

**ANALYSIS OF CONSUMER CHOICE ON CONTRACEPTIVE
USE AS A TOOL FOR IMPROVING FAMILY WELFARE IN
MERU DISTRICT**

**ANALYSIS OF CONSUMER CHOICE ON CONTRACEPTIVE
USE AS A TOOL FOR IMPROVING FAMILY WELFARE IN
MERU DISTRICT**

By

Selina Thadei

**A dissertation submitted in the partial fulfillment of the requirements for the
degree of Masters of Science Economics in Project Planning and Management
of Mzumbe University**

2013

CERTIFICATION

We, the undersigned, certify that we have read and hereby recommend for acceptance by the Mzumbe University, a dissertation entitled, **Analysis of consumer choice on contraceptive use as a tool for improving family welfare in Meru district** in fulfillment of the requirement for the Masters degree of science Economics in Project Planning and Management at Mzumbe University.

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Accepted for the board of Faculty of Social Science

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It is not possible to mention everyone by name therefore, I am duty bound to express my sincere and heartfelt gratitude for whoever helped me in any way to accomplish this work. I give my special thanks to all of them who by any means have contributed to the success of this dissertation.

DEDICATION

I would like to dedicate this work to my parents and my siblings Prof Thadeo Mokiti and Dr Frida Mokiti, Mercy Salim, Semmy Thadeo and Susan Thadei and respondents who played a great role in the completion of my studies.

This study is also dedicated to the Meru District Health Center especially the district reproductive officer for her comments, assistance and kindheartedness during the whole period of data collection.

ABBREVIATIONS

FP	Family planning
HIV/AIDS	Human immunodeficiency virus / acquired immune deficiency syndrome
HL	Hosmer Lemeshow
LR	Likelihood ratio
MOHSW	Ministry of Health and Social Welfare
ML	Maximum Likelihood
URT	National Bureau of Statistics
NGO's	Non- Governmental Organizations
UNFPA	United Nations Population Fund

ABSTRACT

This study analyzed consumer choice on contraceptive use and its implications on family welfare in Meru district. The study had two main research questions: what guides the consumer choice to use family planning and how does the use of family planning help in improving family welfare. The study used cross sectional study design and simple random sampling technique was used to obtain a sample of 100 individuals whose data was collected through face to face interviews.

Based on descriptive data among economic variables; that were strongly associated with family planning were income and education specifically data revealed that university education has high percent contribution about 60% to family planning choice. Among demographic variables; that were strongly associated with family planning were age, gender and family size specifically data revealed female (75%) are the ones who access family planning than male, among social cultural factors; that were strongly associated with family planning were social networks and gender role specifically data revealed 65 respondents agreed that social network influenced their family planning choice, among perceived benefits; that were strongly associated with family planning were development needs and mothers health specifically data revealed that development 56 respondents needs guided their choice towards family planning. Based on the regression results, the economic factors that were important in determining family planning were distance at 10% significance level and education at 10% level. With regard to perceived benefits which were pooled into the same variable it was significant at 1% level.

Based on the findings the study suggests that to make a successful move towards controlling population, family planning education is inevitable. This is to say there is a need to incorporate element of family planning for economic development when providing family planning education. It must make people perceive family planning beyond child spacing and more important incorporate how it affects family's economic status.

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CHAPTER ONE

BACKGROUND AND PROBLEM STATEMENT

1.1 Background of the Study

(i) The Concept of Family Planning

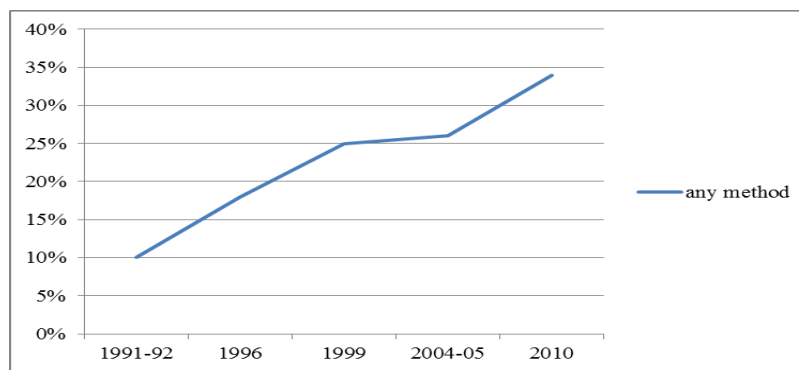
Family Planning (FP) is the scheduling of when to have children, and the use of birth control and other techniques to implement such plans. Other techniques commonly used include sexuality education, prevention and management of sexually transmitted infections, pre-conception counseling and management, and infertility management (www.wikipedia.com). FP prevents abortion and is a leading strategy in reducing low-weight births, and fetal and infant mortality (Marrazo, 2012). FP services are defined as "educational, comprehensive medical or social activities which enable individuals to determine freely the number and spacing of their children and to select the means by which this may be achieved"(www.wikipedia.com).

