by the diaphragm and the inter – uterine device with the rhythm method being the least used. The pill was by far the leading method among the Protestants and Catholic Women, since a larger proportion of Catholics than Protestants are never married

Patterns of contraceptive use may be viewed as one part of the sociology of religious and racial groups In yet another study Mosher and Goldscheider, looked at contraceptive patterns of religious and racial groups in the USA, using a nationally representative sample of 1400 married women aged 15yrs – 44yrs. The results were as follows difference between white couples and black couples religious categories were substantial For instance, the proportion using contraception was highest among the Jewish women 76%. White wives reporting no religious affiliation were similar to the Jewish wives in the high proportion using contraception – 75%. The proportion contraceptively sterilize was highest among white Protestant couples, – 21% compared with 14% of the proportion contraceptively sterilize among black Protestant couples 14% was much close to the proportion from black Catholic A much more equal division between male and female sterilization mong both white Protestant and Catholic couples was observed The study concludes that religious differences are not anti – facts of an incomplete demographic transition, religion he says is indispensable for understanding contraceptive choice in the United States. (Mosher and Goldsheider, 1984)

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One frequently cited barrier to more wide spread adoption of Family Planning in Moslem countries is religious opposition. To examine the depth and extent of such opposition in Bangladesh, 106 men had been identified by their wives as religiously opposed to family planning were interviewed. Unexpected 26% of the opposing husbands reported that they were currently users of contraceptive and an additional 25% although not practicing said they were in favour of family planning on religious grounds. Another 25% were able to cite specific Islamic injunctions against family planning. On the basis of this findings, which were collected in the religious conservative area of Lakshinpur, it appears that the Islamic religion is partly to blame for the biased resistance to contraception in Bangladesh.

In yet another attempt to examine the extent to which reproductive choice is compatible with Islamic principle, indicators of reproductive health in countries of the middle East were reviewed and the way these related to constraints or reproductive choice was assessed. The examples of Tunisia and Iran were used to illustrate how Islam is an aspect of illegitimate conflicting positions concerning women. The findings reveal that it is true that literal interpretation of scriptures have adverse implications for women's reproductive choice, the conditions affecting women options the study revealed are also the outcome of political strategies used to legitimate conflicting positions on gender and reproductive choice (Carla, 1994). He further contends that ways in which the ethical code of religion is translated into policies affecting women's status have also been a function of the ideology of groups in power and have been influenced by changes in the economic political and social spheres.

The 1993 KDHS cited religion as an obstacle to contraceptive use both in female and male surveys, with 8% and 5%, respectively, reporting it as a barrier to contraceptive use (NCPD et al, 1994).

2.3.3 Mass Media

Radio and television dramas have become increasingly popular as a means of educating the public about health issues in the developing world Known as Entertainment - education approach, this means of communicating health messages is reported to have been first developed by a Mexican, Miguel Sabido and was used in Family Planning promotion (Yonder et al , 1992).

In family planning promotion, evidence is accumulating that well planned mass media approaches can influence attitudes and change behaviour Six programmes using such an approach were produced for broadcast in Latin America from 1976 - 1983 One such programme was, Miguel Sabido's television series, or 'soap operas' on family planning, which coincided with substantial increases in family planning acceptance More recently, hit songs sang by Tatiana and Jonny to promote sexual responsibility among Latin youths are reported to have promoted thousands of calls and letters to counseling centres for young people Six months after the songs peaked commercially, young people still remembered the messages and parts of the songs (Piotious et al , 1990)

In 1984, a television soap opera about family planning was on broadcast in India Series of dramatic episodes, 'The family house', about family planning and other health issues broadcast on Egyptian television from 1987 to 1991 also proved extremely popular A group of researchers and media specialists have since used entertainment, or the 'enter-educate approach', for promoting family planning messages in developing countries. It is believed to be a key factor in strenghthening the behavioural impact of mass media (Piotious et al , 1990)

Television promotion of family planning and clinic sites in three cities of Nigeria - ILorin, Ibadan and Enugu - played significant role in 1985-88 in increasing the number of new acceptors at family planning clinics in each city. Family planning kits prepared with the advice and support from the local service providers, were included in existing popular entertainment shows. Questions asked in a recall survey among the exposed population in Enugu and Ibadan revealed that about half of those surveyed in both cities had seen the television episodes, of those who had watched 79 and 99 percent, respectively, recalled the family planning messages, and 69 and 88 percent, respectively, recalled specific clinic sites mentioned. Following the media promotion, the number of new clinics clients per quarter in Ilorin increased almost five fold (In original clinics evaluated). In Enugu, the number of new clients per month more than doubled, and in Ibadan, the number of new clients increased three fold. Use of this approach was thus said to be a promising technique that could be replicated in different settings to encourage new clients to seek family planning services (Piotious et al., 1990).

A soap opera encouraging men's increased demand for contraceptive services in Zimbabwe was associated with change in beliefs and attitudes. Likewise, a study in Ghana on the relationship of exposure among men and women to various media messages about family planning to the taking of action, show strong associations between the respondents exposure and their talking to someone about family planning and seeing a service provider (Thomas, 1994).

A comparision of a small sample (N=400) before and after a radio program about family planning in Gambia showed that among the uneducated women, those who listened to the program had higher knowledge scores and were more likely to have talked about family

their spouses than those who had not listened (Thomas, 1994).

velopment agencies, health educators and media specialists, have agreed that radio arger number of people than do other mass media, that local and outside technical radio production and advertising is available to most people and that the public rtainment.

ailability of evidence for media produced effects on important health care the mentioned reports raises concerns. For example, the Mexican song about onsibility mentioned earlier does not show credible evidence of the effects it has dge and behaviour. The above mentioned Nigerian study which includes the dence for behavioural change, makes use of time series, data on clinic attendance, bstantial increase in demand associated with the introduction of soap opera and its essages about visiting clinics. However, the evidence is not easily converted into population level effect of the programme.

published evidences are reported not necessarily to provide clear support for effects because of several possible explanations. First, some programmes may successful but not evaluated and some programs evaluated but the results not As in the case of published evaluations cited, studies may show results consistent ess, but their design are not sufficiently vigorous to withstand methodological Finally, the way these programmes effect behavioural change may be inconsistent atively short term evaluation design used (Thomas, 1994).

The model of behaviour change behind television soap operas and radio is based on Bandura's social learning theory, which is widely applied to health campaigns This model suggests that the radio or television may have far greater capabilities than the acknowledged role of creating public awareness or spreading specific information. Infact because people learn by observation and by using other people as role models, the mass media can indirectly have a potent influence on behaviour (Bandura, 1986) The entertainment components of mass media especially drama and songs, not only attract people's interest but also move them emotionally, thus mass media can create a link between the viewers and performers (Kincaid et al , 1988).

John Hopkins reportedly argues for a hierachy of effects among individuals, beginning with exposure, and continuing through knowledge, attitudes, trials and adoption and has insisted that it would see much large effects on the lower levels of the hierarchy than on the higher ones Both the social learning models and the hierarchy of effects are basically psychological models (Kincaid et al , 1988)

1.3.4 Spousal Communication about Family Planning

More recently attention has been given to studying the determinants of contraceptive use of both men and women The Demographic Health Survey that examined both male and female was conducted in 20 developing countries These data helps examine the gender difference in reproductive behaviour and fertility preferences in understanding the husband's influence in decision making regarding family size and family planning adoption

From a family perspective, the first step in rational process of fertility decision-making involves communication between spouses Such communication i e should thus be among

the most important pre-cursors of low desired family size and increased contraceptive use. Many studies have reported a low level of communication between spouses about family size and family planning and women with low levels of contraceptive use also report little spousal communication.

Research in recent years have thus recognised the importance of communication between spouses Bulatao and Ashraf (1983) lists six strategies, couples may use in fertility decision making in communication They argue that communication between spouses is essential for consensus on fertility regulation They further contend that more frequent communication between spouses on fertility regulation contributes to frequent use of contraceptives

Beckman (1983) is in agreement with the above He contends that the frequency of interspousal communication positively influences, the use of contraceptives and consequently reduces fertility. In addition he states that women initiate discussion on family planning more often than men because they are more affected by consequences of unplanned pregnancies and because they have greater access to family planning information. Different studies support the fact that women are the principal source of information and that, their importance as channels of information and education should not be underestimated In Columbia, the wife was the initial source of information about the male contraceptive, for one out of every new vasectomy acceptor, she was the source of information and was also the main person influencing the decision in more than half the cases (Caldwell 1987a; Vernon et al. 1989)

Most studies have focused on only one dimension of communication, that is, discussion between husband and wife about family size and family planning However there are two

other dimensions of communication documented recently to help understand effective communication within a union. These included agreement between partners regarding approval of family planning and fertility preferences, and each spouses perception of the attitudes of his or her partner. In developed societies, studies have shown important effects of husband's desires on couples fertility (Thompson, 1990) Communication between partners appears to be pre-condition for acceptance of sterilization The decision to terminate reproductive capacity is a serious one for a couple, yet most physicians see one partner and maybe unaware of the importance to the decision of couples relationship and their ability to communicate effectively with each other (Miller et al , 1991) In a study of 400 married couples in the U S , half seeking vasectomy and the other half tubal legation, investigation found that effective couple communication was predictive of vasectomy Couples choosing vasectomy over tubal legation had more egalitarian than less traditional roles Nearly all 88% of the men in a Columbian study of vasectomy acceptors had discussed the decision with their wives Although these men did not always view female sterilization as an alternative, when, they did vasectomy was chosen because it was viewed to be simpler and safer (Vernon et al , 1989)

In the Asian Community, the Economic and Social Commission for Asia and Pacific-(ESCAP, 1984), conducted a special survey to study husband-wife communication in India, Iran, the Philippines and Singapore The results showed that communication was more likely to take place between older partners with large families than among younger couples with fewer children Secondly, couples with higher education or high income tended to have more discussion on family planning compared to couples with less education and lower incomes. Thirdly increased discussions were more pronounced in cases where the position of the wife approached independence from the man as regards decision-making Fourthly

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communication on family planning matters was observed to take place freely within families where sex education was readily discussed and lastly the exposure to mass media information on family planning is highly correlated with the husband-wife communication on the subject. These findings thus demonstrate the positive impact of interspousal communication on family planning and it's sustenance

According to the Egyptian Contraceptive Prevalence Survey, the majority of currently married women have talked about family planning with their husbands and more than eight out of every ten women think that their husbands approve of the use of family planning The proportion who believe that their husbands disapprove of family planning is greatest among the rural men and women from upper and lower Egypt

Little is known about spousal communication regarding family planning in sub-Saharan Africa The few studies that have been done in this region on the subject are shown below Yoruba men and women interviewed in urban Lagos, expressed the view that husbands should have the final say in decisions making and that they alone, make decision about family size and the practice of birth control (Wa Karanja, 1983).

Using data from the 1988, Togo Demographic and Health Survey, Gage (1995), explores the linkages between various indicators of women's position and spousal communication about family planning and contraceptive use The data outcome of the spousal communication and family planning shows that fewer than 40% of currently married Togolese women have ever discussed family planning with their husbands. Husband-Wife communication is significantly more prevalent among women who exercise independence in choice of spouse than those of arranged marriages. Furthermore low prevalence of spousal communication

was observed to result in low contraceptive use. About half of all educated women have discussed family planning with their husbands compared with fewer than a third of the uneducated women. Ethnic differences in spousal communication about family planning were also evident in the study. The proportion of women who have ever discussed family planning with spouses ranged from 25% among the para-Gourma to 43% among the Adja Ewe. Large differences are also seen in spousal communication about family planning by women's economic status. Discussion on family planning is least likely when women do not work for cash and most likely when they work for cash and are able to allocate part of their earning to rotating credit or saving scheme. The data also showed greater prevalence of spousal communication about family planning among monogamous than polygamous wives, communication being least prevalent among junior wives in polygamous unions.

The recent DHS data on couples has enabled a number of studies to be carried out. One such study using DHS data for married couples in Ghana and Kenya examined spouses influence on each others desire for additional children and their approval of family planning (Ezeh, 1993). In Ghana the husband's preference was unrelated to his wife's characteristics, but the wife's preference was influenced by her husbands education. In Kenya, on the other hand, the husband's preference was affected by his wife's educational level, but her preference was unrelated to his characteristics, the investigator concluded that in Ghana, husbands have greater control over the couples reproductive decision making than wives, while the reverse is true in Kenya.

Kenya has experienced recently a rapid increase in contraceptive use (Beckman, 1997). The dynamics of husband - wife communication among Kenyan couples and it's effects on family planning decision revealed that husband-wife communication, particularly the wife's

perception of her husband's approval of family planning is highly associated with current use-odds ratio of 4:2. Dialogue appears to increase the effectiveness of communication, specifically on spouse's perception of the other spouse's approval is more likely to be correct if they have discussed family planning than if they have not and this relationship significantly affects contraceptive use

2.4 DEMOGRAPHIC FACTORS

2.4.1 Age

Age forms the primary basis of demographic classification in vital statistics That is, demographic data are expressed in terms of age at which an event occurs The most common age groups referred to when examining at fertility so as to determine which ones are exposed to contraceptive use are women belonging to ages 15-49.

In Latin America, Mexico older women were more likely to use oral contraceptives if they got them from a pharmacy rather than a private physician or trained fieldworker Contraceptive prevalence rates was highest amongst the 30 – 34 age Cohort and lowest for those in the 15 – 19.

The Brazil Demographic and Health Survey Brazil DHS, 1986, data was collected for 8,519 households and complete interviews were conducted with 5,892 women aged 15-44 Summary statistics on the contraceptives prevalence rate of women currently married by age showed that the age group 15-19 had the lowest contraceptive prevalence rate at 47 6% The age groups 20-24 and 25-29 at 54 1% and 67 9% followed this respectively. The 30-34 cohort had the highest Contraceptive prevalence rate at 73 8% This then dropped at ages 35-39 and 40-44 at 68 9% and 66.5% respectively (Population Council, and Institute for

Resource Development, 1988).

The Indonesia, the Indonesia Demographic Health Survey (IDHS, 1994), with complete interviews on 28,168 ever-married women aged 15-49 revealed results similar to the above. That is the highest contraceptive prevalence rate was with the 30-34 age group at (61.0%), 15-19 age group had the lowest percent at (36 4%) There was observed a drastic drop at 53 4% to 32 9% among the 40-44 and 45-9 cohorts respectively (CBS, 1992)

In Pakistan, the 35-39 ages had the highest user rate at 20 4% This dropped to 15 8% amongst the old women in the 40-44 category The 20-24, 25-29 and 30-34 ages were reported at 6 3%, 9.6% and13 4% respectively Data was collected from 7,193 households and complete interviews conducted with 6,611 women aged 15-49 (PC and IRD, 1992).

