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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DEDICATION

To my late brothers, Paul A. Osirio and Joshua O. Osirio, who passed away at the prime of their ages, not able to reap the fruits of their hard work.
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I extend my sincere appreciation to the University of Nairobi for having granted me a full-time scholarship which enabled me to study at the Population Studies and Research Institute.

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Finally, glory be to God Almighty for His continuous provision of strength, courage and wisdom that saw me through the whole course.
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, divorced) 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 Medrol
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
OLS - 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
IDHS - 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 shortfalls 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 provinces 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, Iloromay, 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 Kuna 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
decided 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 parity 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 its 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 etc. 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 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
The utilisation of the roads vary according to the level of economic activities in the surrounding areas.

Kisii, Suaya 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

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, patriarchy, women's and men's situational advantage. Ca'ent sees patriarchy 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 Kuna 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 recent 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 household 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 its inhabitants to compete in the national economy (UNICEF, 1992).

For historical, political and cultural reasons different communities manifest different degrees of entrepreneurship. 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 23.8%, it is 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 practices 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.
To examine the effects of demographic factors such as age, marital status and the number of children living on contraceptive use

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 Bongaarts 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 anemia, pills help prevent ectopic pregnancies, endometrial 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 Intrauterine Device (IUD) most widely used, is a small flexible frame with copper wire or copper sleeves 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 - 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 quality of breast milk and can be inserted immediately after child birth or after induced abortion. Finally, it 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-Medroxyprogesterone acetate - DPMA given every 3 months and NETTEN - also called noristerat. Norethindrone enanthate and norethisterone enanthate given every 2 months. Monthly injectable contraceptives include Cycloferm, Cycloprovera and Mesgyna. The most commonly used is the DPMA which contains progesterin 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 tablets, 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 follaripian 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 FS 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 prevent pregnancy for at least 5 years. It may prove to be effective longer. The Norplant implants thicken 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 involves counting 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 behaviour during these fertile days. They can thus abstain from vaginal intercourse. This is also referred to as periodic abstinence and Natural Family Planning (NFP). Second, 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 couple's 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 mobility. All these educational assets have a pervasive influence on women's lives, shaping both production and reproductive roles (Kesarda et al., 1989; Eiseman, 1987; Devries, 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...
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 Bolivia, 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 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 Philippines, 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, 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...
The 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 contribute 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 increase 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 Bank's 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 Hastenic, 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 on women's education and employment status in Kinshasa, Zaire, revealed that employees have the highest prevalence of Lifetime 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-employed or non-employed. Women at the University level essentially did not appear to differ.
include 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

Cultural studies by the practices of sub-Saharan 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 its
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
they would grow up to be successful enough to support the family and also promote it’s name
(long or 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 situation 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 jealousy and envy prevail 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 marriage 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 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 accessing family planning services without their husbands consent.
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 husband's 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 notion 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
tertility 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 sensational 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
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 intrauterine device with the rhythm method being the least used. The pill was by far the leading method among the Protestants and Catholics 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 75%. White wives reporting no religious affiliation were similar to the Jewish wives in the 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 of black Catholic couples. A much more equal division between male and female sterilization among both white Protestant and Catholic couples was observed. The study concludes that religious differences are not anti-facts of an incomplete demographic transition, religion has is indispensable for understanding contraceptive choice in the United States. (Mosher and Goldscheider, 1984)
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One frequently cited barrier to more widespread adoption of Family Planning in Muslim 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 favor 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 Lakshipur, 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 principles, indicators of reproductive health in countries of the Middle East were reviewed and the way these related to constraints on 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 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 (NCPI 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 sung 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 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 ‘entertainment education approach’, for promoting family planning messages in developing countries. It is believed to be a key factor in strengthening 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 composition 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 had higher knowledge scores and were more likely to have talked about family planning.
their spouses than those who had not listened (Thomas, 1994).

Development agencies, health educators and media specialists, have agreed that radio reaches a larger 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

entertainment.

Availabilty of evidence for media produced effects on important health care the mentioned reports raises concerns. For example, the Mexican song about responsibility mentioned earlier does not show credible evidence of the effects it has educ and behaviour. The above mentioned Nigerian study which includes the evidence for behavioural change, makes use of time series, data on clinic attendance, a substantial increase in demand associated with the introduction of soap opera and its messages 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 and success, but their design are not sufficiently vigorous to withstand methodological challenge. Finally, the way these programmes effect behavioural change may be inconsistent with the relatively 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. Indeed, 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 hierarchy 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).

### 3.3 Spousal Communication about Family Planning

More recently attention has been given to studying the determinants of contraceptive use of 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 on 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 Colombia, 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 spouse’s 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 of 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 ligation, investigation found that effective couple communication was predictive of vasectomy. Couples choosing vasectomy over tubal ligation 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. 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 its 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 relationship 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 (Ezech, 1993). In Ghana the husband's preference was unrelated to his wife's characteristics, but the wife's preference was influenced by her husband's 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 its 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...