(ii) Contraceptive Prevalence

Contraceptive prevalence rate is the percentage of women who are practicing, or whose sexual partners are practicing, any form of contraception. Contraceptive prevalence has increased dramatically in the last five decades (Scott and Glasier, 2006). Since 1994, the use of FP by married couples has globally increased from 55% to around 61%, with a growth rate of at least one percent annually in 68 percent of countries with available data; and by at least two percent in 15% of these countries (UNFPA, 2004). FP use varies regionally, ranging from about 25 percent in Africa to nearly 65 percent in Asia (where China raises the average due to her high population of 1,354,040,000), and 70 percent in Latin America and the Caribbean and in the developed regions. When China (with a large population and high prevalence) is left out of the calculations, only 46 percent of married women in Asia are using contraception (UNFPA, 2004).

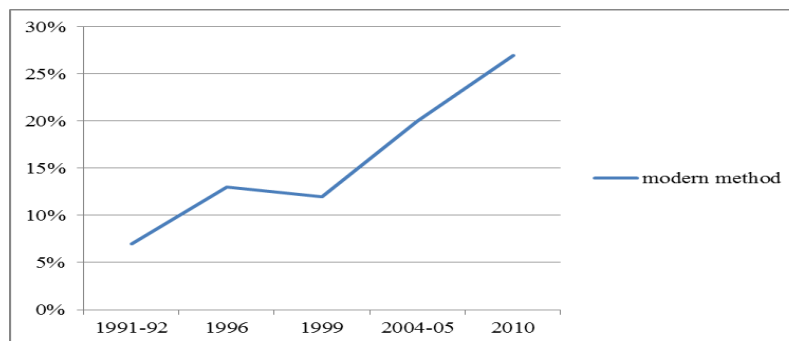
In the least-developed countries (LDC's), the average is much lower (UNFPA 2004). For example in Africa by 2005 Mauritius, Tunisia, Morocco and South Africa were the leading countries with the percent use among women aged 15-49 being 76, 66, 63 and 60 respectively (Appendix one) (www.africapedia.com). From the same source Guinea, Angola, Sierra Leone and Chad had the least prevalence with 7, 6, 4, 3 percent respectively. In Tanzania, 34 percent of currently married women are using a method of contraception. There has been a steady increase of contraceptive use among currently married women from 1991-2010, from 10% in the 1991-92 to 34% in 2010. (URT, 2010). The use of modern methods of contraception increased by 20%, from seven (7) percent in 1991-92 to 27% in 2010 (Figures 1 and 2) (URT,2010)

Figure 1.1: Trend on contraceptive use any method 1991-2010



Source: URT, 2010

Figure 1.2: Trend on contraceptive use modern method 1991-2010



Source: URT 2010

Current contraceptive use is higher among sexually active unmarried women than among married women (51 and 34 percent, respectively), primarily due to the use of male condoms and injection (16 and 15 percent, respectively) (URT, 2010).

(iii) Factors Affecting Contraceptive Prevalence

Feyisetan (2000) explains that among the various factors, the positive causes of contraception prevalence can be classified into two general groups: demand side and supply side. These two groups are related and affect each other. Demand referred to the group of people who desire to avoid pregnancy and usually based on the women and couples. The demand factors include a series of demographic and socioeconomic variables such as age of the women, women employment, education, urban and rural residence and the economic condition of the family (Bertrand *et al.*, 2001). They explain that the background of demand side is very important. The level of practicing contraception depends on individual background or individual's status including level of education, occupation, ownership social economic status (Bertrand *et al.*, 2000).

Supply refers to all of the support in practicing contraception including accessibility of contraceptive services, quality of services, including social, physical and cultural factors. The contraceptive or supply side has an important role upon the augmentation of contraception (Feyisetan, 2000).

Factors limiting FP prevalence include among others widespread misconceptions and concerns about side-effects, low acceptance of long-acting methods, lack of accessible services and erratic supplies, gaps in provider knowledge and skill. Others include limited male involvement, poor communication between spouses, perceived value of large families, lack of knowledge about the safety, effectiveness and availability of choice and financial constraints (www.pathfind.org, 2008).

Clearly the use of contraceptive is positive associated with the desire to cease childbearing for both sexes. Improved access to and use of family planning methods

would enable women to reduce closely spaced birth (www.guttmatcher.com). Rahim, (2011) explains that family planning is not meant to be used to limit the number of children a family has, or not to have any children at all, but to space out the interval between pregnancies, in order to promote maternal and child health. He further argues that contraceptive use is meant to arrange for the cost of living. If a family is too big, the parents might not be able to afford to give their children all that they need,” he says (Chin, 2011).

Single women also use birth control for different reasons. Anonymous (2011) says I’m 19 and a virgin, and I use birth control to regulate my periods and reduce my cramps. I also use it for acne control. It will also be handy when getting a boyfriend and having sex, as we will not need to worry about condoms, Wolf 22 years also gave the same reason (www://answers.yahoo.com/question, 2011).

(iv) Benefits of Using Contraceptive

The health benefits of contraceptive use are substantial. Contraceptives prevent unintended pregnancies, reduce the number of abortions, and lower the incidence of death and disability related to complications of pregnancy and childbirth (www.guttmatcher.com). The long-term benefits range from increased education for women and better child health to greater family savings and stronger national economies. Women who can delay childbearing until their 20s enhance their chances of staying in school. The positive effects of increased education on women's status, their ability to find paying jobs, and the welfare of their children and families have been well documented (www.guttmatcher.com).