In Nigeria , the highest contraceptive prevalence rate, amongst the currently married women was found to be those in the 35-39 age group at 8.6. There was a slight drop at 8 4% in the 40-44 category Ages 15-19 had the lowest prevalence rate at 1 3 data was collected amongst 8,781 women aged 15-49 (PC and IRD 1992)

In East Africa, the results were rather different from the above discussed demographic health surveys. The Uganda Demographic Health Survey (UDHS, 1988/91), revealed the age group 40-44 amongst the currently married women to have a contraceptive prevalence rate of 3.2%. This decreased with various age groups, that is 35-39 - (8 1%), 30-34 - (5.9%), 25-29 - (4 3%), 20-24 - (2 8%) and 15-19 - (1.7%). The data was collected from 4,730 women aged 15-49 (PC AND IRD, 1991).

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In East Africa, the results were rather different from the above discussed demographic health surveys The Uganda Demographic Health Survey (UDHS, 1988/91), revealed the age [illegible] 40-44 amongst the currently married women to have a contraceptive prevalence rate of 12% This decreased with various age groups, that is 35-39 - (8 1%), 30-34 - (5.9%), 25-29 - [illegible], 20-24 - (2 8%) and 15-19 - (1.7%). The data was collected from 4,730 women aged 15-49 (PC AND IRD, 1991).

In Kenya 1989, the youngest cohort 15-19 had the lowest contraceptive prevalence rate at 13.0 percent The 20-24, 25-29 and 30-34 age groups had prevalence rates of 20 1, 26.1 and 31 5 percentages The 35-39 category had the highest contraceptive prevalence rate at 34 2. It later dropped to 30 6 for the 40-44, age cohort. Current use is low amongst young and old women because the latter are interested in starting their families, while the former are no longer fecund (NCPD, 1988)

In 1993, the highest contraceptive prevalence rate was amongst the 30-34 age group at 38.3 this was followed by 25-29 age which stood at 37 5 The lowest prevalence rate was evident amongst the 15-19 at 5 7% from 13 0 in the 1989 KDHS The old women 45-49 had a CPR of 26 7 The difference was minimal for 35-39 and 40-44 age cohort at 34 6 and 34 2 respectively (NCPD, 1994)

2.4.2 Marital Status

Marital status is a demographic event most often used to estimate the time regular sexual relations begin, implying that those involved in the unions now make decisions on whether to use contraceptives or not Age at marriage, duration of time married and type of marriage are often reliable determinants as to when child bearing begins and the number of children a woman will bear during her reproductive period A high age at marriage and shorter duration in unions implies a short reproductive period, while the opposite, low age at marriage and long duration in marriage implies high fertility rates.

Studies in both developed and developing countries have found out that marital status has an influence on contraception The explanations behind this are different reasons for the different categories namely single, married and ever married (these refers to the widowed,

divorced or separated)

Those never married will use contraceptives so as to avoid unwanted pregnancies, while those in unions are said to contraceptive so as to delay or avoid pregnancies The married will also contraceptive only when they have had their desired family sizes The ever married group have been observed to be less likely to regulate their fertilities as they do not have partners, hence are at no risk of pregnancy

Fertility is a function of contraceptive use and is the cause of variation among populations in different Countries An intensive analysis of data from 21 developing countries disclosed a moderate correlation, r=0 6 between time spent married and total fertility rate Divorce, separation and widowhood together accounted for less than 10% of the reproductive span in nine out of eleven Asian countries and three out of eight Latin America Nations (UN, 1983)

Continued use of contraceptive is important towards the overall performance of adoption of fertility control methods as it results in high contraceptive prevalence rates Studies have shown that there are regional differences in the rate of continuation of contraceptive use amongst married women as they are likely users of contraceptives. Cross sectional studies by (Lightbourn, 1980) using World fertility survey data showed that in Principal cities, for every 100 ever users there are 70 5 married women currently users The ratio varied slightly between countries with 0.592 in Guyana as the lowest and 0.825 in Costa Rica as the highest The average rural continuation rates for all countries were 0.613 somewhat lower than the Principal city ratio with exceptions of Indonesia, Nepal and Guyana For most countries the Principal city was not more than the 20%more than the rural ratio except for Bangladesh, India, Pakistan, Mexico and Peru

According to Ojakaa (1986) the married women form the majority of contraceptives users The least users are widows This is because married women are at a great risk of conception by virtue of having husbands and being aware of the risks, they are effective users of contraceptives He also emphasized that the length of continuation to use contraceptives was influenced by marital status Forest and Fordyce 1988 have documented that all of the net declines in the level of contraceptive non-use of most effective methods occur amongst married women

Bumpass and Rindfuss, (1984) are reported as showing the non-use of Coital related methods to rise substantially when currently married women become separated from their husbands This may result from the co-operation and trust between partners required for some of the co tal related methods such as condom and withdrawals.

Onsongo, (1991) found out that women who are married have the longest mean length of contraceptive continuation compared to those who are either divorced / separated or single The results were 18 32, 14 89 and 14 85 months respectively Single women had the least mean length of continuation, the difference in the continuation levels with that of the divorced / separated was negligible Onsongo too, explains the reason of high continuation rate among married women to be the fact that they have partners and are at risk of pregnancy This is the opposite for the single and ever married women, (divorced / widowed and separated)

Another explanation for this pattern is the fact that married women tend to use methods like IUD and injections These methods by their nature and their operational mechanism were found to have high continuation rates as opposed to the pill commonly used by the single and

ever married women. The pill was found to have low continuation rates. Furthermore the single women have a low tendency of continuation of use of contraceptives due to the fact that they have low pairities attained (Ojakaa1986) In terms of duration of marriage Wess and Udo (1981) found out that in Nigeria, women who had been married for 5 or more years had higher continuation rates than their counterparts who had been married for 4 or less years

In a study of oral contraceptive acceptors at Kenyatta National Hospital (Sanghui 1984) found out that sample consisted of 50% currently married women while the widows comprised of 1.4% of the sample

A study in Uganda conducted between 1995 and 1998 to assess the trends in contraceptives use in rural Rakai District, Uganda over a period of 30 months, revealed that women's use of modern contraceptives increased significantly amongst the women in polygamous marriages at 9 3% than those in monogamous at 7 5% The never married and those divorced / separated were least likely to contracept at 4 5% and 2 9% respectively (Lutalo et al , 2000)

2.4.3 Number of Children Living

It is assumed in many cultures that family planning methods are used only when couples have already had as many children as they want. As the concept of family planning gains acceptance however, couples begin to use contraception for spacing birth as well as limiting family size. Moreover unmarried young women may be particularly motivated to regulate their fertility so as to avoid unwanted pregnancy

In Brazil 37% of women with no children were reported as currently using contraception The contraceptive prevalence rate increased to 71 8%, 82.9% and 87.8% for women with one, two and three children respectively. It drops to 77.3% for those women with four children and more (PC and MI , 1998).

In Jordan, results from it's 1990, Demographic and Health Survey revealed that contraceptive use in this region increased with the number of living children amongst currently married women For instance those with no children had a prevalence rate of 0.9% while those with a child had a contraceptive prevalence rate of 22 9% Currently married women with two, three and four children plus, had 37 5%, 45 9% and 48 2% respectively (PC and MI, 1992)

In Indonesia, likewise contraceptive use increased with the number of living children a woman had, reaching 60% amongst women with two or three children, then declines among women with four or more children 9% of childless women are current users of family planning (mostly the pill), presumably to delay their first birth. After having one child, women tend to use the pill, injection and the IUD. Use of female and male sterilization increases with the number of children living (PC and IRD, 1996)

In Algeria, women with four children had the highest contraceptive prevalence rate at 62 6% Women followed this with two children at 58 1 There was a slight difference in the C P R for women with three children and those with five and above at 54 21 and 54 7% respectively Those who had no children were very reluctant to use contraceptives with a percentage use of 4 3% (PC and PAPCHILD, 1994)

In Zimbabwe, there was little interest in postponing the first birth. Only 3% of the married women with no children were using contraceptives. Among married women with at least one child the proportion using exceeds 40% regardless of the parity category, peaking at 50% among women with three children (CSO, 1988)

According to the 1992, Namibia Demographic and Health Survey, 19% of ever married women reported that they begun using some form of contraception after they had their first child 13% started using before their first child From the age pattern it is apparent that while older women waited until they had at least four children or more, younger women started using contraception before they got any child For example 24% of women 15-19 used a contraception before they had any children compared to 4% of women age 40-44 (MOH, 1992)

In Zambia, it is reported that young women are more likely to have started using a contraception at low parities than older women For instance 20% of women in their 40s started using a contraception when they had either no children or only one child compared to around 40% of women age 20-24 12% of women age 15-19 started using contraception before they had a child (CSO, 1996)

The Kenya Demographic and Health Survey gives a picture similar to that of Namibia That is older cohorts (35-49) generally start using contraception at high parties than younger women. For example 2% of women aged 20-24 started to contracept after their first child compared to 5% of women aged 45-49. This probably reflects that young women are more likely to use contraception to space births while older women use it to limit births (NCPD et al., 1994) Thus as control of fertility becomes a possibility for more and more people around

the world, the question of how many children are desired or preferred becomes increasingly important.

2.5 THEORETICAL FRAMEWORK

Several fertility theories co-exist with none being fully dominant, on fertility regulation Some schools of thought are often associated with the slogan raised at the 1974 Bucharest world population conference, that development is the best contraceptive, others argue that specific interventions aimed towards regulating fertility can and will have a large impact on population change even before the onset of substantial development in other areas Others like (Bogue and Tseile, 1979) have reported that family planning programmes have been major factors in the recent decline in fertility

A few theoretical approaches have incorporated some variables considered in this study The framework shows socio-economic, socio-cultural and demographic factors, otherwise referred to as indirect variables, work through biological and behavioural factors, also known as direct or intermediate variables to affect fertility. Some of these frameworks are discussed below

Davis and Blake, provides a taxonomy of mutually exclusive intermediate variables which mediate between fertility and explanatory variables of a behavioural form They suggest that there are three categories of variables that are necessary for successful reproduction These include factors affecting exposure to intercourse that have been categorised into two groups There are those governing the formation and dissolution of unions during the reproductive period namely; Age of entry in sexual unions, permanent celibacy and amount of reproductive period after or between unions The second group includes those governing the

exposure to intercourse within unions namely; voluntary and involuntary abstinences and coital frequency excluding periods of abstinence (Davis and Blake, 1956)

The second category of Davis and Blake framework are factors affecting exposure to conception For example, fecundity or infecundity (as affected by involuntary cause) use or non use of contraception and fecundity or infecundity (as affected by voluntary causes) The third category has been referred to as factors affecting gestation and successful parturition, these includes foetal mortality from both voluntary and involuntary causes

Although the relationships have been recognised since the pioneering work of Davis and Blake, efforts to quantify the link between a set of intermediate fertility variables and fertility have proven difficult and have resulted only into highly complex reproductive models (Bongaarts, 1978) presented a simple but comprehensive model for analyzing the relationships between intermediate fertility variables and the level of fertility. The model includes only a small number of conceptually distinct and quantitatively important intermediate fertility variables To allow simple quantification Bongaarts study collapses the set of eleven intermediate fertility variables proposed by the above scholars into eight factors grouped into three categories

The exposure factors, this refers to the proportion married which include's the proportion of women in reproductive age and who engage in sexual intercourse regularly In this category Bongaarts analysis deals with the women in their child bearing age, living in stable sexual unions such as formal marriages and consensual unions

The second category in Bongaarts model refers to the deliberate marital fertility control factors These include contraception (any practice undertaken to reduce risk of contraception) and induced abortion (any practice that deliberately interrupts the normal course of gestation)

The last category refers to natural marital fertility factors These include, lactational infecundability; (that period following a pregnacy where a woman is unable to conceive until her normal part of ovulation is restored) Frequency of intercourse (this variable measures normal variation in the rate of intercourse including those due to temporary separation or illness or voluntary abstinence) Third in this category is sterility (includes cases where a couple becomes sterilized before menopause for reasons other than contraceptive sterilization) Fourth is spontaneous inter-urine abortion (this is the proportion of all conceptions that do not result in live births) Lastly is the duration of the fertility period (the period within which a woman is able to conceive within the menstrual circle)

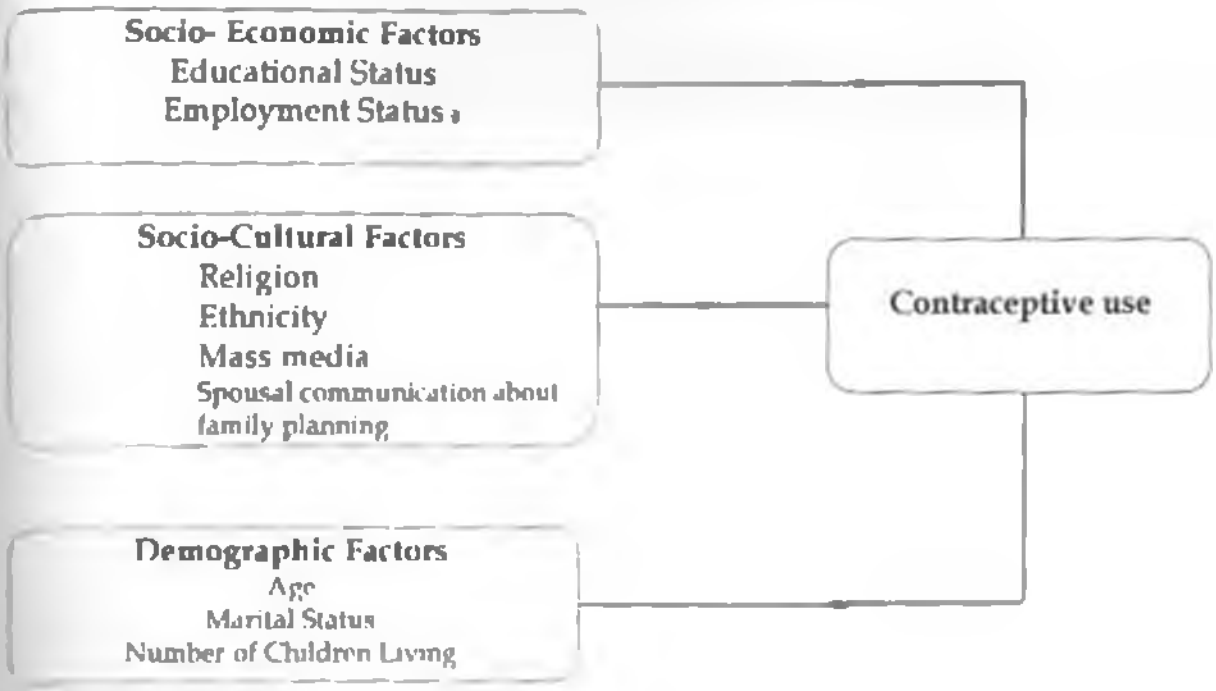
The Bongaarts framework quantitative nature and its ability to dissect fertility level into proximate determining components makes it appropriate for this study The proposed model for relationship between intermediate fertility variables and fertility is highly aggregate and its data requirements are relatively modest thus making its application possible Contraceptive use, the dependent variable in this study is a function of fertility and is shown in the model as a primary cause of fertility variation among populations The fact that the framework encompasses the independent variables that are examined in this work, namely economic, cultural and demographic factors makes it far much suitable compared to others