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 51.4% to 32.9% among the 40-44 and 45-49 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% and 13.4% 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 8.2%. This decreased with various age groups, that is 35-39 - (8.1%), 30-34 - (5.9%), 25-29 - (3.3%), 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 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 marriage implies a short reproductive period, while the opposite, low age at marriage and 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,
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 coital 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 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).

A possible 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
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 fertility so as to avoid unwanted pregnancy.
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 its 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 CPR for women with three children and those with five and above at 54.2% 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 began 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 older cohorts (35-49) generally start using contraception at high parities 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. These 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 fetal 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 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 includes 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 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 conception) 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 pregnancy 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), and 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 as 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 Gichubi (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.
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 use 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.

10. DEFINITIONS OF SOME KEY CONCEPTS IN THE STUDY

2.1 Dependent Variable

Contraception is the prevention of pregnancy or conception  The means used to prevent or 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 recognizes 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 person's 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 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 events like births and deaths occur. This work concentrates on the ages 15 -55. 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 respondents 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 Planning 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 was to examine the basic indicators of maternal and child health in the country.
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, weighted figures were then used. Thus selection of a sample that was adequately representative and administratively manageable using a two-stage, stratified technique, were some of the measures taken to achieve high quality data at this
Accurate mapping of households was yet another precaution taken to achieve the above goal. For example, a systematic sample of households was selected from CBS 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 fieldwork emphasis was laid on good quality and reliable data.

Eligibility 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 to spend one month in training. In total, they were 12 supervisors, 11 field editors and 12 female and 12 male interviewers. In addition, were district population officers assisting in local 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 contraceptives without the knowledge of their partners. Despite the weakness mentioned, quality of data in the said survey was good and reasonable.

DATA ANALYSIS TECHNIQUES

Distributions, cross tabulations, chi-square test and logistic regression are techniques employed in this research for quantitative data analysis. These techniques are 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-cultural factors 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 determinative 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 measure of associations such as contingent co-efficient, which describe the degree the values of one variable predict or vary with those of the other variables (Herzon, 1980).
**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 (H₀).

In computing $X^2$, several steps are to be observed namely:

(i) The null hypothesis (H₀) 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 (H₀) is accepted or rejected after the value of the calculated $X^2$ is compared with the tabulated value of $X^*$.

The null hypothesis (H₀) is rejected only when the calculated value of $X^2$ is equal to or more than the tabulated value of $X^*$ at the specified level of significance using the stated degrees of freedom (d.f.) (Siegel, 1956)

### 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 dichotomous, 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 Lemeshow, 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 occurring
- \( e \) = the base of the natural logarithms, \( e \approx 2.718 \)
- \( \beta \) = 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:

\[ \text{Logit } P(x) = \ln \left( \frac{P(x)}{1 - P(x)} \right) = x + \sum \beta_i x_i \]

Where \( x + \sum \beta_i x_i \) 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 definition 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 $\beta$ divided by $1-\beta$ where $\beta$ denotes the 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 $-\infty$ to $\infty$, thereby eliminating the problem that $e^\beta$ 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 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 change in the independent variable.

Bivariate technique of multiple logistic regression is a whole, that is made up of parts which can be simple or bivariate regression coefficients. This whole is greater than the sum of its parts. This is especially true when a large number of variables are investigated.
regression coefficients among the variables involved (McCullagh and Nelder, 1983)

\( g(X) = \beta_0 + \beta_1 X_1 + \ldots + \beta_p X_p \)

in which case

\[ \Pi(X) = \frac{e^{\theta(X)}}{1 + e^{\theta(X)}} \]

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 levels, then K-1 dummy variables can be denoted as \( D_{j1}, D_{j2}, \ldots, D_{jK-1} \) and the coefficients for the dummy variable can be denoted as \( B_{j1}, B_{j2}, \ldots, B_{jK-1} \). Thus the logit for a model with \( P \) variables and the \( j \)th variable being discrete would be:

\[ g(X) = \beta_0 + \beta_1 X_1 + \ldots + \sum B_{j1} D_{j1} + B_{j2} X_2 + \ldots + B_{jK-1} X_{K-1} + B_p X_p \]

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.

Unlike 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 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 coefficient of interest by its standard error. This test statistic is roughly normal (0,1) or 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 its maximum likelihood coefficient and its standard error. Several packages also compute the Chi-square statistic and a P-value.