Increased contraceptive use and reduced unmet need for contraception are central to achieving three of the United Nations Millennium Development Goal improving maternal health, reducing child mortality and combating HIV/ AIDS and contribute directly or indirectly to achieving all eight goals (Singh and Darroch 2012). Women who

practice family planning can avoid high-risk births. In fact, there is a strong negative correlation between levels of contraceptive use and levels of infant mortality. In countries where fewer than 10% of women use a modern contraceptive method, the average infant mortality rate is 100 deaths per 1,000 live births, compared with 79 per 1,000 in countries where 10-29% of women use a method and 52 per 1,000 in countries where 30% or more do so (www.guttmacher.com).

Controlling the number of people will make the land more productive. With the proper use of contraception in third world countries, the population would be able to use their lands in a more productive manner. There would be more food available to the citizens. Smaller populations with more food available will be healthier (Noej, 2011).

(v) Benefits of Family Planning at Household Level

According to Ahmad (2011) of the National Population and Family Development Board Human Reproductive Division, the benefits of planned parenthood, at household level are classified into four categories, “Firstly, it’s for the health of the mother, so that she has enough time to recover after giving birth. Family planning reduces maternal death and morbidity, and decreases induced abortion, sexually transmitted diseases and certain gynaecological cancer types. “Secondly, it is for the health of the baby, so that his or her chances of survival are better. Pregnancy spacing of less than two years might increase the risk of premature delivery and low birth weight, leading to neonatal death.” “Thirdly, it’s for the wellness of the family, and harmony of husband and wife.” She explains that bringing up children is a challenge to couples financially and emotionally. Husband and wife also need private time together to strengthen their relationship. “And fourthly, it is for the benefit of all the family’s children, so that the parents have enough time to take care of all of the them well,” she says Family planning is also for the benefit of the children, so that their learning and development needs can be properly taken care of (Chin, 2011).

1.2 Statement of the Problem

It is evident that use of contraceptive goes far beyond child spacing itself. Practicing contraceptive means families will eventually grow smaller, which has substantial impact in increasing family welfare by increasing the ability of the parents to save in children education, health, and provide other necessary needs. Reproductive health is a key facet of human development (The World Bank's Reproductive Health Action Plan: 2010-2015). Improved reproductive health outcomes, lower fertility rates, improved pregnancy outcomes, and lower sexually-transmitted infections (STIs), have broader individual, family, and societal benefits, including a healthier and more productive work force; greater financial and other resources for each child in smaller families and as a means for enabling young women to delay childbearing until they have achieved educational and other goals (The World Bank's Reproductive Health Action Plan: 2010-2015). However, the extent to which these factors have been the driving force for consumers of contraceptive seems not well established. Literature to date indicates that women in Africa society have traditionally practiced fertility regulation not for the purpose of family size limitation but rather for birth spacing, with the objective of enhancing the health and thus the survival probability for each child (Lamptey et al., 1999). Therefore there is a need to understand on the factors that determine the consumer's choice on contraceptive use particularly with regard to those that seem to benefit the individual and the family. However, the level to which FP influences family's welfare does not seem to have been investigated sufficiently.

1.3 Research Questions

1.3.1 Main Research Questions

- i. What guides the consumer choice to use FP?
- ii. How does the use of FP help in improving family welfare?

1.3.2 Sub-research Questions

- i. (a) To what extent do economic factors specifically income, distance and education influence consumers' choice in FP?
(b) To what extent do demographic factors specifically age, sex and family size influence consumers' choice in FP?
(c) To what extent do socio-cultural factors specifically beliefs and religion influence consumer's choice in FP?
(d) To what extent do perceived benefits of using FP influence consumers' choice in FP?
- ii. What is the influence of FP in improving the welfare of families in terms of education, health and income

1.4 Objectives of the Study

1.4.1 General Objective

The main objective of the study was to examine the determinants of consumer choice on FP use and its implication in improving family welfare

1.4.2 Specific Objectives

The specific objectives of the study were:

- i. To assess the influence of economic factors specifically income, distance and education consumers' choice in FP.
- ii. To assess the influence of demographic factors specifically age, sex and family size consumers' choice in FP.
- iii. To assess the influence of socio-cultural factors specifically beliefs and religion consumer's choice in FP.
- iv. To assess the influence of perceived benefits on consumers' choice in FP.
- v. To assess the influence of FP in improving the welfare of families in terms of education, health and income.

1.5 Purpose, Significance, and Scope of the Study

The study explored the reason why people choose to use FP and its implication on family welfare at Meru district. The significance of this study is, it is conducted as the partial fulfillment of successfully award of the Masters Degree of Science Economics in Project Planning and Management. The study also reveals the importance of FP which goes far beyond child spacing and provides the finding that will be useful in implementing the World Bank's Reproductive health Action Plan (2010-2015). With regard to the scope, the study focused on what guides consumer to choose to use FP and how that choice does affects the welfare of their families.

1.6 Limitation of the Study

This study was faced with several challenges including reluctant to answer by some of the respondents especially for the male thus few male respondents, in addition some of the respondents expected to be paid, Thus become difficult to get information from them. Some claim that they are tired to answer researcher questions since none of their problems have been solved. In addressing them, the researcher elaborated more on the purpose of the study and had to educate the male that FP is a both gender matter so they should regard it as an important element in both their social and economic life.