In addition to the above, Bongaarts framework has been extended/modified by several authors to study the effects of the socio-economic, socio-cultural and demographic factors on contraceptive use For example, Keraka, (1991) and Gichuhi (1991) employed the model in their studies

2.6 OPERATIONAL FRAMEWORK

It needs to be emphasized that there is no very exact correspondence between empirical findings and particular theories The complex assumptions and data manipulation necessary to operationalize theory further increases the complexity of matching the hypothesis of a structure with realities The operationalization of a theory involves assumptions and can never be perfect It always involves some degree of uncertainty and a resulting need for researchers to tread cautiously in attempting to establish the connection Below is the study's operational framework that is derived from the Bongaarts model on determinants of fertility It attempts to explain how socio-economic, socio cultural and demographic factors directly affect contraceptive use

Fig. 1.3 Bongaart's model on proximate determinants of fertility 1978.



Source Adapted from 1978 Bongaarts model on determinants of fertility (Bongaarts, 1978)

2.7 RESEARCH HYPOTHESIS

Based on Literature review in this research and Bongaarts model on determinants of fertility, this study proposition states that contraceptive use is influenced by socio-economic, socio-cultural and demographic factors

2.7.1 Study Hypothesis

Out of the above proposition, the following hypothesis were drawn and will be tested in this study

1. Educated women are likely to use contraception than their uneducated counterparts.
2. There is a positive relationship between employment status and contraceptive use Employed women are likely to use contraception than their unemployed counterparts

3. Religion affects contraceptive use Protestants are more likely to use contraception than Catholics and other religious affiliations

4 Ethnicity affects contraceptive use Kisiis are more likely to contracept compared to Luos and other tribes

5 There is a positive relationship between mass media and contraceptive use Women who have heard family planning programmes on radio are likely to use contraceptives than those who've not heard

6 There is a positive relationship between husband-wife communication on family planning and contraceptive use Couples who discuss family planning are likely to use contraceptives than those who do not discuss

7 Age affects contraceptive use Women in age 30-39 years are more likely to use contraceptives than those in other age groups.

8 Marital status affects contraceptive use Married women are likely to use contraceptives than those who are not currently married

9 There is a positive relationship between the number of children living and contraception women with many children living are more likely to regulate their fertility than those with few or none

2.8 DEFINITIONS OF SOME KEY CONCEPTS IN THE STUDY

2.8.1 Dependent Variable

Contraception is the prevention of pregnancy or conception The means used to prevent or delay conception are termed as contraceptive methods or simply contraceptive use In this study the use or non of contraception is examined

2.8.2 Independent Variables

2.9 SOCIO – ECONOMIC FACTORS

2.9.1 Education

Education is defined as the transmission of ideas, knowledge or values through the formal system This variable is defined as the number of years spent in educational institutions acquiring formal education It will be classified in terms of no education, primary, and secondary education plus above.

2.9.2 Employment Status

Employment refers to one's regular trade or profession The study recognize's both formal and informal jobs as sources of employment For purpose of the research those who do not work are considered unemployed, while those who work are termed as employed

2.10 SOCIO-CULTURAL FACTORS

2.10.1 Religion

Religion is a particular system of faith, human recognition of superhuman controlling power especially of personal God or gods, entitled to obedience and worship Recognition of such powers has an effect on a persons conduct and mental attitude This Research intends to find out how Catholics, Protestants, and other religious affiliation relate to contraceptives

2.10.2 Ethnicity

Ethnicity refers to being a member of a particular group An ethnic group is a distinct category of the population in a larger society Members of such a group are tied together by common beliefs, practices, language and norms, which gives rise to their culture. An ethnic group most often than not live collectively in a geographical region The ethnic groups

looked at in the study include Luos and Kisiis Other ethnic groups living in this area will be classified as "others"

2.10.3 Mass Media

This refers to television, radio, newspapers, magazines etc used to impart information to the society This research however, concentrates on the Radio as a major source of information to the public This is because it is affordable to many people in Nyanza province. Its measure as used in the study are "Heard about a Radio Programme on Family Planning' or 'Not Heard'.

2.10.4 Spousal communication on family planning

Spousal communication has been recognized to positively influence the use of contraceptives It is measured in terms of the number of times a couple discusses family planning For example 'Never', 'Once or Twice' and 'More Often'

2.11 DEMOGRAPHIC FACTORS

2.11.1 Age

Age refers to the past life of existence or duration of period of life. Age is the primary basis of demographic classification in vital statistics Demographic data is also expressed in terms of the age at which event like births and deaths occur This work concentrates on the ages 15 -49 This will be classified into 7, 5 years age groups so as to determine which age group is exposed to contraceptives

2.11.2 Marital Status

This study defines marriage to include both formal and informal unions The variable has been grouped into three namely, 'Never married' referring to those single, 'married' those currently in unions and 'Ever married' which includes those widowed, divorced and separated Marital status is an important demographic variable often used to estimate the time when regular sexual relations begin, hence the need for contraceptive use

2.11.3 Number of Children Living

The number of children living has been divided into three categories, that is 'no child', '1-3 children' and 4 + children' This variable helps repondents decide as to whether they are to regulate their fertility or not.

It is evidenced in the literature review that all the independent variables namely education, employment, religion, ethnicity, mass media, spousal communication on family planning Age, marital status and number of children living have a pervasive influence on women's lives, shaping both their production and reproductive roles.

CHAPTER THREE

METHODOLOGY

This chapter covers the sources of data, the quality of data and the statistical techniques used to analyse the data. These include frequency distribution, cross tabulation, chi-square test and logistic regression.

3.1 SOURCE OF DATA

The source of Data for this study is the 1993 Kenya Demographic Health Survey. This was a nationally representative survey of 7,540 women aged 15-49 and 2336 men aged 20-54 In Nyanza there were 1350 women and 239 men interviewed, out of the 1350 respondents 86 were missing cases making 1264 valid cases in some instances as shown in the statistical analysis of data in Chapter four In general its objective included, assessment of overall demographic situation in Kenya, assisting in the evaluation of population and health programmes, advancement of survey methodology and lastly assisting the National Council for Population and Development to strengthen and improve its technical skills to conduct demographic and health surveys.

The 1993 Demographic and health survey was specifically designed to produce data on family planning and fertility behaviour of the Kenyan population, to enable the NCPD evaluate and enhance the National Family Panning Programme Secondly, it was meant to measure changes in fertility and contraceptive prevalence and at the same time study the factors which affect these changes such as marriage patterns, urban/rural residence, availability of contraception, breast feeding habits and other socio-economic factors Thirdly, it also was to examine the basic indicators of maternal and child health in the country In

addition to the above collected, was data on knowledge of AIDS

The 1993 KDHS was carried out by the National Council for Population and Development in collaboration with the Central Bureau of Statistics(CBS). Macro international Inc of Calverton, Maryland USA, provided technical and financial assistance through its contract with the US Agency for International Development-USAID Fieldwork took place from mid February to mid August 1993

3.2 QUALITY OF DATA

A major problem in African demography is that of defective data. In the absence of vital registration and well planned census, obtaining reliable estimates of demographic information has become increasingly difficult (Kpedekpo, 1982). In the light of this, attempts were made to ensure good quality data through all the stages of the KDHS exercise as shown below.

The survey sample was national in scope with the exclusion of three districts in North Eastern, two in Rift Valley, and two in Eastern Provinces Altogether the left out areas accounted for 4% of Kenya's population Reliable estimates of certain variables were produced for rural areas in 15 districts among which were Siaya and South Nyanza other Districts were: Bungoma, Kakamega, Kericho, Machakos, Kisii, Meru, Muranga, Nakuru, Nyeri, Taita, Uasin Gishu, in addition Nairobi and Mombasa were also target. The 1993 KDHS utilized a two-stage, stratified sample consisting of 536 sample units (clusters) Due to over-sampling, sampling weights were used to compensate for unequal probability of selection between strata, weighed figures were then used Thus selection of a sample that was statistically representative and administratively manageable using a two-stage, stratified sampling technique, were some of the measures taken to achieve high quality data at this

initial stage

Accurate mapping of households was yet another precaution taken to achieve the above goal For example a systematic sample of households was selected from C B S listing operations, with an average take of 20 households in the urban clusters and 26 households in the rural clusters

The survey used four types of questionnaires, namely the household schedule, (used to list names and certain characteristics of all usual members and visitors to a selected household), the women's and men's questionnaires which were used to collect information about them and finally the services availability questionnaire, that recorded data on the health and family planning service near sampled areas The questionnaires were pretested in October, 1992, i e to compare the English version, with local languages and to make back translations into English of the key questions The service availability questionnaire was also pre-tested On the basis of the above pre-tests suggestions and corrections were made on the wording and translations Thus, use of thoroughly pre-tested questionnaires, which were, then translated into local dialects, ensuring good communication, is evidence that throughout actual collection of information emphasis was laid on good quality and reliable data

Recruitment criteria for fieldworkers included ability to speak at least one of the eight local languages of the survey, educational attainment, maturity, experience in other surveys and ability to spend one month in training In total they were 12 supervisors, 11 field editors and 11 female and 12 male interviewers In addition were district population officers assisting in logistical and co-ordination aspects of the survey

In the Data Processing operation one NCPD Officer, one data processing supervisor, one questionnaire administrator, two office editors and eight data entry operators were responsible for this exercise. Qualified and several able individuals were employed in the design, microcomputers with specialized programmes for this purposes, were also an added advantage to the high quality data (NCPD, 1994)

Although a number of complex statistical exercise were undertaken to ensure that the data collected was of quality, a few shortcomings were observed For example, data on contraceptive use as reported by females on current use of contraception should be treated with caution, as women were less likely to report that they were currently using contraceptives in the 1993 KDHS as compared to their male counterparts (that is 54% versus 33%) It is possible that women did not mention methods used primarily by their husbands, either due to shyness or because they did not know that their husbands were using them The high prevalence among men may also indicate use of contraceptives by men with women other than their wives It should also be noted that many of the family planning methods are used by women requesting the participation or knowledge of men, to the extent that women use contraceptive without the knowledge of their partners Despite the weakness mentioned, the quality of data in the said survey was good and reasonable

4.3 DATA ANALYSIS TECHNIQUES

Frequency distributions, cross tabulations, chi-square test and logistic regression are techniques employed in this research for quantitative data analysis. These techniques are briefly discussed below

3.3.1 Frequency Distributions

Frequencies have been used in this study to show the distribution of both the dependent and independent variables This gives a first hand glance at the findings of the study

3.3.2 Cross Tabulation Analysis

This refers to sorting data into various categories The information may be presented in the form of tables If one variable is involved, a one way table is used When interest focuses on the relationship between two variables, a two-way table is used

The above statistical tool will be used to establish the distributions of current contraceptors according to each category of selected variables namely Socio-economic, education and employment status Socio-cultura lfactors namely, ethnicity, religion mass media and spousal communication on family planning Demographic factors include age, marital status and the number of children living Although cross tabulation has a serious limitation that is, it does not control the effect of other variables it has been used in this study because of its simplicity and appropriateness in comparative purposes

Cross tabulation is a joint frequency distribution of cases according to two or more classificatory variables This joint frequency distribution can be statistically analyzed by certain tests of significance, for example, the chi-square statistic, to determine whether or not the variables are statistically independent These distributions can then be summarized by a number of measure of associations such as contingent co-efficient, which describe the degree to which the values of one variable predict or vary with those of the other variables (Herzon, 1976)

Chi-Square test

The Chi-square reportedly described by (Siegel, 1956) is a type of non-parametric test. It is useful in testing whether or not some of the selected socio-cultural, socio-economic and demographic variables in this work affect contraceptive use significantly. In order to do this, the frequencies of the observed contraceptives are tested to find out whether or not they differ significantly from the expected frequencies on the basis of some stated null hypothesis (Ho) In computing X^2, several steps are to be observed namely -

(i) The null hypothesis (Ho) to be tested is stated

(ii) Levels of significance at which the hypothesis is to be tested is specified

(iii) The degrees of freedom are worked out using c-1 in one sample test or (r-1) in a two test, where r is number of rows and c is the number of columns or number of independent samples

(iv) The null hypothesis (Ho) is accepted or rejected after the value of the calculate X^2 is compared with the tabulated value of X^2

The null hypothesis (Ho) is rejected only when the calculated value of X^2 is equal to or more than the tabulated value of X^2 at the specified level of significance using the stated degrees of freedom (d.f.) (Siegel, 1956)

3.3 Logistic Regression

Logistic Regression is a mathematical modeling approach that can be used to determine the relationship of several independent variables to a dichotomous dependent variable Like any statistical technique such as linear or multiple regression, the purpose of logistic regression model is to identify the 'best fitting' model to describe the relationship between the

dependent or response variable (in this case use or non-use of contraceptives) and a set of independent or predictor variables

The nature of the response variable, that is use or non-use of family planning methods, which is also referred to as binary or dichotonous, makes logistic regression the most appropriate model for this study. The fact that the predictor also known as explanatory variables are categorical, aggregate and continuous also calls for application of the hypothesized model Another advantage is that the hypothesized relationships between the independent variables and the dependent variable in this study, can be examined through this statistical technique Logit analysis is an extension of the linear probability regression models that expresses the dichotomous variable Y, as non-linear function of the independent variable X_1 and can be interpreted as the probability that one will use contraceptives or not use given the variables in the model

From a mathematical point of view, logistic regression is extremely flexible and easy For instance, the mathematical form, on which the logistic model is based, has estimates that must lie in the range between zero and one, and this enables it describe the probability of an event happening This is not always the case for other possible models, which is why the logistic model is the first choice when probability is to be estimated (Hosmer and Lemershow, 1989)

The shape of the logistic function, an elongated S-shaped picture, derived from the logistic model is suitable for description of the combined effects of the independent variables that influence the dependent variable.