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

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>No. of cases</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modern methods</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using modern methods</td>
<td>193</td>
<td>15.3</td>
</tr>
<tr>
<td>Not using modern methods</td>
<td>1071</td>
<td>84.7</td>
</tr>
<tr>
<td>Total</td>
<td>1264</td>
<td>100</td>
</tr>
<tr>
<td>Socio-economic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educational status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No education</td>
<td>241</td>
<td>19.1</td>
</tr>
<tr>
<td>Primary Education</td>
<td>800</td>
<td>63.3</td>
</tr>
<tr>
<td>Secondary Education</td>
<td>223</td>
<td>17.6</td>
</tr>
<tr>
<td>Total</td>
<td>1264</td>
<td>100</td>
</tr>
<tr>
<td>Employment status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working</td>
<td>797</td>
<td>63.1</td>
</tr>
<tr>
<td>Not working</td>
<td>466</td>
<td>36.9</td>
</tr>
<tr>
<td>Total</td>
<td>1264</td>
<td>100</td>
</tr>
<tr>
<td>Socio-cultural</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Luo</td>
<td>682</td>
<td>50.5</td>
</tr>
<tr>
<td>Kisi</td>
<td>480</td>
<td>35.6</td>
</tr>
<tr>
<td>Others</td>
<td>188</td>
<td>13.9</td>
</tr>
<tr>
<td>Total</td>
<td>1350</td>
<td>100</td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catholics</td>
<td>438</td>
<td>32.4</td>
</tr>
<tr>
<td>Protestants</td>
<td>782</td>
<td>57.9</td>
</tr>
<tr>
<td>Others</td>
<td>130</td>
<td>9.6</td>
</tr>
<tr>
<td>Total</td>
<td>1350</td>
<td>100</td>
</tr>
<tr>
<td>Mass Media</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heard radio programme on Family Planning</td>
<td>564</td>
<td>44.7</td>
</tr>
<tr>
<td>Not heard radio Programme on Family Planning</td>
<td>686</td>
<td>54.3</td>
</tr>
<tr>
<td>Total</td>
<td>1350</td>
<td>100</td>
</tr>
<tr>
<td>Spousal Communication about Family Planning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>257</td>
<td>19.1</td>
</tr>
<tr>
<td>Once or Twice</td>
<td>45</td>
<td>3.3</td>
</tr>
<tr>
<td>More often</td>
<td>230</td>
<td>17.0</td>
</tr>
<tr>
<td>No Partner</td>
<td>818</td>
<td>60.6</td>
</tr>
<tr>
<td>Total</td>
<td>1350</td>
<td>100</td>
</tr>
</tbody>
</table>
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, Siaya, and Mwanza, the surveyed districts, were employed.

According to the table 4.1, almost half of the people surveyed in the province were Luos. At the other Socio-cultural factor religion shows that a large proportion among the marched were Protestants at 57.9%. The "others" category which included (the Muslims the respondents with no religion) formed the minority. Radio programmes on family

on the other hand come out as fairly popular, 54.3% of the targeted population had heard such programmes.

Source: KDHS, 1993
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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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.

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

<table>
<thead>
<tr>
<th>Contraceptive use status</th>
<th>Employment status</th>
<th>Total No. of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not working</td>
<td>Working</td>
</tr>
<tr>
<td>Using</td>
<td>163</td>
<td>20.7</td>
</tr>
<tr>
<td>Not using</td>
<td>83</td>
<td>79.3</td>
</tr>
<tr>
<td>Total No. of cases</td>
<td>466</td>
<td>797</td>
</tr>
</tbody>
</table>

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 often 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 depend on 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>
<thead>
<tr>
<th>Contraceptive use status</th>
<th>Educational status</th>
<th>Total No. of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No Education</td>
<td>Primary Education</td>
</tr>
<tr>
<td>Using</td>
<td>18.7</td>
<td>15.0</td>
</tr>
<tr>
<td>Not using</td>
<td>81.3</td>
<td>85.0</td>
</tr>
<tr>
<td>Total No. of cases</td>
<td>241</td>
<td>800</td>
</tr>
</tbody>
</table>

Chi-square 4.17433 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, sensible 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 the education of wives. For instance, an increase of 71.1% for women with secondary and tertiary training was observed from 5% for the uneducated women (Caldwell, 1968).
In Poland Mazur found that 74.7% of currently married women with secondary education were current users of contraception whereas 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.

<table>
<thead>
<tr>
<th>Contraceptive use status</th>
<th>Ethnicity</th>
<th>Total No. of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Luo</td>
<td>Kisiis</td>
</tr>
<tr>
<td>Using</td>
<td>13.5</td>
<td>27.3</td>
</tr>
<tr>
<td>Not using</td>
<td>86.5</td>
<td>72.7</td>
</tr>
<tr>
<td>Total No. of cases</td>
<td>682</td>
<td>480</td>
</tr>
</tbody>
</table>

Chi-square DF Sig level
34.922 54  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 Kisiis, 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 mind-set that many children are a source of security in future.
A study by Keraka, associated the high contraceptive 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.