CHAPTER TWO

LITERATURE REVIEW

2.1 Theoretical Review

2.1.1 Introduction

FP means a program to regulate the number and spacing of children in a family through the practice of contraception or other methods of birth control, Use of measures designed to regulate the number and spacing of children within a family, largely to curb population growth and ensure each family's' access to limited resources (www.answers.com, N.D).

2.2 Types of Family Planning Methods

FP refers to use of modern contraceptives or natural techniques to limit or space pregnancies. Modern methods of contraception include the short term methods, long term methods and permanent methods. Traditional methods include periodic abstinence, withdrawal and folk methods (URT 2011).

(i) Traditional methods

a) Periodic Abstinence

The most effective method of contraception is complete abstinence. As a contraceptive technique, abstinence is ultimately 100 percent effective and offers additional protection against sexually transmitted infections (www.livestrong.com).

b) Withdrawal

The withdrawal method is one of the world's oldest family planning techniques. Withdrawal prevents conception by preventing sperm from entering the vagina and for it to work effectively; the man must fully withdraw his penis from his partner's vagina before he ejaculates (MayoClinic.com, N.D). However, this method is not completely effective; sperm may leak if withdrawal is improperly timed. In some cases, viable

sperm may also appear in pre-ejaculatory fluid, leading to an unplanned pregnancy (www.livestrong.com).

c) Rhythm Method

Also known as the calendar method it works by predicting the days in which a woman is most fertile. To use this technique, a woman must chart her menstrual history for several months in order to anticipate the dates in which she is ovulating. A woman using this technique must abstain from unprotected sex on the days during which she is most fertile. The rhythm method can be somewhat effective, but it requires careful record-keeping and diligent adherence to the technique (www.livestrong.com).

d) Cervical Mucus Method

Like the rhythm method, the cervical mucus method of family planning works by predicting the days in which a woman is most fertile. During ovulation, the consistency of cervical secretions will change to accommodate conception. A woman can determine her level of fertility by consistently documenting the color, texture and consistency of her vaginal mucus. The cervical mucus method is reliable only if a woman is intimately familiar with her own body and if the couple consistently uses other contraceptive techniques during fertile days (www.livestrong.com).

(ii) Modern Methods

a) Short Term Methods

Short term methods are methods that take short time to have immediate effect. They can be highly effective for couples who want to delay or space pregnancies, have reasonable access to sources of supply, and use them consistently and correctly. They include oral contraceptive pills, injections, and condoms (Ashford, 2008).

Oral contraceptive pills are the most popular temporary method of contraceptive in most of the world (Ashford, 2008). The pills contain hormones and are taken daily in monthly cycles, they work by stopping a woman from releasing an egg each month. The advantages of using contraceptive pills are to ensure regular or less heavy monthly periods and protects against some cancers. Pills have minimum side effects such as nausea, vomiting, headache, dizziness and slight weight gain and breast tenderness (www.psi.org.tz).

Hormonal injections are given once per three months and they are easy to use. They are considered to be more discreet about using a contraceptive than other methods as they are not taken every day (Ashford, 2008). Injection works by preventing ovulation, and the release of an egg from the ovary and also the ripening of the egg. If no egg is released, no pregnancy can occur. The hormone also thickens the mucus in the cervix, making it difficult for sperm to enter the uterus (Alspaugh, 2009). Injections can cause a decrease in menstrual cramps, lessen the chance of anemia, irregular menstrual periods, heavier or lighter periods, loss of menstrual periods, weight gain (estimated that women gain about 5 pounds each year for the first 3 years). But you can help maintain your weight by eating a healthy diet and getting regular exercise, breast tenderness, headaches, possible bone loss (www.youngwomenshealth.org, 2011).

A male latex condom is a method that protects against both pregnancy and sexually transmitted infections, including HIV/AIDS. Although, condoms have gained popularity since the early 1990s because of the occurrence and spread of the HIV/AIDS epidemic, unfortunately, only about 4 percent of married couples have been reported using condoms in developing countries. Some couples use both condoms and another method to prevent pregnancy (Ashford, 2008).

b) Long Term Reversible Methods

Long term reversible methods include Intrauterine devices and hormonal implants. Intrauterine device is a small copper and plastic device which is inserted in the uterus by a trained health provider (Ashford, 2008). Women have little to do once the method is in place; they can use it from 1 to 12 years, and they can become pregnant after the device is removed. Women can use this method to space pregnancies or to stop childbearing, as long as they return to a provider for removal or replacement (www.psi.org.tanzania, N.D).

Hormonal implant is a small plastic rod about the size of a matchstick which is inserted in the arm under the skin on the inside of a woman's upper arm (Ashford, 2008). Implants are not widely available or used around the world, they account for one (1) percent or fewer users in most countries (Ashford, 2008). Implants have higher manufacturing costs than other methods, making it harder for governments and programs to afford them. Implants offer an alternative hormonal method for women who cannot or do not want to return to clinics or pharmacies often for supplies. New implants coming to the market promise to be both cheaper and easier for providers to use (Ashford, 2008). Also the other benefits of the long term methods are that there are more than 99% effective in preventing pregnancy (www.psi.org/tanzania).

c) Permanent Methods

Permanent methods include female sterilization (tubectomy) and male sterilization (vasectomy). They are surgical procedure which prevents pregnancy. In woman's the fallopian tubes are blocked or cut to prevent pregnancy and for male is the surgical cutting and sealing of part of each vas deferens especially as a means of sterilization. Male sterilization is one of the least known and used methods, although it is simpler, safer, and less expensive than female sterilization (Ashford, 2008). These methods have several advantages: One-fourth to one-third of married women relies on sterilization in

Asia and Latin America and the Caribbean, but only small percentages choose sterilization in northern and sub-Saharan Africa. Less than 1 percent of couples use it in the vast majority of developing countries (Ashford, 2008). China is an exception, with 7 percent of couples reporting using the method. Male sterilization is more common in developed countries, and exceeds female sterilization in some, including the United Kingdom and the Netherlands (Ashford, 2008).