Logistic regression model takes the following form

$$P(x) = \frac{e^{\beta 0 + \beta 1 x}}{1 + e^{\beta 0 + \beta 1 x}}$$

where P(x) = Probability of an event occuring

e = the base of the natural logarithms, (2 718)

β = coefficient estimated

x = independent variable

The logit transformation denoted as P(X), is given by natural Log (i e to the base e) of the quantity P(x) divided by one minus P(x), where P(x) denotes the Logistic Model The formula for Logit Transformations is as follows:-

$$\text{Logit } P(x) = \ln \left\{ \frac{P(x)}{1 - P(x)} \right\}$$

$$= \alpha + \Sigma \beta i \, x \, i$$

Where: $= \alpha + \Sigma \beta i \, X \, i$ is the Logit transformation of P(x) commonly denoted by P(X)

This transformation is important since it has many of the desirable properties of a linear regression model and allows us to complete a number called logit P(x), for an individual with independent variable given by X.

Having defined the formula for the Logit from of the Logistic model, let look closely at the formation of the Logit function. The quantity P(x) divided by 1-P(x), whose Log value gives the Logit, describes the odds for risk of contraceptive use with independent variable specified by X. An odds is the probability that some event will occur over the probability that the same event will not occur It is interpreted as the chance that an individual randomly selected will be observed to fall into the event of interest.

The formula for an odds is therefore, of the form β divided by 1-β where β denotes probability of an event of interest

$$\text{Odds} = \frac{p}{1 - p}$$

In Logit analysis the odds ratio is used to measure the effects of the independent variable on the dependent variable. In the model transformation the dependent variable range from - ∞ to + ∞ thereby eliminating the problem that ∝+ β will be outside the unit range (Hall, 1980)

The parameters in the Logit model may be interpreted as ordinary regression coefficients. Positive values indicate that the independent variable or their interactions raise the Log odds of the dependent variable, while negative betas, show lower Log odds

Multiple Logistic regression model is employed in this study to find out the separate and combined effects of several socio-economic, cultural and demographic on contraceptive use Multiple Logistic regression model is a statistical tool that can be used to analyse complex models involving several correlated and interacting independent and dependent variables. Apart from showing the magnitude and direction of the relationships between the independent and dependent variables the method helps in explaining how much of the change in the dependent variable is due to one unit charge in the independent variable

The multivariate technique of multiple logistic regression is a whole, that is made up of some parts which can be simple or bivariate regression coefficients This whole is greater than the sum of it's parts. This is especially true when a large number of variables are involved. Thus, multiple regression relies completely on the relative magnitude of simple

regression coefficients among the variables involved (McCullagh and Nelder, 1983)

$g(X) = \beta o + B_1 X_1 + - - - - B_P X_P$

in which case

$$\Pi(X) = \frac{e^{g(x)}}{1 + e^{g(x)}}$$

The method of choice for the above formula is to use a collection of dummy variables A dummy variable is any variable in an equation that takes on finite number of values for the purpose of identifying different categories of a nominal variable If a variable has K possible values, then K-1 dummy variable will be needed Suppose the jth independent variable X_j has K_j levels, then K_j - 1 dummy variables can be denoted as Dju and the coefficients for the dummy variable can be denoted as Bju, u = 1, 2 ....., Kju - 1 Thus the logit for a model with P variables and the Jth variable being discrete would be,

$$g(X) = B_o + B_1 X_1 + \ldots\ldots \Sigma B_j u D_j u + B_p xp$$

We can test whether the hypothesised model fits the data by estimating the expected frequencies under the hypothesised model and comparing the results to the observed frequencies using the Chi-square, based on the maximum likelihood ratio statistic

Like the ordinary least squares estimation (OLS), maximum likelihood (ML) estimation is one of the several alternative approaches that statisticians have developed for estimating the parameters in a mathematical model Compared to least squares, the maximum likelihood method can be applied in the estimation of complex non-linear as well as linear models In particular, because the logistic model is a non linear model, maximum likelihood estimation is the preferred estimation method for logistic regression Besides, maximum likelihood estimation requires no restrictions of any kind on the characteristics of the

independent variable, thus, when applying maximum likelihood estimation the independent variables can be nominal, ordinal and interval.

The maximum likelihood criterion is thus, frequently used in statistics because it is known usually to be an asymptotically efficient estimator and an intuitively appealing criterion Basically, the criterion addresses the question' what underlying parameters would be most likely to have produced the observed data? The mathematics of maximizing the likelihood function is given elsewhere (Hanushek & Jackson 1977)

Wald test is another way of carrying out hypothesis testing in logistic regression without using the likelihood ratio test The Wald test is usually done when there is only one parameter being tested It can be computed by dividing the estimated co-efficient of interest by it's standard of error. This test statistic is roughly normal (0,1) 0 Z distribution in large samples and the square of this Z statistic is approximately a Chi-square statistic with a degree of freedom

When carrying out the Wald test, the information required is usually provided in the output which lists each variable in the model followed by it's maximum likelihood coefficient and it's standard error Several packages also compute the Chi-square statistic and a P-value

The values of the likelihood ratio statistic and it's corresponding squared Wald statistic are approximately the same in very large samples, thus, if ones study is large enough it will not matter which statistic is used However, in small and moderate samples, the two statistics may give very different results

From statistician's point of view, therefore the likelihood ratio statistic is better than the Wald statistic especially when dealing with small sample sizes So when in doubt, it is recommended that the likelihood ratio statistic be used However, the Wald statistic is somewhat convenient to use because only one model, the full model need is to be filled

CHAPTER FOUR

STATISTICAL ANALYSIS OF DATA

This chapter contains the results of the analysis of data of this study. Section 4.1, presents the characteristics of the study population In section 4.2 are the levels and differentials in current contraceptive use in Nyanza province, while Section 4.3, contains the determinants of current contraceptive use in the study area Section 4 4 presents the chapters conclusions

4.1 THE CHARACTERISTICS OF THE STUDY POPULATION

Frequency distributions have been used in this section to show the distribution of both the dependent and the independent variables Below is a table showing the distribution of the response variable namely contraceptive use status and the explanatory variables these are socio-economic factors namely, educational and employment status Socio-cultural factors mainly ethnicity, religion, mass media and spousal communication on family planning Finally, are demographic factors namely, age, marital status and number of children living These variables have been categorised to suit the study

Table 4.1 **Distribution of respondents by contraceptive use status, socio-economic, socio-cultural and demographic factors, Nyanza province, 1993 KDHS.**

Background variables	No. of cases	Percentage
Dependent Variable		
Using	241	19 1
Not using	1023	80 9
Total	**1264**	**100**
Using modern methods	193	15 3
Not using modern methods	1071	84 7
Total	**1264**	**100**
Independent variables		
Socio-economic		
Educational status		
No education	241	19 1
Primary Education	800	63.3
Secondary Education	223	17 6
Total	**1264**	**100**
Employment status		
Working	797	63 1
Not working	466	36.9
Total	**1264**	**100**
Socio-cultural		
Ethnicity		
Luo	682	50.5
Kisii	480	35 6
Others	188	13 9
Total	**1350**	**100**
Religion		
Catholics	438	32 4
Protestants	782	57 9
Others	130	9.6
Total	**1350**	**100**
Mass Media		
Heard radio programme on Family Planning	564	44 7
Not heard radio Programme on Family Planning	686	54 3
Total	**1350**	**100**
Spousal Communication about Family Planning		
Never	257	19.1
Once or Twice	45	3.3
More often	230	17.0
No Partner	818	60 6
Total	**1350**	**100**

Demographic Factors		
Age		
15 - 19	318	25.2
20 - 24	258	20.4
25 - 29	181	114 3
30 - 34	199	15 7
35 - 39	110	8 7
40 - 44	119	9 4
45 – 49	79	6.3
Total	**1264**	**100**
Marital Status		
Never married	323	25.6
Married	802	63 4
Widowed, separated, divorced	139	11 0
Total	**1264**	**100**
Number of Children living		
None		
1-3 children	363	28 7
4 children +	435	32 2
	466	34 5
Total	**1264**	**100**

Source: KDHS, 1993

Table 4 1 indicates that only 19% of the 1350 respondents were current users of contraceptives 63 3% of the interviewees in this area during this national exercise had primary education The percentage difference for those in 'No Education' and Secondary Education + category was minimal as shown above A majority of respondents in Kisii, S Nyanza and Siaya, the surveyed districts, were employed.

According to the table 4.1, almost half of the people surveyed in the province were Luos. A glance at the other Socio-cultural factor religion shows that a large proportion among the researched were Protestants at 57 9% The "others" category which included (the Muslims and the respondents with no religion) formed the minority Radio programmes on family planning on the other hand come out as fairly popular, 54 3% of the targeted population had actually heard such programmes

A look at Spousal communication on family planning, in this study show that most women in Siaya, Kisii and S. Nyanza do not discuss fertility regulation with their partners. This may be particularly so because about 60% of the respondents in the 1993, KDHS, had no partners.

The distribution of respondents by 5 year-age groups, Nyanza province, 1993, KDHS shows that 35-39, 40-44 and 45-49 age cohorts had few cases Marital status, another demographic factor picked for this study has a minority of the respondents belonging to the "never" married and divorced / separated and widowed categories at 25 6 and 11 0 percentages respectively Distribution of respondents by number of children living depicted the respondents as mostly having 1 – 3 and 4 children and above

4.2 THE LEVEL AND DIFFERENTIALS IN CURRENT CONTRACEPTIVE USE IN NYANZA PROVINCE.

Below are the cross tabulation results of the dependent variable contraceptive use against some of the selected socio - economic, socio - cultural and demographic factors for the study. These have been used to bring out the level and differentials in current contraceptive use in Nyanza province Also found in this section is the chi-square value, it's significance level has been set at $\alpha = 0.05$ Depending on the test statistic, we can either accept or reject the hypothesis

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Table 4.2.1 **Percentage distribution of the respondents according to contraceptive use and employment status. Nyanza province, 1993 KDHS.**

Contraceptive use status	Employment status		Total No. of cases
	Not working	Working	
Using	16 3	20.7	241
Not using	83 7	79 3	1022
Total No. of cases	**466**	797	**1263**

Chi – square DF Sig. Level
3.67642 1 0 05519

The above table 4.2.1 shows that 20 7% of current contraceptive users in Nyanza were working women These findings are. in agreement with reported by the Population Division of the united Nations 1981, where a woman's employment status was shown as having a consistently positive relationship with contraceptive use. The findings also emphasized that the relationship between the two is oflen weak

Mamluok (1982) in a comparative study found a slight difference in the levels of contraceptive use between the working and the non-working women in Costa Rica, Jordan and the Republic of Korea However she found that in the Philippines and Panama fertility regulation among employed women was 14 percent and 17 percent respectively higher than among non - employed women

Employment status may influence contraception in a number of ways. For instance working women contribute to their household income and their financial security, making them not to require financial support from their children at an old age This may consequently lead to the reduction of the need for children as insurance or for old age support Secondly participation

of a woman in paid employment increases the opportunity cost of child bearing and rearing which leads to the trade off between the quantity and quality of children The educated and employed couples prefer to have fewer children to whom they can give food, clothing, education and other basic needs in life, than to have many children to whom they cannot adequately provide with quality needs (Kangi, 1978)

Also the participation of a woman in paid employment implies that she has to share the time available to her between employment and being a mother Bottle feeding will be resorted to as a substitute for breastfeeding And if the woman has been using breastfeeding as a means of fertility regulation, she may resort to contraception if she wants to avoid an unwanted pregnancy

Like other studies, this research shows a weak association to exist between the wife's employment status and her contraceptive behaviour That is, the chi - square value is insignificant at 0 05519 suggesting that these two variables, employment status and contraceptive use are not associated

Table 4.2.2 **Percentage distribution of the respondents according to contraceptive use and educational status. Nyanza province, 1993 KDHS.**

Contraceptive use status	Educational status			Total No. of cases
	No Education	Primary Education	Secondary education	
using	18.7	15.0	34.1	241
Not using	81.3	85.0	65.9	1023
Total No. of cases	**241**	**800**	**223**	**1264**

Chi - square 41.17433 DF 2 Sig. Level 0.0000

Table 4.2.2 depicts respondents with secondary education as the majority of current contraceptive users at 34.1%. The least users belong to the primary education category. Although there is an insignificant difference between the first two categories, that is, the respondents with no education are depicted as likely to contracept much more than those with primary education, the explanation could be as a result of few respondents in the latter category. These findings are not unique. Similar results have been found by a number of scholars. For example, the majority of acceptors of family planning in Kenya in the 1970s consisted of women with no education, and those who had not completed primary education (Ejuogu, 1972).

Ogweno's (1992) observation in her study of the Kenyan population was close to the above results. She found out that women with no education had the highest failure rate, followed by those with primary education. Those with secondary education had the lowest failure rate.

In sub-Saharan Africa generally, where low contraceptive prevalence rates are observed, sizable increases in contraception are confined to high educational categories. In other words there is no big difference between those with no education and those with primary education in terms of contraception (Castro et al., 1995). These findings are also similar to those by (Osiemo, 1986) who concluded that secondary education is a prerequisite for a woman to change her attitude towards family size.

In a study of the Nigerian Women, the practice of family planning was seen to increase with education of wives. For instance an increase of 71.1% for women with secondary and university training was observed from 5% for the uneducated women (Caldwell, 1968).