<table>
<thead>
<tr>
<th>Contraceptive use status</th>
<th>Religion</th>
<th>Total No. Of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Catholics</td>
<td>Protestants</td>
</tr>
<tr>
<td>Using</td>
<td>18.7</td>
<td>19.1</td>
</tr>
<tr>
<td>Not using</td>
<td>81.3</td>
<td>80.6</td>
</tr>
<tr>
<td>Total No. of cases</td>
<td>438</td>
<td>782</td>
</tr>
</tbody>
</table>

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 (NCPI) 1989-1993) Goldschelder and Mosler (1984) too, support the above view that different religious denominations influence contraceptive use.

Religion makes one recognize a superhuman controlling power especially of God, which inspires 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.

<table>
<thead>
<tr>
<th>Contraceptive use status</th>
<th>Mass media</th>
<th>Total No. of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not heard Radio Programme on FP</td>
<td>Head Radio programme on FP</td>
</tr>
<tr>
<td>Using</td>
<td>14.3</td>
<td>24.5</td>
</tr>
<tr>
<td>Not using</td>
<td>85.7</td>
<td>75.5</td>
</tr>
<tr>
<td>Total No. of cases</td>
<td>686</td>
<td>564</td>
</tr>
</tbody>
</table>

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 campaigns have indeed been able to change reproductive behaviour (Rogers et al.,
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.

<table>
<thead>
<tr>
<th>Contraceptive use status</th>
<th>Spousal communication about family planning</th>
<th>Total No. of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Never discuss</td>
<td>Once or twice</td>
</tr>
<tr>
<td>Using</td>
<td>28.1</td>
<td>16.3</td>
</tr>
<tr>
<td>Not using</td>
<td>71.9</td>
<td>83.7</td>
</tr>
<tr>
<td>Total No. of cases</td>
<td>249</td>
<td>43</td>
</tr>
</tbody>
</table>

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 frequent communication between spouses on fertility regulation contributes to
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.

<table>
<thead>
<tr>
<th>Contraceptive use status</th>
<th>15-19</th>
<th>20-24</th>
<th>25-29</th>
<th>30-34</th>
<th>35-39</th>
<th>40-44</th>
<th>45-49</th>
<th>Total No. of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using</td>
<td>82</td>
<td>128</td>
<td>215</td>
<td>296</td>
<td>282</td>
<td>286</td>
<td>241</td>
<td>1023</td>
</tr>
<tr>
<td>Not using</td>
<td>918</td>
<td>872</td>
<td>785</td>
<td>704</td>
<td>718</td>
<td>714</td>
<td>759</td>
<td></td>
</tr>
<tr>
<td>Total No. of cases</td>
<td>318</td>
<td>258</td>
<td>181</td>
<td>191</td>
<td>110</td>
<td>119</td>
<td>79</td>
<td>1264</td>
</tr>
</tbody>
</table>

Chi - square DF Sig Level
936 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 thereafter 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 are 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. Almroth 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 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. 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.

<table>
<thead>
<tr>
<th>Contraceptive use status</th>
<th>No. of children living</th>
<th>Total No. of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No children</td>
<td>1-3 children</td>
</tr>
<tr>
<td>Using</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6.1</td>
<td>15.2</td>
</tr>
<tr>
<td>Not using</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>93.9</td>
<td>84.8</td>
</tr>
<tr>
<td>Total No. of cases</td>
<td>363</td>
<td>435</td>
</tr>
</tbody>
</table>

Chi-square DF Sig Level
101 29424 3 . 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 Caldwell's 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.

Likewise, data from the 1980s and 1990s Demographic and health surveys of Brazil, Jordan, Egypt 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.

<table>
<thead>
<tr>
<th>Contraceptive use status</th>
<th>Marital status</th>
<th>Total No. Of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Never married</td>
<td>Married</td>
</tr>
<tr>
<td>Using</td>
<td>11.1</td>
<td>23.8</td>
</tr>
<tr>
<td>Not using</td>
<td>88.9</td>
<td>76.2</td>
</tr>
<tr>
<td>Total No. of cases</td>
<td>223</td>
<td>802</td>
</tr>
</tbody>
</table>

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 to 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.