2.3 Cost and Benefits of Family Planning use

Benefits of FP extend beyond a woman's improved health. Spaced births and fewer pregnancies improve child survival. Women also have greater access to education and employment opportunities when they control their fertility, which can enhance their own and their families' economic status (<http://www.psi.org/our-work/healthy-lives/reproductive-health>).

Today, women make up 40 percent of the global workforce, and they are becoming an increasingly important part of the world's formal workforce as they shift from agricultural work to industry and service sector jobs. This shift has brought new challenges and stresses to both family and working life. As the traditional caregivers in many societies, women have borne the brunt of the adjustment (USAID, 2005). There is a need to help women balance the competing demands of work and family responsibilities, yielding benefits for themselves, their families, and nation.

- a) FP is an essential element in controlling population growth and promoting human capital. It is also important in population control. United Nations expects the population of the world to continue to grow until at least 2050, adding 2.7 billion to the 2005 population of 6.5 billion. Nearly all of this future growth will occur in the developing world, where population size is projected to increase from 5.3 to 7.9 billion between 2005 and 2050. (In contrast, in the developed world, population size is forecast to remain virtually stable until 2050.) Despite declining fertility rates, large increases in population are expected in Africa by

1.1 billion, Asia by 1.3 billion and Latin America by 0.2 billion (Boongarts *et al.*, 2009).

- b) It improves health of families by reducing high-risk pregnancies, allows sufficient time for women's body to recover, and allows each pregnant to be wanted and avoid abortion. By controlling the size of the family parents are able to provide necessary needs to their children such as education, food and health care. It also allows women to pursue their activities and fully participation in the society in which both turns to economic growth (www.psi.org.tanzania).
- c) FP is beneficial in increasing the level of economy, reducing population growth and poverty alleviation which will results to good standard of living (Boongarts *et al.*, 2009). Ever since Malthus, pessimists have believed that mankind is doomed due to overpopulation and overconsumption, while optimists have argued that technological innovation will improve standards of living and that population growth is at most a minor issue (Boongarts *et al.*, 2009). While this renewed debate at the global level receives widespread media attention, another less visible but equally important discussion of the impact of demographic trends and policy options is underway among the leaders of the least- developed countries. A large majority of these leaders agree that population growth and birthrates are too high. Potential adverse effects include poor health among women and children, slow economic growth and poverty, overcrowded schools and clinics and an overburdened infrastructure, as well as the depletion of environmental resources (Boongarts *et al.*, 2009). In addition, high unemployment and inequality among rapidly growing young populations may contribute to the spread of political violence and civil strife (Boongarts *et al.*, 2009).

- d) FP is important in poverty reduction because low fertility implies increase in investment in individual children thus contributing to poverty reduction (Merrick, 2002), it also decrease poverty by increasing women's ability to work for pay thus increases family's ability to save and protect itself from unexpected dips in income.
- e) FP helps controlling unintended fertility (mistimed or unwanted), early childbearing causes poverty by disrupting schooling, employment opportunities, unwantedness affects the way pregnancies/children are cared for and invested in, induced abortion performed illegally contributes hugely to young women's morbidity and may have lasting effects on their health and wellbeing (Merrick *et al.*, 2005). High fertility increases morbidity and therefore reduces schooling; it reduces girls' schooling by increasing gender discrimination.

In summing up FP is highly cost-effective as the cost of averting births is small in comparison with the savings those averted births represent to families and countries (Bongaarts *et al.*, 2009). Furthermore, few public health interventions are more important or less expensive than contraceptive in reducing the morbidity and mortality of mothers, infants and young children. FP programs are a development bargain (Bongaarts *et al.*, 2009). They have a major and unambiguous impact on fertility rates in many countries. In some countries, fertility fell from very high levels to replacement level within one generation, a previously unheard- of decline that could not have occurred so rapidly in the absence of the modern technologies and delivery systems offered by such programs (Singh *et al.*, 2003)

The cost of FP use are;

- a) FP is often quite costly to individuals in terms of commodities (pills, condoms, Intrauterine devices, etc.), transportation, and provider fees for contraceptives

and health care services, even when subsidies are provided by the government (Bongaarts *et al.*, 2009). In addition, there are significant non-economic costs, such as health concerns, social disapproval and spousal resistance, as well as unnecessary medical barriers (Bongaarts *et al.*, 2009).

- b) FP methods are said to have many side effects such as vomiting, nausea, headache, over bleeding, irregularity in menstrual cycle, cancer results to excessive use of pills (ww.wikipedia.com).