In Polland Mazur found that 74.7% of currently married women with secondary education were current users of contraception where as 41.7% were current users among married females with less than elementary education

Table 4.2.3 **Percentage distribution of the respondents according to contraceptive use and ethnicity, Nyanza province, 1993 KDHS.**

Contraceptive use status	Ethnicity			Total No. of cases
	Luo	Kisiis	Others	
Using	13.5	27.3	17.6	241
Not using	86.5	72.7	82.4	1023
Total No. of cases	**682**	**480**	**102**	**1264**

Chi – square	DF	Sig Level
34,92254	2	0 0000

The Table 4 2 3 above depicts majority of contraceptors as Kisiis, 27 3%, this is followed by the other category which refers to the (Kalenjins, Kikuyus, Luhyas, Kambas, Swahili / Mijikenda and the Meru - Embu tribes)

Despite the low contraceptive use in Kisii, there is definitely an increase in the current contraceptive acceptance rate in this area This is evidenced too by its 1993, District Development plan, which gives a prevalence rate of 60-65% between 1993-1996 period The above attributes the positive change to fertility regulation amongst the Kisiis to factors like creation of awareness of family planning methods through literacy classes and the change of attitude that many children are a source of security in future

A study by Keraka, associated the high contraceptive to prevalence rate in Kisii to the effective and efficient delivery service in the area Since 1984, she observed, a variety of modern contraceptives were gradually distributed in FG - kits and by 1985 all hospitals and health centres had regular and ample supplies of modern contraceptives at their disposal Another factor that has favoured the above increase in contraceptive use is the community based distribution of the contraceptives which has penetrated and reached all deserving cases in the area (Keraka, 1991)

Other reasons that have been cited for use of family planning methods by Kisiis include the economic pressure brought about by childrearing in terms of food, shelter, clothing and education Lack of land and polygamy are other reasons given for the increase in fertility regulation among this ethnic group Polygamy as used here refers to the fear in wives that husbands will take second wives to stop the first wives from giving birth to many children

On the other hand, poor contraceptive prevalence rates amongst the Luos as shown above are also confirmed by Ogweno, (1992) In her study Luos were the second majority of non-users of family planning methods after the swahili/mijikenda category This poor performance as discussed is due to certain unfavourable traditional customs, incidences of high mortality rates, lack of awareness of FP methods and inaccessibility to health facilities among other reasons (GOK, 1993)

Table 4.2.4 **Percentage distribution of the respondents according to contraceptive use and religious affiliations. Nyanza province, 1993 KDHS.**

Contraceptive use status	Religion			Total No. Of cases
	Catholics	Protestants	Other	
Using	18.7	19.1	15.9	241
Not using	81.3	80.6	84.1	1023
Total No. of cases	**438**	**782**	**44**	**1264**

Chi – square	DF	Sig. Level
38774	2	0 082376

The Table 4 2.4 above, depicts an insignificant variation in the use of contraception by one's religion The Catholics and protestants are shown to have a slight percentage difference of 0 4 in their contraceptive prevalence rate However, past studies have shown that religion remains an important aspect in determining contraception in both developed and developing countries For example Ogweno found that Catholics had the highest failure rate for contraception

Likewise religion is shown to be an obstacle to contraceptive use in Kenya(NCPD 1989-1993) Goldschelder and Mosler (1984) too, support the above view that different religious affiliations influence contraceptive use.

Religion makes one recognize a superhuman controlling power especially of God, which requires obedience and worship Recognition of such powers has an effect on a persons conduct and mental attitude, making one live by the set down religious laws This explains

the pro-life stand emphasized in the catholic doctrine which, enhances the biblical teaching to its followers to multiply and fill the earth This leads to low contraceptive use among Catholics as compared to other religious groups

Table 4.2.5 **Percentage distribution of the respondents according to contraceptive use and mass media, Nyanza province, 1993 KDHS.**

Contraceptive use status	Mass media			Total No. of cases
	Not heard Radio Programme on FP	Head Radio programme on FP	Do not know	
Using	14.3	24.5	38.5	241
Not using	85.7	75.5	61.5	1023
Total No. of cases	**686**	**564**	**13**	**1264**

Chi - square DF Sig Level
23 97912 2 0 0001

Respondents who have had radio programmes on family planning are more likely to contracept as compared to those who have not heard, at 24 5 and 14 3 percent respectively A study in Zimbabwe used comparisons both over time and from cross sectional studies revealed the following Cross sectional comparisons between those who reported or did not report listening to the broadcast programmes found that listeners were more likely to use contraceptives than non listeners (Yonder et al , 1996)

A study by Rogers examining more sophisticated campaigns designed to change a variety of behaviour agrees with the above results He concludes that better planned and executed mass media campaigns have indeed been able to change reproductive behaviour (Roger et al , 1987)

The study on mass media and family planning promotion in three Nigeria cities concludes that people do learn from observing others in the mass media as well as in person and can use their behaviours as a model and encouragement to try new behaviours for themselves. The above research also observed that family planning practices spread fastest where channels of communication carry the concepts best and that the ideas have an even greater impact on adoption of family planning patterns.

Table 4.2.6 **Percentage distribution of the respondents according to contraceptive use and spousal communication about family planning. Nyanza province, 1993 KDHS.**

Contraceptive use status	Spousal communication about family planning				Total No. of cases
	Never discuss	Once or twice	More often	No partners	
Using	28.1	16.3	27.1	13.8	241
Not using	71.9	83.7	72.9	86.2	1023
Total No. of cases	249	43	225	747	1264

Chi - square	DF	Sig Level
36.34213	3	0.0000

The above table shows an insignificant difference between the researched who never discuss family planning with their spouses and those who do discuss family planning with their spouses more often that is 28.1 and 27.1 percent respectively. Those who discuss family planning once or twice are the least users of contraceptives.

Despite the findings in Nyanza Province, recently, research in both developed and developing countries, have recognised the importance of communication between spouses on family planning. The following are studies whose findings support the above hypothesis that more frequent communication between spouses on fertility regulation contributes to

frequent use of contraception (Bulatao & Ashraf. 1983, Beckman, 1983; Gage, 1995; ESCAP 1984).

The importance of spousal communication is explained in terms of traditional right of men over women's procreative power, making husbands approval a precondition for a woman to use family planning In past studies done, husbands disapproval is often mentioned as a reason for non use of contraception In Nyanza province, there exists a strong relationship between contraceptive use and spousal discussion about family planning, as shown by the Chi-square value significant at 0 0000 percent

Table 4.2.7 **Percentage distribution of the respondents according to Age of the respondents. Nyanza Province, 1993 KDHS.**

Contraceptive use status	Age groups							Table No. of cases
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
Using	8 2	12 8	21 5	29 6	28 2	28 6	24 1	241
Not using	91 8	87 2	78 5	70 4	71 8	71 4	75 9	1023
Total No. of cases	318	258	181	191	110	119	79	1264

Chi - square DF Sig Level
91 34936 6 0.0000

Contraceptive use is lowest among the youngest age group 15-19. It rises to the peak at 29.6 for the ages 30-34 and declines there after to 24 1 for the age cohort 45-49 This finding is not unique Several scholars have found similar results For example, Wess and Udo (1981) in their study of the Nigerian population showed that women aged 21 and below have the highest drop out rates in contraception Keraka's (1991) explanation for the low contraception in this young reproductive age group is that they are still in school and a majority are still not married hence have little exposure to the risk of pregnancy

The 1993 KDHS also brings out the 15-24 cohort as having low participation in Contraceptive use which rises to a peak among the ages 25-34 and then dropping at the higher ages The survey results further discuss the change in methods with the short term methods like pill, calendar and rhythm being the most common in the 15-24 age group There is a gradual shift to longer term methods among older women so that by age 25-29 injection is the most popular Above 35 the permanent method sterilization is the most widely used method

Ogweno (1992) says that women aged 30-44 had lowest failure rate, thus enhancing the above results She attributes this to such women having had their desired family size Palmoreet et al , (1976) is also in agreement, they found out that in Thailand women who had reached or exceeded the desired family sizes used contraception, much more than those whose family size had not been attained

Women aged 45-49 on the other hand, had quite high contraceptive failure rate. This she said was as a result of their advance age hence improper use of contraceptives if at all they used. At this age too, women have either reached or are approaching menopause, this makes them have naturally reduced sexual desires, hence low risk of pregnancy This in turn leads to little or no contraception The total number of interviewed cases in the age group 45-49 was small 79, this could also influence the results, contributing to high failure rate (Ogweno 1992)

Table 4.2.8 **Percentage distribution of the respondents according to contraceptive use and the number of children living. Nyanza province, 1993 KDHS.**

Contraceptive use status	No. of children living			Total No. of cases
	No children	1-3 children	4 children	
Using	6.1	15.2	32.8	241
Not using	93.9	84.8	67.2	1023
Total No. of cases	**363**	**435**	**466**	**1264**

Chi - square DF Sig Level
101 29424 3 . 0 0000

Table 4.2.8 depicts the majority of contraceptors as women who have children numbering four and above. Those with no children are the least users

Past studies in the 1960s and 1970s both in developing and developed countries have findings similar to those in Nyanza province as shown above Family size is depicted as positively associated with contraceptive use The Caldwells' studies in Ghana further reveals that family size measured in terms of children ever born, by those surviving was positively related to the willingness to use contraception among women in the West African State

In 1970 a United Nations, study on contraceptive use, indicated that no pattern characterized the difference in contraceptive use with regard to family size. The research nevertheless, found that in the Republic of Korea and urban Morocco, contraceptive use was more closely related to large than to small family size.

However, data from the 1980s and 1990s Demographic and health surveys of Brazil, Jordan, Kenya and Zimbabwe support the studies findings on the number of children living and

contraceptive use status The DHS as shown earlier in the literature review, brings out those with no children as the least users of contraception The contraceptive prevalence rates begin to increase as the number of children living rises

Table 4.2.9 **Percentage distribution of the respondents according to contraceptive use and marital status. Nyanza province, 1993 KDHS.**

Contraceptive use status	Marital status			Total No. Of cases
	Never married	Married	Separated / divorced/ widowed	
Using	11.1	23.8	10.1	241
Not using	88.9	76.2	89.9	1023
Total No. of cases	223	802	139	1264

Chi – square	DF	Sig. Level
32.14165	2	0.0000

Table 4.2.9 shows the majority of contraceptors as married women at 23.8 percent Marriage has been observed to be a determinant of fertility rates worldwide In Brazil, it's demographic and health survey, KDHS 1996, indicated that 46.1% of women in unions were currently contraceptors compared 30.6 being percentage for single women. Those previously in unions, the widows, divorced and separate females had equally few Contraceptors (PCIRD, 1996)

The explanation given for the little response shown by the never married, widows and separated women towards family planning methods, is that they do not have partners, hence limited sexual relationships this lessens their risk of pregnancy

4.1 DETERMINANTS OF CURRENT CONTRACEPTIVE USE IN NYANZA PROVINCE

This section provides the results of the logistic regression It gives both quantitative and qualitative summary of the significant demographic, socio -economic and socio-cultural variables that influence the use of any methods of contraceptives and use of modern contraceptives

Table 4.3 **Logistic Regression Coefficients predicting the likelihood of contraceptive use, Nyanza province, 1993 KDHS.**

Independent variables	Log odds	LRX^2	d.f	Significance	Odds Ratio
Number of Children Living		102.942	2	0 0000	
1 - 3 Children	Ref				1.000
4 Children +	1 4196		1	0 0000	4 1355
No children	-1.7689		1	0 0000	0 1705
Education		42.408	2	0 0000	
No Education	Ref				1 000
Secondary +	1 4455		1	0.0000	4 2441
Primary	0.1743		1	0.4174	1 1904
Ethnicity		24.406	2	0 0000	
Others	Ref				1.000
[illegible]	0 6448		1	0.0366	1 9056
[illegible]	-0 1626		1	0 6009	0 8499
Marital Status		15 041	2	0 0010	
Never Married	Ref				1.000
Married	-0 8181		1	0 0110	0 4413
[illegible] separated	-1 5997		1	0.0002	0 2020
Mass Media [illegible] heard Radio Program on F P [illegible] Radio Program on F P	Ref	4,037	1		1 000
	0.3340			0.0445	1.3966
Constant -1.8710 standard Error .4703					

Source: Preliminary analysis of Nyanza Province, 1993 KDHS Data

Table 4.4 **Logistic Regression Coefficients predicting the likelihood of modern contraceptives use in Nyanza Province, 1993 KDHS.**

Independent Variables	Log Odds	LRX^2	d.f	Significance	Odds Ratio
Number of children living		68.003	2	0.0000	
1 - 3 children .	Ref				1.000
4 children +	1.1681		1	0.0000	3.2159
No children	-3.6622		1	0.0000	0.0257
Ethnicity		54.606	2	0.0000	
Others	Ref				1.000
Kuos	0.6257		1	0.0499	1.8695
Luos	-0.7509		1	0.0222	0.4719
Education		36.954	2	0.000	
No education	Ref				1.000
Secondary +	1.5995		1	0.000	4.9506
Primary	0.2775		1	0.2418	1.3198
Marital Status		10.429	2	0.0091	
Never Married	Ref				1.000
Married	-0.6682		1	0.1178	0.5126
Formerly widowed	-1.5507		1	0.0039	0.2121
Age		6.542	2	0.0478	
15 - 24	Ref				1.000
40 - 49	0.9833		1	0.0111	2.6732
25 - 39	0.6358		1	0.0486	1.8884
Constant: -2.3044 Standard Error: 0.5439					

Source: Preliminary analysis of Nyanza Province, 1993 KDHS Data

As already stated earlier the following is a descriptive summary of factors that influence use of any contraceptive and use of modern contraceptives as shown in the equations in tables 4 2 and 4 3 respectively.