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Log odds</th>
<th>LRX²</th>
<th>d.f</th>
<th>Significance</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Children</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Living</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 - 3 Children</td>
<td>Ref</td>
<td>102.942</td>
<td>2</td>
<td>0.0000</td>
<td>1.000</td>
</tr>
<tr>
<td>4 Children +</td>
<td>1.4196</td>
<td>1</td>
<td>0.0000</td>
<td>4.1355</td>
<td>0.1705</td>
</tr>
<tr>
<td>No children</td>
<td>-1.7689</td>
<td>1</td>
<td>0.0000</td>
<td>0.1705</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Education</td>
<td>Ref</td>
<td>42.408</td>
<td>2</td>
<td>0.0000</td>
<td>1.000</td>
</tr>
<tr>
<td>Secondary +</td>
<td>1.4455</td>
<td>1</td>
<td>0.0000</td>
<td>4.2441</td>
<td>1.1904</td>
</tr>
<tr>
<td>Primary</td>
<td>0.1743</td>
<td>1</td>
<td>0.4174</td>
<td>0.8499</td>
<td></td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>Ref</td>
<td>24.406</td>
<td>2</td>
<td>0.0000</td>
<td>1.000</td>
</tr>
<tr>
<td>Turkana</td>
<td>0.6448</td>
<td>1</td>
<td>0.0366</td>
<td>1.9056</td>
<td></td>
</tr>
<tr>
<td>Luo</td>
<td>-0.1626</td>
<td>1</td>
<td>0.6009</td>
<td>0.8499</td>
<td></td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never Married</td>
<td>Ref</td>
<td>15.041</td>
<td>2</td>
<td>0.0010</td>
<td>1.000</td>
</tr>
<tr>
<td>Married</td>
<td>-0.8181</td>
<td>1</td>
<td>0.0110</td>
<td>0.4413</td>
<td>0.2020</td>
</tr>
<tr>
<td>Widows separated</td>
<td>-1.5997</td>
<td>1</td>
<td>0.0002</td>
<td>0.2020</td>
<td></td>
</tr>
<tr>
<td>Married Media</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>House hold Radio F P Program</td>
<td>Ref</td>
<td>4.037</td>
<td>1</td>
<td>0.0445</td>
<td>1.3966</td>
</tr>
<tr>
<td>Radio Program</td>
<td>0.3340</td>
<td>0.0445</td>
<td>1</td>
<td>1.3966</td>
<td></td>
</tr>
</tbody>
</table>

Constant: -1.8710 standard Error: 0.4703

Source: Preliminary analysis of Nyanza Province, 1993 KDHS Data
<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Log Odds</th>
<th>LRX²</th>
<th>d.f</th>
<th>Significance</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of children living</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 - 3 children.</td>
<td>Ref</td>
<td>68.003</td>
<td>2</td>
<td>0.0000</td>
<td>1.000</td>
</tr>
<tr>
<td>4 children +</td>
<td>1.1681</td>
<td>1</td>
<td>0.0000</td>
<td>3.2159</td>
<td></td>
</tr>
<tr>
<td>No children</td>
<td>-3.6622</td>
<td>1</td>
<td>0.0000</td>
<td>0.0257</td>
<td></td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>Ref</td>
<td>54.606</td>
<td>2</td>
<td>0.0000</td>
<td>1.000</td>
</tr>
<tr>
<td>Kisi</td>
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<td>1</td>
<td>0.0499</td>
<td>1.8695</td>
<td></td>
</tr>
<tr>
<td>Luo</td>
<td>-0.7509</td>
<td>1</td>
<td>0.0222</td>
<td>0.4719</td>
<td></td>
</tr>
<tr>
<td>Education</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>No education</td>
<td>Ref</td>
<td>36.954</td>
<td>2</td>
<td>0.0000</td>
<td>1.000</td>
</tr>
<tr>
<td>Secondary +</td>
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<td>1</td>
<td>0.0000</td>
<td>4.9506</td>
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</tr>
<tr>
<td>Primary</td>
<td>0.2775</td>
<td>1</td>
<td>0.2418</td>
<td>1.3198</td>
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</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never Married</td>
<td>Ref</td>
<td>10.429</td>
<td>2</td>
<td>0.0091</td>
<td>1.000</td>
</tr>
<tr>
<td>Married</td>
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<td>0.1178</td>
<td>0.5126</td>
<td></td>
</tr>
<tr>
<td>Widowed</td>
<td>-1.5507</td>
<td>1</td>
<td>0.0039</td>
<td>0.2121</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 - 24</td>
<td>Ref</td>
<td>6.542</td>
<td>2</td>
<td>0.0478</td>
<td>1.000</td>
</tr>
<tr>
<td>25 - 49</td>
<td>0.9833</td>
<td>1</td>
<td>0.0111</td>
<td>2.6732</td>
<td></td>
</tr>
<tr>
<td>35 - 39</td>
<td>0.6358</td>
<td>1</td>
<td>0.0486</td>
<td>1.8884</td>
<td></td>
</tr>
</tbody>
</table>

Constant: -2.3044 Standard Error: 0.3439

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 otherwise, 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 a 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 terms of their non-use of family planning facilities. Kyalo is in agreement with the above finding, 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 19 and 34% 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 70% and 78% respectively. The single men turned out to be the highest users of the condom at 78%. 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 conception (Lutalo et al., 2000).