2.4 Linkage between Family Planning and Family Welfare

Studies have shown that there is a positive correlation between contraceptive use and family welfare. For example if a woman practices FP she will be able to control the family size thus have enough time for leisure and be able to engage in productive activities so as to earn income for the family wellbeing. Improvement in contraceptive use has helped women to plan and space their pregnancies, which have positive implications for the health of pregnant women and newborns, as well as the economic and social well-being of families (Wind, 2011).

FP is one of the most cost-effective health interventions in the developing world. For decades, research has shown that for a relatively modest investment, FP saves lives and improves maternal and child health (Gribble and Voss, 2009). Although it seems intuitive that investing in FP would also lift families out of poverty by helping poor women have fewer children, there have been relatively few studies to shed light on this relationship (Gribble and Voss, 2009). A study on Bangladesh provides evidence that long-term investment in an integrated FP and maternal and child health program contributes to improved economic security for families, households, and communities through larger incomes, greater accumulation of wealth, and higher levels of education (Gribble and Voss, 2009). Expanding access to FP can also lead to smaller families and slower population growth. Families, communities, and countries in the developing world

are better able to meet the educational, health, and employment needs of young people when the population is growing at a moderate pace (Kent, 2010).

Similarly a study in Thailand, where rapid socio-economic development is taking place, an assessment of the impact of a reduced number of children on family economic well-being found that families with few children have accumulate wealth, participate in new forms of consumption and thus have more material possessions and better quality houses. In terms of welfare of the children, empirical evidence, from both developed and developing regions showed a negative link between the educational attainment of the children and the size of the family (<http://www.wikipedia.com>). Indeed my personal observation among members of my clan shows that parents with more than four children are not able to provide for their children compared to the families with fewer children.

For families the greatest aspect of family planning is control. By using family planning techniques, couples can choose when they want to have children, they can choose the time that they are more capable of caring for the children, both mentally and financially. This can allow children to be raised in a less stressful environment, which sometimes accompanies unplanned pregnancies. Conscious family planning will aid a decision to purchase and/or sell a home in a particular area. Depending on the desired growth of your family, what kind of schools parents want their children to attend and the cost of living, will better be able to choose a home that will suit the needs of their complete family. Education improvement in terms of the partner is a vital consideration for family planning. Seeking a degree or certification takes time, energy and money. Planning a family according to these demands will enable to complete family member's education in time.

Planning a family on your own terms can be extremely advantageous to your family's financial situation, both present and future. Employing methods of birth control for periods of financial struggle, while setting money aside for unseen hardships (infertility, illness, loss of income) during times of prosperity will help you avoid the financial

anxiety an unplanned pregnancy may bring (Starcks, 2012). Currently for many African families, a single income is not enough to sustain the financial burden. If both parents in a household work and will continue to do so, it's vital that the spare time each has is spent nurturing the growth of the children. This becomes increasingly more difficult as more children are added to the household. (Starcks, 2012).

Population control. One of the most prominent and reported side effects of family planning is population control. As every person consumes resources, continuous growth can mean that some people could potentially run out of basic resources. Around 1000 AD, the world human population was approximately 100 million people compared to seven billion people now. Global family planning can help control the world's rapidly rising population. (Johson, 2012)

2.5 Theories used

Most of the commonly used theories and models in health behavior are based on a social cognition approach. These include the Health Belief Model, Social Cognitive Theory, the Theory of Reasoned Action along with the later Theory of Planned Behavior, and Protection Motivation Theory. Underlying many of the social cognition models is expectancy-value theory (de Wit 2004; Conner 2005). While individuals make subjective assessments of probability (expectancy) and value (utility), those assessments are combined in a rational way for decision-making.

For the purpose of this study combination of consumer behavior theory and social cognitive theory will be used. The Social Cognitive Theory states that current behaviors, thoughts and emotions, and environment all interact to affect new behavior (Bandura 1986; Baranowski 2002). It contributed the construct of self-efficacy, that is, confidence in one's ability to undertake a specific behavior.

Lopez *et al.*, (2011) used social cognition approach. Their review focuses on affecting contraceptive use, included trials had to report at least one of the primary outcomes,

pregnancy (test or self-reported), choice of contraceptive, initiation of, or change in, contraceptive use, adherence to contraceptive regimen, continuation of contraception and the Secondary outcomes which are knowledge of contraceptive effectiveness, attitude about contraception in general or about a specific, contraceptive method. They base on contraceptive information, counseling sessions, communication, education, contraceptive method chosen, choice.

Schiffman and Kanuk (1997) define consumer behavior as “the behavior that consumer displays in searching for purchasing, using, evaluating and disposing products, services and ideas. Schiffman and Kanuk (1997) further elaborated on their definition by explaining that consumer behavior is also the study of how individual make decisions to spend their available resources (time, money, effort) on consumption related items.

Consumer behavior is a complex process involving the activities people engage in when seeking for, choosing, buying, using, evaluating and disposing of products and services with the goal of satisfying needs, wants and desires (Belch and Belch, 2004). A number of factors; both internal and external have been found to influence consumer behaviour. These factors range from shortterm to long-term emotional concerns (Hirschman, 1985; Hoch and Loewenstein, 1991).

The FP use choice is often influenced by such characteristics as education, place of residence, wealth and economic status, cultural norms, age, perception, quality of the service, knowledge and attitude towards FP.