4 3.1 Number of children living and contraceptive use

The Number of children living is shown to be very influential in both use of any contraceptive method and use of modern methods only It was the first explanatory variable to be selected in both equations - (Tables 4 3 and 4 4) In both cases the respondents with four children and above living had high chances of using any contraceptives method at odd ratio 4 1355 and 3 2159 for modern contraceptive use The use of any method of fertility regulation and modern fertility regulation only decreased with a reduction of number of living children

The results in Tables 4 3 and 4 4 for the respondents with four children + and those with 1-3 children are in agreement with those found in Table 4.28 They all support the hypothesis that the desired family size is positively related to the willingness to use contraceptive among women in Nyanza Province

A number of studies have come up with similar findings in Kenya For example a negative relationship was found to exist between the number of children living and contraceptive non-use The regression coefficient for the respondents with one, two and three children were -1.3859, -1.3871 and -0.6504, implying that an increase in the number of children living, the less likely the respondents will be non-contraceptive users (Kyalo, 1996). In Indonesia likewise, the use of modern methods of contraceptives increased from a low 23 percent for women with 0-2 living children to 37-41% for women with 3 or 4 and then to 44 percent

among women with 5 and more living children. Family size was said to explain 3.9% variance in the use of modern contraceptive methods in Indonesia, it was the second most important explanatory variable after region of residence

Various explanations have been given for the above contraceptive use patterns in relation to family size. Women with no children are said to avoid contraceptives in order to start families, while those with 4+ find child bearing and rearing, physically and financially demanding

4.3.2 Marital status and contraceptive use.

This was the fourth variable to be selected in both the equations in Tables 4.3 and 4.4 The women who are currently married and those ever married (widowed divorced and separated) were found to have negative relationship with both use of any method of contraceptives and use of modern contraceptives. That is, being in these two categories decreased the odds of use of family planning methods

There is an insignificant relationship between those who are married and modern contraceptive use at 0.1178 suggesting that married women do not prefer modern fertility regulation methods. The married and ever married categories have a fairly strong relationship with the use of any method of fertility regulation. This is in agreement with the results in Table 4.2.9

ever married that is the widows, separated and divorced women are more pronounced in of their non-use of family planning facilities. Kyalo is in agreement with the above she found out that widows were an important predictor of contraceptive non-use

There was a positive relationship between women who reported that they were widows, with a regression coefficient of 0.5228

Similarly in Ghana high fertility levels prevailing among rural women were attributed to proportions married and little use of contraceptives, which out weighs their long durations for post – portum variables They constitute more than 60% of the female population in Ghana and they are both less equipped and motivated to reduce their fertility levels than urban women (Gaisie, 1984)

In Uganda too, percentage distribution of women surveyed reporting use of male condoms by selected socio-demographic and behavioural characteristics according to baseline and follow up surveys, Rakai District Uganda (1995 and 1988) revealed the women in monogamous marriages and ever married women (divorced / separated) as least users of the male condoms that is at 1 9 and 3 4 % respectively The single women were the highest users at 14 3%. The men's response revealed slight difference between the use of condoms in monogamous marriages and in the divorced separated category at 7 0% and 7 8% respectively The single men turned out to be the highest users of the condom at 17 8%. The explanation was that the condom is used mainly for extra marital affairs and for prevention against sexually transmitted diseases It's purpose is not necessarily for delay or prevention of concepton Lesle et al , 2000)

The reasons behind the poor use of contraceptives by married women could be husbands refusal (given that Nyanza is an area where culture still has a strong hold in people's lives, over the issue of superiority of the husband over their wife's reproductive health) other hindrances against fertility regulation include side effects and non - availability of Family

Planning services.

4.3.3 Age and contraceptive use.

Age was selected as a fifth explanatory variable, positively significant to modern contraceptive use The odds of using a modern contraceptive at age 40-49 were high at 2 6732 This decreased with a decrease in age, to 1 884 for the age cohort 25-39. These are unique results for the ages 40-49 The unexpected results are in agreement with the Uganda Demographic and Health Survey, UDHS 1988/ 91 which revealed the age group 40 - 44 of currently married women as having the highest CPR at 8 2 slightly less than that of the women in 35 – 39 age cohort This results could be due to the fact that this age group had few numbers of cases at 15 7%.

These findings are not in support of the demographic and Health Surveys of Indonesia, 1994 (PC&IRD 1996) and 1986, Brazil (PC &IRD, 1998), which do show that an increase in age leads to an increase in contraceptive use rising to a peak at ages 30-35, thereafter it starts to drop

Despite the study's findings the above DHS do indicate that women in the cohort 25-35 have the least contraceptive failure rate This is because they are likely to have attained their desired family sizes or have probably given birth to additional unexpected children This calls for serousness in fertility regulation hence adoption of effective and long term family planning methods like Norplant and IUD

The age group 40-49 are depicted as having the highest contraceptive failure rates in the DHS of the above countries as opposed to the logistic regression results of the age variable in this

study. This age group are said to be advanced in age falling victims to the menopause stage in life

4.3.4 Educational status and contraceptive use

Education ranked second in the use of any contraceptive method table and third after ethnicity in the 'modern contraceptive use' table As per the study's hypothesis this particular findings are in agreement that the respondent's education is indeed positively related to contraceptive use

The odds ratio of using contraceptives is shown to increase as the level of education increases Women with secondary education and above are portrayed as more likely to use modern contraceptive at 4.9506 compared to any method of family planning which scored slightly less at 4.2441 The Tables 4.3 and 4.4 shows too, that there exists a big difference in fertility regulation between the educational categories, 'No education, 'primary' and secondary+'. Primary education is revealed to be insignificant to use of any method of contraceptives and modern contraceptive use respectively

Various studies have findings similar to the above For example Ojakaa (1984) found out that a decrease in the number of years spent in school led to an increase in the non-use of contraceptives Likewise KDHS 1993 and KCPS 1983 - 84 revealed that the percentage of women not using modern contraceptives decreases with the increase in the woman's level of education (NCPD 1989, 1994)

Education is known to promote cognitive development and attitudinal change, exposing one to new ideas and alternative lifestyles This makes one to question traditional norms and

practices In addition, education open up economic opportunities and provides a vehicle for social mobidity. All these educational assets are said to have a positive influence towards fertility regulation

4.3.5 Ethnicity and contraceptive use

Ethnicity as shown in Tables 4.3 and 4.4, has a significant relationship to contraceptive use Being a Kisii is positively related to the use of any contraceptive method and use of modern contraceptives

The Luos on the other hand, portrayed a negative association to contraceptive use in both cases The odds ratio were 0 8499 and 0 4719 for all methods of family planning and modern methods respectively

The above results are confirmed by a study in reference to the failure rates of various contraceptives as evidenced in the Kenya demographic and health survey, 1989. In this research the Kisiis are amongst the highest contraceptive non-users at 86 6 followed by Luos at 76%. The nilotes amongst which is the Luo tribe were hypothesised as less likely to contracept compared to the Bantus.

socio-cultural values, have been blamed on the Luo's negative attitude to fertility regulation Kisii however, change of attitude on certain cultural values and accessibility to contraceptives are explanations to their positive response to fertility regulation

4.3.6 Exposure to mass media and contraceptive use.

Exposure to mass media is significant to the use of any contraceptives at 1 3966 This results do support those found in table 4 2 5 that is, having heard a Radio Program on family planning increases the possibility that one will use any fertility regulation method

In support, of the above results are studies done in Latin America, Asia, Egypt, Nigeria, Ghana and Zimbabwe as shown in the literature review, which confirm that Radio, Television and Prints have become increasingly popular as means of educating the public about reproductive health issues

4.4 SUMMARY

Number of children living, education, ethnicity marital status, mass media and age are factors depicted as strongly influencing contraceptive use in Nyanza Women with the number of children living as 4+ are likely to contracept much more than those with fewer or no children

The practice of family planning is seen to increase with a woman's educational attainment This is so because educational assets like provision of literacy and professional skills, socialization, exposure to new ideas and alternative life styles and opening up of better economic opportunities are facts that directly or indirectly positively influencing fertility regulation

The study's results brings out the Kisii's as practising fertility regulation much more than the Luos Certain elements in culture namely traditional norms, beliefs, values, roles, may be for or against contraceptive use This results in variation of family planning performance among communities Through songs, plays narratives and poems, the mass media imparts correct

and detailed information about family planning to the public. These include, it's services, types, administration, advantages and disadvantages of contraceptives. This enables the listeners to make decisions and act on matters relating to their reproductive health.

Marital status has anegative relationship with contraceptive use. The married and ever married women are less likely to contracept. Age is inevitable when discussing fertility regulation in Nyanza. Unlike the logistic regression results in this study most studies show the contraceptive prevalence rate as highest among the age group 30-35, after which it drops. Women in the 40-49 age cohort are recorded as least users of contraceptives.

CHAPTER FIVE

REASONS FOR NON-USE OF CONTRACEPTIVES IN NYANZA PROVINCE

This chapter attempts to examine the reasons for non-use of contraceptives in Nyanza province During the 1993 KDHS, respondents who were not currently contracepting were asked why they were not contracepting If the contraceptive prevalence rate is to be raised in the province, it is important to know and act on the reasons why the large numbers of women in the province are not currently contracepting These reasons are summarised in table 5 1 From this table it is clear that six reasons are behind the low use of contraceptives in the province These are desire for more children, fear of side effects, menopause and hysterectomy, difficulty to get pregnant, lack of knowledge and religion

Table 5.1 **Percentage distribution of married women who are not using a contraceptive and who do not intend to use in future, by main reason for not using, 1993 KDHS**

Reasons for non use Contraceptives	TOTAL
Wants children	22.1
Side effects	10 0
Fears of sterility	1.5
Other health concerns	4.2
Inconvenient	1 8
Difficult to get pregnant	22.0
Menopausal/had hysterectomy	12.0
Partner opposed to F P	3.9
Respondent opposed to F P	3 9
Other people opposed to F P	0 2
Lack of knowledge	5.3
Hard to get methods	0 2
Religion	6 6
Fatalistic	1 5
Other	2 2
Don't know	1 3
Missing	0.2
TOTAL	**100.0**
NUMBER	**1045**

Source KDHS 1993

5.1 Desire for more children

Family sizes as evidenced in the Kenya Demographic and Health Survey is an important determinant in the adoption of fertility regulation methods In Nyanza the number of children at the time of first use of contraception among ever married women showed that a majority of women generally started contracepting seriously at higher pairities For example, percentage distribution of ever married women, by number of living children at the time of first use of contraception was 16 9 for women with 4+ against 7 8 for women with no children

Secondly, fertility preference, namely ideal number of children in the study area showed that this increased with age from 3.3 for women aged 15-19 to 4 5 among women age 45-49 The mean ideal number of children for all women in Nyanza province is 3 8 The ideal family size as shown by the 1993, KDHS, is negatively correlated with the level of education Women with no education have the highest family desires, while women with secondary education have the smallest, this is true for every age group.

There are possible explanations for the relationship between ideal and actual number of children That is, to the extent that they are able to implement their preferences, women who want larger families will tend to actually have them Secondly, women who have large families tend to rationalize their family size by reporting their actual number of children as their ideal Thus the high mean ideal number of children for all women in Siaya, Kisii and South Nyanza districts, may be an explanation for poor performance of family planning in the past, and a possibility of limited change in future if attitudes related to family size do not change

Another fertility preference, desire for more children also establishes the extent of unmet need for contraception in the study region Not surprisingly the desire for more children declines noticeably as the number of living children increases For example, in Nyanza percentage of currently married women who want no more children by number of living children and selected background characteristics, according to the 1993 KDHS, the women with three, four, five and six children and above desired to limit childbearing at 34 8, 59 1, 68 5 and 84 3 percentages respectively This evidently indicates the fact that the number of children desired by the target population is high, thus they are less likely to contracept until they have the number of children desired (NCPD, 1994)

5.2 Side effects

According to World Health Organization, acceptability of contraceptives for both men and women includes safety and efficiency (WHO, 1982). As mentioned in table 5 1, 10% of currently married women do not contracept providing side effects as a reason Another 4% mention health concerns as reasons for non-use of contraceptives There are a variety of contraceptives These include oral contraceptives commonly known as pills, injectables, implants, female and male sterilization, condoms, intrauterine devices and finally diaphragms/foam/jelly The disadvantages (side effects), of some of these commonly used contraceptives are discussed below.

The common side effects of the oral contraceptives include, nausea, spotting and bleeding between menstrual periods, mild headaches, breast tenderness, slight weight gain (some women see this as an advantage) and amenorrhea In a few women, oral contraceptives may cause mood changes including depression and less interest in sex It is observed that very rarely the pills could cause stroke, blood clots in deep veins of the legs or heart attack Those

at highest risk are women with high blood pressure and women who are aged 30 and above (Hatcher et al , 1997).

Although there are other injectables, the most commonly used type is the DMPA (depo-medroxyprogesterone acetate), given every 3 months It's common side effects are, changes in menstrual bleeding including heavy bleeding at first use, amenorrhea at first use (this is seen as an advantage by some women), hair loss and acne in some women In some cases, there is delayed return of fertility until after 4 months Other disadvantages are similar to those of oral contraceptives

The most commonly used implant is the norplant It's side effects include changes in menstrual bleeding including prolonged bleeding Other disadvantages are, it causes headaches, enlargement of the ovaries or enlargement of the ovarian cysts, dizziness, nervousness, breast tenderness or discharge, nausea, skin rash/acne, change in appetite, hair loss or more hair growth on the face. Most women do not have any of these side effects and most side effects go away without treatment within the first year of use In very rare instances when pregnancies occur, as many as 1 in every 6 pregnancy is ectopic (Hatcher et al , 1997)

Female sterilization is a surgical method of family planning for women who are sure that they will not want more children Its side effects are, it is usually painful several days after the procedure, infection or bleeding at the incision site internally or externally and injury to the internal organs (these are uncommon). Compared with vasectomy, F S is slightly more risky and often more expensive if there is a fee Reversal surgery is difficult, expensive and not available in most areas. Successful reversal is not guaranteed In rear cases when pregnancy occurs, it is likely to be ectopic than in a woman who used no contraceptive

vasectomy provides permanent contraception for men who decide they will not want more children. Its common minor short-term complications of surgery are pain in the scrotum, swelling and bruising and a brief feeling of faintness after the procedure. Bleeding or infection at the incision site or inside the incision and blood clots in the scrotum are uncommon complications of surgery. Like F S, reversal surgery is difficult, expensive and not available in most areas of the world.

A condom is a sheath that keeps the sperms and any disease organism in the semen away from a female sexual organ. Its side effects are, causes itching for a few people who are allergic to latex and the lubricant on some brands of condom. It may decrease sensation, making sex less enjoyable for either partner; a man's cooperation is also needed for a woman to protect herself from pregnancy and disease. The condom has poor reputation too, many people connect condoms with immoral sex, sex outside marriage and sex with prostitutes (Hatcher et al., 1997, Kimura, 1991, WHO, 1982).

The common side effects of the Intrauterine Device include menstrual changes, longer and heavier periods, more cramps and pains during periods. These are common in the first three months of it's use. Other uncommon side effects are perforation of the wall of the uterus (very rare if IUD is properly inserted), Pelvic inflammatory disease is more likely to follow a sexually transmitted disease infection if a woman uses IUD. The PID can lead to infertility. Finally, the medical procedure including the pelvic exam needed to insert the IUD occasionally leads to fainting during the insertion procedure.