The reasons behind the poor use of contraceptives by married women could be husbands involved (given that Nyanza is an area where culture still has a strong hold in people’s lives, the issue of superiority of the husband over their wife’s reproductive health) other against fertility regulation include side effects and non - availability of Family
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 seriousness 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 finding is 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 contraceptives at 4.9506 compared to any method of family planning which scored slightly less at 4.2441. The Tables 4.3 and 4.4 show 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 opens up economic opportunities and provides a vehicle for social mobility. 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 use contraceptives compared to the Bantus.

Cultural values, have been blamed on the Luo’s negative attitude to fertility regulation. 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 result 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, localization, 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 Luo. 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 its 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 a negative 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

<table>
<thead>
<tr>
<th>Reasons for non use Contraceptives</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wants children</td>
<td>22.1</td>
</tr>
<tr>
<td>Side effects</td>
<td>10.0</td>
</tr>
<tr>
<td>Fears of sterility</td>
<td>1.5</td>
</tr>
<tr>
<td>Other health concerns</td>
<td>4.2</td>
</tr>
<tr>
<td>Inconvenient</td>
<td>1.8</td>
</tr>
<tr>
<td>Difficult to get pregnant</td>
<td>22.0</td>
</tr>
<tr>
<td>Menopausal/had hysterectomy</td>
<td>12.0</td>
</tr>
<tr>
<td>Partner opposed to F P</td>
<td>3.9</td>
</tr>
<tr>
<td>Respondent opposed to F P</td>
<td>3.9</td>
</tr>
<tr>
<td>Other people opposed to F P</td>
<td>0.2</td>
</tr>
<tr>
<td>Lack of knowledge</td>
<td>5.3</td>
</tr>
<tr>
<td>Hard to get methods</td>
<td>0.2</td>
</tr>
<tr>
<td>Religion</td>
<td>6.6</td>
</tr>
<tr>
<td>Fatalistic</td>
<td>1.5</td>
</tr>
<tr>
<td>Other</td>
<td>2.2</td>
</tr>
<tr>
<td>Don't know</td>
<td>1.3</td>
</tr>
<tr>
<td>Missing</td>
<td>0.2</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100.0</td>
</tr>
<tr>
<td>NUMBER</td>
<td>1045</td>
</tr>
</tbody>
</table>

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 contraceptive 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 aged 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 larger 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 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 sponges/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 (depomedroxyprogesterone 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 IUD, 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 its 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. 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, KDIHS, used the indicator of menopause to encompass currently married women who are neither pregnant nor postpartum amenorrheic, 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 insusceptibility, infertility and anxiety neurosis.

Postpartum amenorrhea and insusceptibility, 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 in fact responsible for 33% of all cases. In men, causes of infertility include, developmental normality 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 active spermatozoa (Hector and Bourne, 1974). In women, abnormalities in the endocrine ke-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.

Phobias neurosis refers to worries amongst the couple on their own fertility and conception. Phobias may make it difficult for the wife to conceive. It is assumed that over anxiety on the part of a wife can cause spasm of some parts of the genital tract, may be the tube thereby zing 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

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<thead>
<tr>
<th>VARIABLE</th>
<th>B</th>
<th>SE</th>
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<th>P</th>
<th>SIG.</th>
<th>EXP(B)</th>
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<td>No of children</td>
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<td>0.2573</td>
<td>15.68448</td>
<td>0.0001</td>
<td>0.1034</td>
<td>0.3609</td>
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<tr>
<td>Use of contraception</td>
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<td>36.6327</td>
<td>0.0000</td>
<td>0.1677</td>
<td>2.7329</td>
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<td>0.1336</td>
<td>16.58486</td>
<td>0.0000</td>
<td>0.02606</td>
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### VARIABLES NOT IN THE EQUATION

<table>
<thead>
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<th>DF</th>
<th>SIG.</th>
<th>R</th>
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<tbody>
<tr>
<td>Mass Media</td>
<td>23.2534</td>
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<td>0.1214</td>
</tr>
<tr>
<td>Board Radio Program on F.P.</td>
<td>16.0096</td>
<td>1</td>
<td>0.0011</td>
<td>0.0902</td>
</tr>
<tr>
<td>Spousal communication on F.P</td>
<td>12.0016</td>
<td>1</td>
<td>0.0031</td>
<td>0.0000</td>
</tr>
<tr>
<td>More offices</td>
<td>11.269</td>
<td>1</td>
<td>0.0077</td>
<td>0.0502</td>
</tr>
<tr>
<td>No partner</td>
<td>8.3877</td>
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<td>0.0004</td>
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</tr>
<tr>
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</tr>
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<td>Religion</td>
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<td>0.0000</td>
</tr>
<tr>
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<td>0.0000</td>
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<td>0.1899</td>
<td>0.0100</td>
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<td>Employed Spouse</td>
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<td>1</td>
<td>0.2076</td>
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</tr>
</tbody>
</table>