2.6 Empirical Review

Tehran *et al.*, (2001) used a logistic regression model, and it was found that age, women's level of education, husbands' level of education and previous familiarity with contraceptive methods were the most significant factors influencing contraceptive use. In Indonesia 931 married women were survey to assess the effect of FP use and fertility

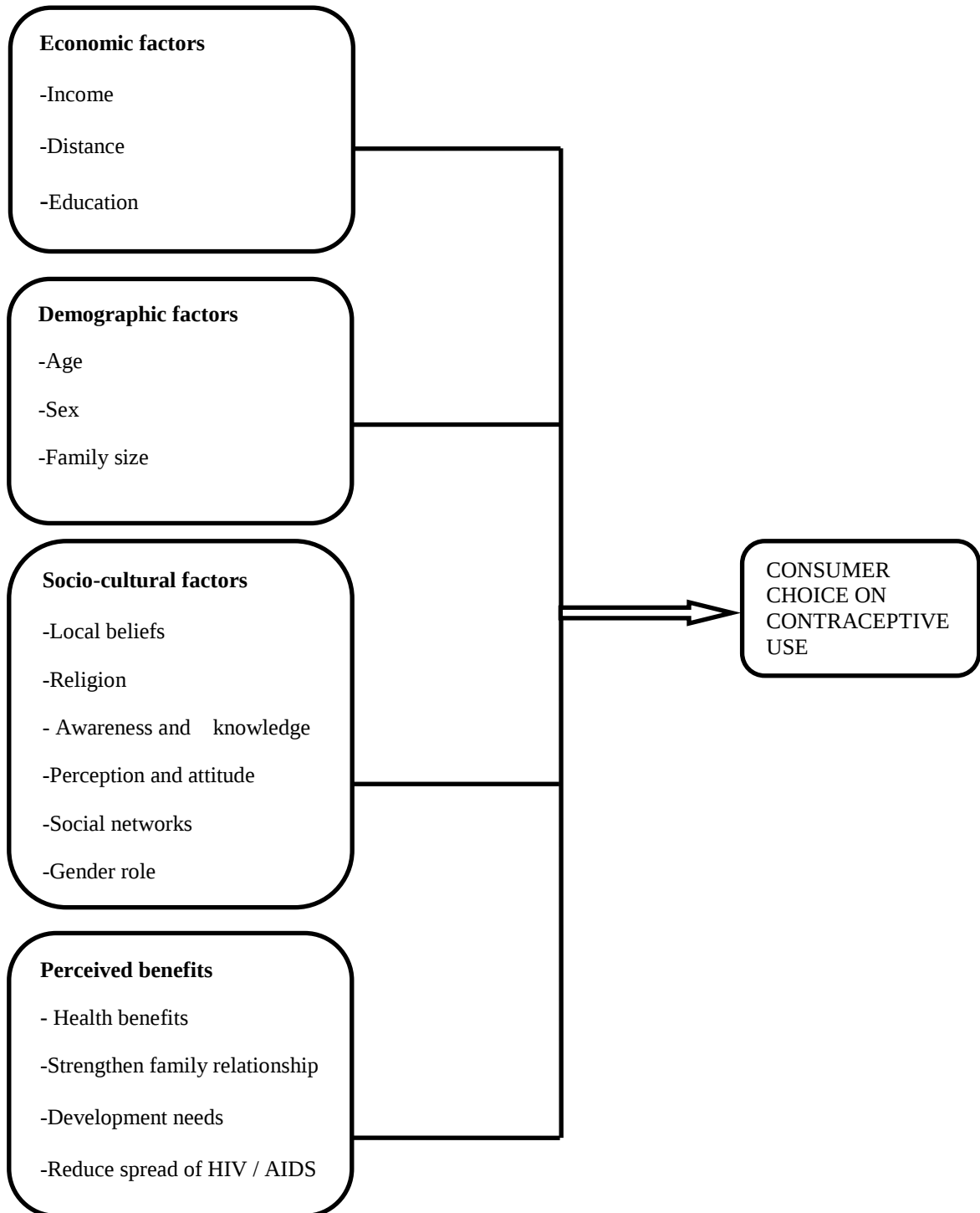
on family welfare and on the economic and social activities of women. In the in-depth interviews, women gave family planning credit for improving the quality of their lives (Hidayabo et al, 1997). From the same source an in-depth interviews was conducted and, most women said FP use allowed them to have fewer children and that having a smaller family offered numerous benefits the most common being economic. A woman from Central Java explained, "With fewer children, expenditures are low, so the family's economic well-being is guaranteed".

Bertrand *et al.* (1985) findings from a baseline survey conducted prior to the initiation of organized FP efforts in one urban and one rural area of Bas Zaire reveal the widespread use of traditional methods and a surprisingly high level of knowledge of modern contraceptives. The data reflect a deep-seated motivation for birth spacing. Of the variables tested as possible correlates, only economic status was related to use of both traditional and modern methods in the same direction. Use of a modern method was highest among women over 30 with higher levels of education.