The most commonly observed side effects of the diaphragm / foam / jelly are, causes irritation to both partners, occasionally may cause allergic reactions too. The above can make

the urinary tract infection more common One also finds it hard to conceal use from the partner (Hatcher et al., 1997)

5.3 Menopause and Hysterectomy

The risk of pregnancy declines with age, as increasing proportions of women become infecund While the onset of infecundity is difficult to determine for individual women, the 1993, KDHS, used the indicator of menopause to encompass currently married women who are neither pregnant nor postpartum amenorrhoeic, but who have not had a menstrual period in six months preceding the survey The survey showed that this proportion increases steadily with age from 4 % for women age 30-34 to 27% for women age 40-49 Menopause has been noted to lessen one's risk of pregnancy thus non-contraceptive use Despite this group being a minority they certainly influence the reasons for non-contraceptive use in the study region Women who've had hysterectomy (operation involving removal of the womb) constitute a minimal number of non-users of fertility regulation methods

5.4 Difficult to get pregnant

Other than menopause and hysterectomy, there are other obstacles to pregnancy These include postpartum amenorrhea and insuceptibility, infertility and anxiety neurosis Postpartum amenorrhea and insuceptibility, the risk of pregnancy following a birth is largely influenced by breast feeding and sexual abstinence Postpartum protection from conception can be prolonged by breast feeding though its effects on the length of amenorrhoea (the period prior to the return of menses) Protection can be prolonged by delaying the resumption of sexual relations. Women are defined as unsusceptible if they are not exposed to the risk of pregnancy, either because they are amenorrheic or abstaining following a birth The period of postpartum amenorrhoea is considerably longer than the period of postpartum abstinence

and is a major determinant of the length of postpartum insusceptibility to pregnancy. In Nyanza, the median durations of postpartum amenorrhoea, abstinence and insusceptibility is 10.4, 2.5 and 10.9 months respectively. Women aged 30 or older have a longer median duration of postpartum amenorrhoea compared to women under 30 years. Rural mothers have also been observed to wait considerably longer than urban mothers for their periods to return after birth (12 vs 5 months). The 1993 KDHS further report that the median duration of postpartum amenorrhoea is inversely related to education. It varies from 13 months for women with no education or only some primary education to 7 months for women with secondary education.

Although women are usually the victims of infertility in a marriage, men are infact responsible for 33% of all cases. In men, causes of infertility include, developmental abnormality of the male organ (hypospadias) and low sperm count. That is, although it takes one spermatozoon to fertilize an ovum, men with less than 40 million spermatozoa per millilitre are relatively infertile. Each millilitre of the semen should contain 100 million live and active spermatozoa (Hector and Bourne, 1974). In women, abnormalities in the endocrine make-up, uterus (size, position and consistence) and the fallopian tubes could lead to infertility. Other than this, the ovulation process must function properly for one to conceive. This is because some women menstruate quite regularly but they have anovular cycle, and without an ovum fertilization cannot occur.

Anxiety neurosis refers to worries amongst the couple on their own fertility and conception that may make it difficult for the wife to conceive. It is assumed that over anxiety on the part of wife can cause spasm of some parts of the genital tract, may be the tube thereby making it impervious (Hector and Bourne, 1974).

The theory of biological incompatibility may also make it difficult for one to become pregnant, hence non use of contraceptives For instance A marries B and the marriage is infertile and dissolved ; A then marries C and B then marries D and both these couples now produce children

5.5 Lack of knowledge.

Given that the knowledge of contraceptive methods and the sources from where they can be obtained is extremely high, the lack of knowledge as mentioned in table 5 1 is assumed to be related to the application of certain family planning methods as discussed below

A basic knowledge of reproductive physiology provides a useful background for successful practice of coital-related methods such as withdrawal, condom or barrier methods, but even more so for calendar rhythm and natural family planning methods. The successful practice of these methods depends on an understanding of when, during the ovulatory cycle, a woman is likely to conceive Percentage distribution of all women and of women who have ever used periodic abstinence by knowledge of the fertile period during the ovulatory cycle, Kenya 1993, showed the following, 33% of the women interviewed said that a woman is likely to conceive just after her period has ended The same proportion said that they did not know when a woman is likely to conceive and 10 percent identified the fertile time to be just before the next period begins Only 20% gave the correct response, that a woman is most likely to conceive in the middle of her ovulatory cycle According to the statistics it appears that 33%of all women and 1/5 of all who have used periodic abstinence do not understand the ovulatory process, since they either said they did not know when the fertile period is or they thought it occurred during the period Thus, if one lacks the knowledge to apply certain methods, she will apply it wrongly or not apply it at all, hence low contraceptive prevalence

rate in Nyanza province.

Natural family planning requires a woman to learn how to tell when the fertile time of her menstrual cycle starts and ends Fertility awareness helps a woman know when she could become pregnant, the couple then avoids pregnancy by changing their sexual behaviour during fertile days Fertility awareness-based methods of contraceptives require a long period for one to learn how to identify the fertile time. It also needs the cooperation and commitment of partners, it may not be effective for one with irregular menstrual cycle Once learnt, the above natural family planning method is advantageous in that, it has no side effects, it's performed at very little or no cost, it's effective if used correctly and consistently, contact with medical personnel is not necessary, it's immediately reversible, NFP, has no hormonal side effects hence no effect on breast feeding or breast milk Periodic abstinence is acceptable to some religious groups and finally, it involves men in the family planning process

5.6 Religion

Religion is depicted in table 5 1 as an obstacle to contraceptive use This is especially applicable to the Catholics and the Muslims whose religious doctrines do not favour contraceptive use as discussed below

Pope Paul the sixth, in Humanae Vitae, is reported as restating the church's teaching about birth regulation He reaffirms in absolute terms the immorality both of sterilization and contraception Having stated the church's position in the evil of abortion, he says 'Equally to be condemned as the magisterium of the church has affirmed on various occasions, is direct sterilization whether of the man or of the woman, whether permanent or temporary Similarly included is any action, which either before, at the moment of, or after sexual intercourse, is

specifically intended to prevent procreation, whether as an end or as means' Pope Paul continues, 'if then, there are serious motive to space out birth , which drive from the physical or psychological conditions of the husband and wife, or from external conditions, there are morally acceptable methods of birth control, which are compatible with a Christian philosophy of life and a Christian understanding of responsible parenthood The Pope further names specifically the practice of natural family planning as a valid means of spacing out births The Catholics views artificial contraception (modern methods of Family Planning) as involving a direct positive action against the possibility of life (Mazza , 1994)

Similarly the Muslims, see abortion and contraception as a violation of the principle of Islam They see it as an attempt to impose the decadent western values to the Muslim world For instance, a pro-Islamic movement termed the 1994, UN international conference on population and development held in Cairo, as a conspiracy to promote an Islamic value of obscenity

Family size thus stands out as an influential determinant to contraceptive use in Nyanza both in the study's findings and the 1993 Kenya Demographic and Health Survey. Other variables that were not studied, but are emphasized in the 1993 KDHS, includes side effects, lack of knowledge on methods, difficult to get pregnant, menopause and hysterectomy.

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CHAPTER SIX

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1 Summary of the study's findings

In the following paragraphs an attempt is made to present together the results of the chi-square test, cross tabulations and logistic regression analysis

The Demographic factors in this study namely: age, marital status and number of children living were found to be highly statistically significant to contraceptive use As per the hypothesis stipulated earlier in the study, apart from marital status, the remaining demographic variables were found to be positively related to contraceptive use The logistic regression results on the above explanatory demographic variables, depicted respondents with 4 children and above as having higher chances of using any method of contraceptive and modern contraceptive Marital status was found to be negatively related to contraceptive use, while the odds of using a modern contraceptive was high at age group 40-49 The above Logistic regression results on age could have been affected by the small number of cases in the age, 40-49

The, social-cultural variables in the study namely spousal communication on family planning, ethnicity and mass media turned out to be highly associated with contraceptive use The hypothesis that spousal communication on family planning, mass media and ethnicity do influence contraceptive use is confirmed The Kisiis were positively related to the use of any contraceptive method and use of modern contraceptives The Luos on the other hand, showed a negative association to all methods of contraceptive use and modern contraceptive methods too Exposure to radio programmes on family planning (mass media) was positively related to

any method of contraceptives at odds ratio 1 3966.

Education is brought out as highly significant to contraceptive use at 0.0000 significance level. Employment is however insignificant Both Socio-economic variables are positively related to contraceptive use although employment is described as often showing a positively weak relationship The logistic regression shows secondary education and above as positively influencing both use of any family planning method and modern use of family planning A decrease in the level of education implies a decrease in the odd ratio in both cases (Table 4 3 and 4 4) Employment was excluded in both the equations

6.2 Summary of reasons for non-use of contraceptives Nyanza province, 1993 KDHS

The main reasons for not using family planning in the study region as shown by the 1993, KDHS, are the desire to have more children, health concern and side effects, difficult to get pregnant, lack of knowledge and religion.

6.3 CONCLUSION

This study uses data from 1350 cases collected from Siaya, South Nyanza, and Kisii during the 1993, KDHS national exercise

Logistic regression is identified as the best fitting model that describes the relationship between a dichotomous dependent variable (contraceptive use) against aggregate categorical and continuous independent variables Other appropriate techniques employed in this research include frequencies and cross tabulation

The significant variables included in the equations, use of all methods of contraceptives and use of modern methods only in their orders of 'strength' starting with the most influential in Table 4.3 are number of children living, education, ethnicity, marital status, and mass media In Table 4.4 for modern contraceptive use there is a change in positions with Ethnicity ranking second, followed by education Age replaces the mass media variable which is dropped In addition are the reasons mentioned for non use of contraceptives by respondents during the 1993, Kenya Demographic and Health Survey

6.4 RECOMMENDATIONS

In the light of the study's findings and the 1993, KDHS reasons for non-use of contraceptives, the following measures are necessary so as to increase the contraceptive prevalence rate in Nyanza Province

Considerable efforts should be made to improve the women's educational levels There is need to expand their educational attainment and literacy levels, raise school enrolment rates for girls and narrow social and gender biased differentials in access to schooling Access to education is likely to shape women's attitudes, towards reproductive health opinions and values, thereby creating favourable atmosphere, hence acceptance of family planning methods.

Population studies, with emphasis on fertility regulation should be introduced in formal educational curriculum in Kenya Informal institutions too, should have access to the above. This helps impart correct and detailed information regarding the said subject, to potential and actual users, thus creation of favourable response towards contraceptive use. In addition to the above, fertility control, programmes need to lay emphasis on campaigns, workshops and

seminars in rural areas to discuss aspects of culture that negatively influence fertility control. Implications of uncontrolled fertility to the welfare of a community and individuals, need also be emphasised This would go a long way in changing collective norms, beliefs and values that influence family planning and contraceptive use within the different ethnic boundaries

While implementing the above, special efforts should also be made to stress men's shared responsibility in birth control In the past fertility regulation services have targeted women, underscoring the persistence ideology of male superiority and authority over contraceptive decision making power Policies and programme that include males increase the likelihood that they will promote contraceptive adoption amongst their families

Successful promotion of fertility regulation emphasizes that family planning programmes take full advantage of mass media particularly, radio and 'live' performed plays, songs and poems This is because well planned mass media have been recognized in the past and present study to influence attitudes and change behaviours on fertility control

The Socio - economic status of the rural folks particularly women calls for improvement, if high contraceptive prevalence rates are to be realized Access to and rewards of employment like financial independence, mobility and visibility, exposes them to new ideas and helps them become more confident and more skillful at interacting in public sphere These are some factors leading to a rise in the cost of child bearing to families, hence desires for small family sizes.

Finally the study recommends to, that family planning services, be brought close to potential and actual users. In rural areas, where government, missionary or private health institutions lack, non- clinical delivery systems such as community based contraceptive distribution should be emphasized

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APPENDIX I: USE OF ANY CONTRACEPTIVE

VARIABLES IN THE EQUATION

VARIABLES IN THE EQUATION STEP No. 1						
VARIABLE	B	S.E.	WALD	Sig	R	EXP(B)
No of children living			17.6516	0.0000	0.2606	
No child	-1.0192	0.2573	15.68448	0.0001	-0.1054	0.3609
children	1.0054	0.1661	36.6327	0.0000	0.1677	2.7329
Constant	-1.7211	0.1336	165.8496	0.0000		
STEP NO 2						
Education			65.5629	0.0000	0.2236	
Primary	0.3585	0.2050	3.0566	1.0804	0.0293	1.4311
Secondary	1.7987	0.2524	50.7758	0.0000	0.1990	6.0419
No of children living			109.2606	0.0000	0.2923	
No child	-1.0797	0.2637	16.7618	0.0000	-0.1095	0.3397
children	1.3676	0.1850	54.6224	0.0000	0.2067	3.9360
Constant	-2.4945	0.2359	111.8166	0.0000		

VARIABLES NOT IN THE EQUATION

VARIABLES	SCORE	DF	Sig	R
Mass Media				
Heard Radio Program on F.P.	23.2534	1	0.0000	0.1314
Spousal communication on FP	16.0096	1	0.0011	0.0902
Discuss FP once/twice	1.0086	1	0.3152	0.0000
More often	3.1269	1	0.0770	0.0302
No partner	12.3877	1	0.0004	0.0918
Education	73.9265	2	0.0000	0.2193
Primary	11.3873	1	0.0007	0.0873
Secondary	71.4533	1	0.0000	0.2373
Religion	0.2545	3	0.8805	0.0000
Protestants	0.0201	1	0.8873	0.0000
Others	0.2541	1	0.6142	0.0000
Ethnicity	37.9995	2	0.0000	0.1662
Luo	33.0023	1	0.0000	0.1587
Kisii	36.0743	1	0.0000	0.1678
Age	0.8530	2	0.6528	0.0000
25-29	0.6112	1	0.4343	0.0000
40-49	0.8290	1	0.3626	0.0000
Marital Status	23.7758	2	0.0000	0.1235
Married	0.7111	1	0.3893	0.0000
Ever Married	13.0148	1	0.0003	0.0946
Employment Working	1.5882	1	0.2076	0.0000
Mass Media				
Heard Radio Program on FP	7.0787	1	0.0078	0.0642
Spousal Communication on FP	9.5874	3	0.0224	0.0540
Discuss FP once/twice	1.2821	1	0.2575	0.0000
More often	1.8622	1	0.1724	0.0000
No partner	6.5327	1	0.0106	0.0607
Religion	0.3887	2	0.8233	0.0000
Protestants	0.0023	1	0.9617	0.0000
Others	0.3483	1	0.5550	0.0000
Ethnicity	30.0107	2	0.0000	0.1453
Luo	23.3398	1	0.0000	0.1316
Kisii	29.8412	1	0.0000	0.1504
Age	0.6858	2	0.7098	0.0000
25-39	0.2439	1	0.6214	0.0000