### SEP NO 2

| Education | 65.5629 | 0.2326 |
| Library | 0.3585 | 0.0203 |
| Primary | 1.7987 | 0.2524 |
| Higher | 0.0797 | 1.2637 |
| Child | 1.3676 | 0.1850 |
| Constant | 2.4945 | 0.2359 |

<p>| Mass Media | 7.0787 | 1 | 0.0078 | 0.0842 |
| Board Radio Program on F.P. | 9.5874 | 3 | 0.0224 | 0.0540 |
| Spousal Communication on F.P | 12.2821 | 1 | 0.1257 | 0.0000 |
| More offices | 1.8622 | 1 | 0.1724 | 0.0000 |
| No partner | 6.5327 | 1 | 0.0016 | 0.0607 |
| Religion | 0.3897 | 2 | 0.8231 | 0.0000 |
| Protestant Church | 0.0023 | 1 | 0.9617 | 0.0000 |
| Others | 0.3483 | 1 | 0.5550 | 0.0000 |
| Ethnicity | 30.0107 | 2 | 0.0000 | 0.1433 |
| Luo | 21.1398 | 1 | 0.0000 | 0.1716 |
| Kikuis | 29.9411 | 1 | 0.0000 | 0.1504 |
| Age | 0.6858 | 2 | 0.7098 | 0.0000 |
| 25-39 | 0.2439 | 1 | 0.6214 | 0.0000 |</p>
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<th>Education</th>
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<th>Secondary</th>
<th>Ethnicity</th>
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<td>0.1993</td>
</tr>
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<td>Media</td>
<td>40-49</td>
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<td>0.0415</td>
</tr>
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<td>Status</td>
<td>Married</td>
<td>Married</td>
<td>Ever</td>
</tr>
<tr>
<td>Status</td>
<td>Married</td>
<td>Married</td>
<td>Ever</td>
</tr>
<tr>
<td>Living</td>
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<td>0.3096</td>
<td>0.1922</td>
</tr>
<tr>
<td>No child</td>
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<td>0.2673</td>
<td>0.1932</td>
</tr>
<tr>
<td>Marital</td>
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<td>0.0610</td>
<td>0.0000</td>
</tr>
<tr>
<td>Status</td>
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<td>1.5179</td>
<td>0.0197</td>
</tr>
<tr>
<td>Status</td>
<td>Married</td>
<td>Married</td>
<td>Ever</td>
</tr>
<tr>
<td>Status</td>
<td>Married</td>
<td>Married</td>
<td>Ever</td>
</tr>
</tbody>
</table>

| Living     | -0.1754 | 0.3097 | 0.3207 | 0.0712 | 0.0000 | 0.0000 |
| No child   | -0.6667 | 0.2073 | 0.3226 | 0.0000 | 0.0000 | 0.0000 |
| Marital    | -0.8167 | 0.3210 | 0.6718 | 0.0000 | 0.0000 | 0.0000 |
| Status     | Married | Married | Ever | Married | Employed | Working |
| Status     | Married | Married | Ever | Married | Employed | Working |

| Living     | 0.2172 | 0.0610 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| No child   | 1.4380 | 0.2015 | 0.5050 | 0.0000 | 0.0000 | 0.0000 |
| Marital    | -1.7722 | 0.4658 | 1.4751 | 0.0000 | 0.0000 | 0.0000 |
| Status     | Married | Married | Ever | Married | Employed | Working |
| Status     | Married | Married | Ever | Married | Employed | Working |
### TEP NO 5

<table>
<thead>
<tr>
<th>Main Media</th>
<th>Spread communication on FP</th>
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<tr>
<td><strong>M-1</strong></td>
<td>0.340</td>
</tr>
<tr>
<td><strong>M-2</strong></td>
<td>0.174</td>
</tr>
<tr>
<td><strong>M-3</strong></td>
<td>1.455</td>
</tr>
<tr>
<td><strong>M-4</strong></td>
<td>0.174</td>
</tr>
<tr>
<td><strong>M-5</strong></td>
<td>0.644</td>
</tr>
<tr>
<td><strong>M-6</strong></td>
<td>13.794</td>
</tr>
<tr>
<td><strong>M-7</strong></td>
<td>-0.818</td>
</tr>
<tr>
<td><strong>M-8</strong></td>
<td>-1.997</td>
</tr>
<tr>
<td><strong>M-9</strong></td>
<td>81.437</td>
</tr>
<tr>
<td><strong>M-10</strong></td>
<td>1.419</td>
</tr>
<tr>
<td><strong>M-11</strong></td>
<td>-1.371</td>
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<table>
<thead>
<tr>
<th>Spread communication on FP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FP</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spread communication on FP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diaspora FP</strong></td>
</tr>
<tr>
<td><strong>Mourners</strong></td>
</tr>
<tr>
<td><strong>No partner</strong></td>
</tr>
<tr>
<td><strong>Religious</strong></td>
</tr>
<tr>
<td><strong>Protestants</strong></td>
</tr>
<tr>
<td><strong>Others</strong></td>
</tr>
<tr>
<td><strong>Age</strong></td>
</tr>
<tr>
<td><strong>20-29</strong></td>
</tr>
<tr>
<td><strong>40-49</strong></td>
</tr>
<tr>
<td><strong>Employment</strong></td>
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<table>
<thead>
<tr>
<th>Spread communication on FP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Working</strong></td>
</tr>
</tbody>
</table>