							40-49	0 6601	1	0 4165	0 0000
							Marital Status	16 5620	1	0 0003	0 1010
							Married	0 3521	1	0 5529	0 0000
							Ever married	0 9.2245	1	0 0024	0.0766
							Employment				
							Working	2 3527	1	0 1251	0 0169
TEP NO 3											
Education			57 9756	0 0000	0 2093		**Mass Media**				
Primary	0 3078	0 2094	2 1600	0 1416	0 0114	1 3604	**Heard Radio**	4 2160	1	0 0400	0 0424
secondary +	1.7018	0 2582	43 4328	0 0000	0 1834	5 4836	Programme on FP				
Ethnicity			29 2269	0 0000	0 1431		**Spousal Communication on FP**	6 2690	3	0 0992	0 0148
Luos	-0 1358	0 3096	0 1922	0 6611	0 0000	0 8730					
Kisius	0 7340	0 3073	5 7054	0 0169	0 0549	2 0833	Discuss FP	1.5179	1	0 2179	0 0000
							conceivance				
Living			106,3854	0 0000	0 2883		More often	2.4767	1	0 1155	0.0197
No child	-1.1909	0 2673	19 8482	0 0000	-0 1204	0 3039	No partner	3 4836	1	0 0620	0 0347
children	1 3038	0 1888	47 7031	0 0000	0 1926	3 6833	**Religion**	1 0853	2	0 5812	0 0000
Constant	-2 6501	0 3715	50 8907	0 0000			Protestants	0 7250	1	0 3945	0 0000
							Others	0 6119	1	0 4341	0 0000
							Age	0 7227	2	0 6967	0 0000
							25-39	0.0903	1	0 7638	0.0000
							40-49	0 5706	1	0 4500	0 0000
							Marital Status	14.3260	2	0 0008	0 0916
							Married	0.2597	1	0.6103	0 0000
							Ever married	7 9075	1	0 0049	0 0693
							Employment				
							Working	0 0150	1	0 9026	0 0000
TEP NO. 4											
Education			52.9110	0 0000	0.1993		**Mass Media**				
Primary	0 2212	0 2130	1.0784	0 2990	0 0000	1 2475	**Heard** Radio	4 0544	1	0 0441	0 0408
Secondary +	1 5900	0 2622	36 7705	0 0000	0.1680	4 9037	Programme on FP				
Ethnicity			26 7919	0 0000	0 1360		**Spousal** communication on FP	6 5590	3	0 0874	0 0213
Luos	-0 1754	0.3097	0 3207	0 5712	0.0000	0 8391					
Kisius	0 6685	0.3074	4.7299	0 0296	0 0471	1 9513	Discuss FP conceivance	1.8469	1	0 1741	0 0000
Marital Status			13 9396	0.0009	0 0898		More often	2 3839	1	0 1226	0 0177
Married	-0 8165	0 3210	6 1689	0 0110	-0 0602	0 4420	No partner	3 4186	1	0 0645	0 0339
Ever married	-1.6067	0 4304	13 9366	0 0002	-0 0984	0 2006	**Religion**	1.3612	2	0 5063	0 0000
Living			83 2370	0 0000	0 2536		Protestants	0 9631	1	0 3264	0 0000
No child	-1 7767	0 3479	26 0822	0 0000	-0 1398	0 1692	Others	0.7111	1	0 3991	0 0000
children	1 4380	0 2015	50 9504	0.0000	0.1994	4 2124	**Age**	2.9697	2	0 2265	0 0000
Constant	-1.7722	0 4658	14 4758	0 0001			25-39	0 0000	1	0 9967	0 0000
							40-49	1 2444	1	0 2646	0 0000
							Employment				
							Working	0 2172	1	0.6412	0.0000

TIP NO 5											
Mass Media							**Spousal communication on FP**				
Heard radio programme on FP	0 3340	0 1662	4 0375	0 0415	0 0407	1 3966		6 7747	3	0 0794	0 0251
							Discuss FP once/twice	1.9327	1	0 1645	0 0000
Education			42 0692	0 0000	0 1758		More often	2 8517	1	0 0913	0 263
Primary	0 1743	0 2149	0 6577	0 4174	0 0000	0 1904	No partner	3 4076	1	0 0649	0 0338
Secondary +	1 4455	0 2714	28 3772	0 0000	0 1463	4 2441	**Religion**	1 4137	2	0 4932	0 0000
Ethnicity			24 2373	0 0000	0 1282		Protestants	0 9843	1	0 3211	0 0000
Luos	-0 1626	0 3108	0 2737	0 6009	0 0000	0 8499	Others	0 7556	1	0 3847	0 0000
Kisii	0.6448	0 3085	4 3683	0 0366	0.04391	1.9056	**Age**	3 0321	2	0 2196	0 0000
Marital Status			13 7944	0 0010	0 0892		25-39	0 0000	1	0 9945	0 0000
Married	-0 8181	0 3216	6 4719	0 0110	-0 0603	0 4413	40-49	1 2562	1	0 2624	0 0000
Ever Married	-1 5997	0 4307	13 7932	0 0002	-0 0979	0 2020	**Employment**				
Living			81 4378	0.0000	0 2508		Working	0 3616	1	0 5476	0.0000
No child	-1 7689	0 3482	25 8078	0.0000	-0 1390	0.1705					
4 children +	1.4196	0 2018	49 4831	0 0000	0 1964	4 1355					
Constant	-1 8710	0 4708	15 8294	0 0001							

APPENDICES
MODERN CONTRACEPTIVE USE

VARIABLES IN THE EQUATION

VARIABLE	B	S E	WALD	SIG	R	EXP(B)
STEP No. 1						
No of children living			736449	0 0000	0.2539	
No child	-3.1716	0 7227	19 2576	0 0000	-0 1264	0 0419
4 children +	1 1736	0.1801	42 4783	0.0000	0 1936	3 2335
Constant	-2 0188	0 1490	183 4873	0 0000		

VARIABLES NOT IN THE EQUATION

VARIABLE	SCORE	DF	SIG	R
Mass Media				
Hear Radio Program on F.P.	20 3923	1	0 0000	0 1305
Spousal communication on FP	12 0077	3	0 0074	0 0746
Discuss FP once/twice	0 2128	1	0 6446	0 0000
More often	1 4651	1	0 2261	0 0000
No partner	9 8752	1	0 0017	0 0854
Education	54 6115	2	0 0000	0.2164
Primary	7.0070	1	0 0081	0 0681
Secondary +	53 1327	1	0 0000	0 2176
Religion	0 4046	2	0 8169	0.0000
Protestants	0 4002	1	0.5290	0 0000
Others	0 0476	1	0 8273	0.0000
Ethnicity	66.7281	2	0.0000	0 2410
Luo	63.5682	1	0 0000	0 2387
Kisii	59 3792	1	0 0000	0 2305
Age	1.7206	2	0.4230	0 0000
25-29	0 8691	1	0.3512	0.0000
40-49	0 0265	1	0 8707	0 0000
Marital Status	12 4682	2	0 0020	0 0885
Married	3 8997	1	0 0483	0 0419
Ever Married	10 2540	1	0 0014	0 0874
Employment				
Working	0 7909	1	0 3738	0 0000
STEP NO 2				
Ethnicity			61.7329	0 0000	0 2112	
Luos	-0.9847	0.3125	9.9275	0 0016	-0 0857	0 3736
Kisii	0 4714	0 3023	2 4310	0 1190	0 0200	1 6022
No of children Living			69 7604	0 0000	0 2467	
No child	-3.4066	0.7246	22.1041	0.0000	-0 1364	0.0332
4 children +	1 1155	0 1864	35 8085	0 0000	0 1769	3.0511
Constant	-1 7393	0 2998	33 6635	0.0000		

VARIABLES NOT IN THE EQUATION

VARIABLE	SCORE	DF	SIG	R
Mass Media				
Heard Radio Programme on FP	10 8767	1	0.0010	0.0906
Spousal Communication on FP	4 9777	3	0 1734	0 0000
Discuss FP once/twice	0 3592	1	0 5489	0 0000
More often	2.0105	1	0 1562	0 0031
No partner	3.9122	1	0 0479	0 0421
Education	41 4737	2	0 0000	0 1862
Primary	7.4604	1	0 0063	0.0711
Secondary +	40 6593	1	0 0000	0 1892
Religion	0 7953	2	0 6719	0 0000
Protestant	0 6045	1	0 4369	0 0000
Others	03760	1	05397	0 0000
Age	2 4757	2	0 2900	0 0000

							25-39	1.0990	1	0.2945	0.0000
							40-49	0.0089	1	0.9250	0.0000
							Marital Status	9.7715	2	0.0076	0.0731
							Married	3.2337	1	0.0721	0.0338
							Ever married	8.4042	1	0.0037	0.0770
							Employment				
							Working	3.5167	1	0.0608	0.0375
STEP NO 3											
Education			38.2226	0.0000	0.1780		**Mass Media**				
Primary	0.2148	0.2250	0.9113	0.3398	0.0000	1.2396	Heard Radio	3.4259	1	0.0642	0.0360
Secondary +	1.5418	0.2841	29.4481	0.0000	0.1594	4.6730	Programme on FP				
Ethnicity			53.0442	0.0000	0.2131		**Spousal Comm. on FP**	2.5078	3	0.4739	0.0000
Laos	-0.7673	0.3261	5.5094	0.0189	-0.0570	0.4642					
Kisiis	0.6155	0.3166	3.7809	0.0518	0.0406	1.8506	Discuss FP	0.4027	1	0.5257	0.0000
							once/twice				
No. of children Living			83.5599	0.0000	0.2714		More often	1.1875	1	0.2758	0.0000
No child	-3.4137	0.7269	22.0552	0.0000	-0.1362	0.0329	No partner	1.6093	1	0.2046	0.0000
4 children	1.4628	0.2087	49.1382	0.0000	0.2089	4.3179	**Religion**	0.4245	2	0.8088	0.0000
Constant	-2.5572	0.3889	43.2475	0.0000			Protestants	0.2461	1	0.6198	0.0000
							Others	0.2825	1	0.5951	0.0000
							Age	3.8612	2	0.1451	0.0000
							25-39	0.0028	1	0.9576	0.0000
							40-49	1.6401	1	0.2003	0.0000
							Marital Status	7.1380	2	0.0282	0.0539
							Married	2.0532	1	0.1519	0.0070
							Ever married	6.0031	1	0.0143	0.0609
							Employment				
							Working	1.8071	1	0.1789	0.0000
STEP NO. 4											
Education			35.2798	0.0000	0.1702		**Mass Media**				
Primary	01383	0.2279	0.3681	0.5440	0.0000	1.1483	Heard Radio	3.2872	1	0.0698	0.0345
Secondary +	1.4436	0.2870	25.3026	0.0000	0.1469	4.2357	Programme on FP				
Ethnicity			51.2512	0.0000	0.2091		**Spousal communication on FP**	1.7177	3	0.6330	0.0000
Laos	-0.8024	0.3275	6.0026	0.0143	-0.609	0.4482					
Kisiis	0.5640	0.3172	3.1608	0.0754	0.0328	1.7577	Discuss FP	0.6167	1	0.4323	0.0000
							once/twice				
Marital Status			6.9031	0.0317	0.0518		More often	0.8365	1	0.3604	0.0000
Married	-0.4294	0.4043	1.1283	0.2881	0.0000	0.6509	No partner	0.6789	1	0.4100	0.0000
Ever married	-1.2229	0.5131	5.6796	0.0172	-0.0584	0.2944	**Religion**	0.5157	2	0.7727	0.0000
No. of children Living			71.5062	0.0000	0.2500		Protestants	0.2822	1	0.5953	0.0000
No child	-3.7388	0.7785	23.0666	0.0000	-0.1396	0.0238	Others	0.3606	1	0.5482	0.0000
4 children	1.5268	0.2225	47.0692	0.0000	0.2042	4.6035	**Age**	6.5526	2	0.0378	0.0486
Constant	-2.0136	0.5288	14.4993	0.0001			25-39	0.0022	1	0.9627	0.0000

							40-49	1.2611	1	0.1061	0.0238
							Employment				
							Working	2.0099	1	0.1563	0.0030
STEP NO. 5											
Education			36.7677	0.0000	0.1742		**Mass Media**				
Primary	0.2775	0.2371	1.3703	0.2418	0.0000	1.3198	Heard Radio	3.4539	1	0.0631	0.0367
Secondary +	1.5995	0.3010	28.2434	0.0000	0.1559	4.9606	Programme on FP				
Ethnicity			51.5002	0.0000	0.2097		**Spousal Comm on FP**	1.9900	3	0.5745	0.0000
Luos	-0.7509	0.3283	5.2321	0.0222	-0.0547	0.4719					
Kisii	0.6257	0.3190	3.8461	0.0499	0.0413	1.8695	Discuss FP	0.4670	1	0.4944	0.0000
							More often	1.2197	1	0.2694	0.0000
Age			6.4667	0.0394	0.0478		No partner	0.9533	1	0.3289	0.0000
25-39	0.6358	0.3224	3.8878	0.0486	0.0418	1.8884	**Religion**	0.4536	1	0.7971	0.0000
40-49	0.9833	0.3869	6.4571	0.0111	0.0642	2.6732	Protestants	0.1522	1	0.6964	0.0000
Marital Status			9.4064	0.0091	0.0707		Others	0.3968	1	0.5289	0.0000
Married	-0.6682	0.4272	2.4465	0.1178	-0.0203	0.5126	**Employment**				
Ever Married	-1.5507	0.5370	8.3405	0.0039	-0.0766	0.2121	Working	1.4609	1	0.2268	0.0000
No. of children living			41.5705	0.0000	0.1865						
No child	-3.6622	0.7824	21.9083	0.0000	-0.1357	0.0257					
4 children	1.1681	0.2611	20.0138	0.0000	0.1291	3.2159					
Constant	-2.3044	0.5439	17.9490	0.0000							