### Notes
- The table includes various media types and their spread communication on FP.
- Different categories such as Diaspora FP, Mourners, No partner, Religious, Protestants, Others, Age, Employment, and Working are listed.
- The table format allows for easy comparison and analysis of data.
- The values are captured with high precision, indicating detailed analysis and research.
### APPENDICES

#### MODERN CONTRACEPTIVE USE

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>B</th>
<th>S.E.</th>
<th>W.A.L.D.</th>
<th>SIG.</th>
<th>R</th>
<th>EXP(H)</th>
<th></th>
<th>VARIABLE</th>
<th>SCORE</th>
<th>DF</th>
<th>SIG.</th>
<th>R</th>
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<tbody>
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<td><strong>No of children living</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No child</td>
<td>-3.1716</td>
<td>0.7227</td>
<td>19.2576</td>
<td>0.0000</td>
<td>-0.1264</td>
<td>0.0419</td>
<td>3.2335</td>
<td></td>
<td>Mass Media</td>
<td>20.3923</td>
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<td>0.0000</td>
</tr>
<tr>
<td>4 children</td>
<td>1.1736</td>
<td>0.1801</td>
<td>42.4713</td>
<td>0.0000</td>
<td>0.1936</td>
<td>0.1176</td>
<td>1.7796</td>
<td></td>
<td>Heard Radio on F.P.</td>
<td>12.0077</td>
<td>3</td>
<td>0.0074</td>
</tr>
<tr>
<td>Constant</td>
<td>-20.188</td>
<td>0.1490</td>
<td>183.4873</td>
<td>0.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **Ethnicity** | | | | | | | | | | | | |
| Luo | -0.9847 | 0.3125 | 9.9275 | 0.0016 | -0.0857 | 0.3736 | | Mass Media | 10.8767 | 1 | 0.0010 | 0.0596 |
| Kastra | 0.4714 | 0.3023 | 2.4310 | 0.1190 | 0.0200 | 1.6022 | | Radio Programme on F.P. | 4.9777 | 3 | 0.1734 | 0.0000 |
| **No of children living** | | | | | | | | | | | | |
| No child | -3.4066 | 0.7246 | 22.1041 | 0.0000 | -0.1364 | 0.0332 | | Discussion F.P. on work | 0.3592 | 1 | 0.5489 | 0.0000 |
| 4 children | 11.155 | 0.1864 | 35.8085 | 0.0000 | 0.1769 | 3.0511 | | More often | 2.0105 | 1 | 0.1562 | 0.0031 |
| Constant | -1.7393 | 0.2998 | 33.6625 | 0.0000 | | | | | | |

<p>| <strong>Education</strong> | | | | | | | | | | | | |
| No partner | 3.9122 | 0.0479 | 0.0421 | | | | | | | |
| Primary | 41.4737 | 2 | 0.0000 | 0.1862 | | | | | | | |
| Secondary | 40.6593 | 1 | 0.0000 | 0.1892 | | | | | | | |
| <strong>Religion</strong> | | | | | | | | | | | | |
| Protestant | 0.6045 | 0.4369 | 0.0001 | | | | | | | |
| Others | 0.3760 | 0.0397 | 0.0000 | | | | | | | |
| <strong>Age</strong> | | | | | | | | | | | | |
| 2.4757 | 0.2903 | 0.0000 | | | | | | | |</p>
<table>
<thead>
<tr>
<th>Education</th>
<th>Primary</th>
<th>Secondary + Ethnicity</th>
<th>Mass Media Heard Radio Programm e on FP Spousal Comm. on FP</th>
<th>Mass Media Heard Radio Programm e on FP Spousal Communic ation on FP</th>
</tr>
</thead>
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<td>STEP NO 3</td>
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<td></td>
<td></td>
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| 0.1522 | 1 | 0.6964 | 0.0000 |
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| 4.4609 | 1 | 0.2268 | 0.0000 |
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