2.7 Conceptual Framework

Figure 2.1 gives in detail the shaping of consumer behavior, which leads a consumer to react in certain ways and she makes a decision, keeping the situations in mind. The process of decision-making varies with the value of the product, the involvement of the buyer and the risk that is involved in deciding the product/ service. The figure shows that the individual's choice is influenced by a number of factors shown all around the diagram. These are economic, demographic, socio-cultural and perceived benefits. All these factors lead to the formation of attitudes and needs of the consumer. The assumptions for these variables are under section 3.5.

Figure 2.1: Conceptual Framework



Source: *Researcher's design*

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Research Design and Target Population

The study employed cross sectional design in which the respondents were met once and provided questionnaires to answer. The respondents were any individual of childbearing age 18-49. The main advantage of this study design is that it requires little resource such as time, money and manpower (Bailey, 1995). Also it provides useful data for simple statistic description and interpretations (Babbie, 1995).

3.2 Study Area

The research was conducted in Meru district because the researcher was familiar with the place and because of convenience because the researcher's family lives there which easy resource availability for successful research completion. The district is divided into three divisions, 17 wards, 69 villages, 275 hamlets and 48,768 households. The district has one government hospital, one private hospital, two government health centers and two private health centers, 18 government dispensaries and five private dispensaries (Mbunda, 2008).

3.3 Sample Size and Sampling Techniques

The sample size was 100 individuals which met the minimum sample size requirement of binary logistic analysis (10 cases per independent variable). Logistic regression requires quite large sample sizes because maximum likelihood (ML) estimates are less powerful than ordinary least squares. ML needs at least 10 cases per independent variable. Some statisticians recommend at least 30 cases for each parameter to be estimated (Lani, 2012). A simple random sampling was used to collect primary data, where the information was collected through face to face interviews, 30 individuals were selected from one government hospital, 20 from one government health center, 20 from one private health center, 15 from one government dispensary and 15 from one private dispensary. The respondents were selected after a succession completion of the

administered questionnaire. The methodology was chosen because it gives an equal chance to each respondent to be selected to provide information hence biasness was avoided during data collection.

3.4 Types of Data and Data Collection Techniques

Two types of data were collected namely primary and secondary data. The former was collected from the field through well-structured questionnaire and observation while secondary data was collected from secondary sources. Well-structured questionnaire were used in collecting both qualitative and quantitative data. Data was collected from secondary sources example on reports on related studies, hospital, health centers and dispensaries records was gathered in order to cement primary data, libraries, ministry of health and social welfare and internet were the major sources of information.

3.5 Data Analysis

(a) Econometric Model and Hypothesis

In order to test the effects of the variables on contraceptive choice the binary logit model for binary dependent variable choice and independent variables such as distance, years of schooling, age, gender, family size, level of income, perceived benefits and social cultural factors will be used. In binary logistic regression, the dependent variable takes only two values 0 and 1.

General model

$$\text{Logit } [P(Y=1)] = \beta_0 + \beta' X_i$$

Where

$[P(Y=1)]$ = Consumer choice (CC)

β_0 is a constant

β' is a vector of estimated coefficients

X_i is vector of explanatory variables,

Summarized as:

$$CC = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 DX_5 + \beta_6 X_6 + \beta_7 DX_7 + \beta_7 DX_8 + U_t \dots \dots \dots (1)$$

Where

CC	=	Consumer choice
X ₁	=	Distance
X ₂	=	Level of income
X ₃	=	Level of education
X ₄	=	Age of the respondent
DX ₅	=	Dummy sex
X ₆	=	Family size
DX ₇	=	Dummy socio-cultural factors (clustered)
DX ₈	=	Dummy perceived benefits (clustered)
U _t	=	Error term

Where

$$\beta_1 < 0$$

$$\beta_2, \beta_3, \beta_5, \beta_6, \beta_7, \beta_8 > 0$$

β_4 - undefined

- i. The hypothesis for distance is that the shorter the distance from home to the nearest health facility the more access one is to health service and therefore FP.
- ii. The assumption with income is that the higher the income the more access is one to health service and therefore to FP.
- iii. The theory behind education is that the higher the level of education one has attained, the higher the access to FP.
- iv. The assumption with age is that accessibility of FP increases with woman's age (increasing at increasing rate) and it reaches a peak where FP access declines as age increases(increasing at decreasing rate), while for man access to FP increase as age increases.

- v. The hypothesis for sex is that if one is a woman then the higher the access to FP compared to a man.
- vi. The theory with family size is the higher the family size the more one will access FP.
- vii. The assumption with socio-cultural factors is that if they support FP practice then the higher the access to FP.
- viii. The hypothesis behind perceived benefits is that if one has perceives FP practice positively then the higher the access to FP.

(b) Estimation Techniques

The Maximum Likelihood Estimation technique was used on estimation of a Logit model. Logit model was used because the dependent variable is a dummy variable. Also the data collected from the field will be analyzed using the statistical software such as Statistical Package for Social Sciences (**SPSS**) and **STATA**.

The likelihood ratio (LR) will be used to test the significance of the model and to measure the goodness of fit pseudo R² will be applied.

Table 3.1: Variables and Measurement

Domain	Variables	Operational definition	Measurement
Choice	FP choice	(i) Whether someone uses any FP: Yes =1 No=0	Nominal scale
		(ii) Which method do you use- choices	Nominal scale
		(iii) How often have you used it- number of times	Interval scale
		(iv) Why do use it- choices	Nominal scale
		(v) How long have used it- number of years	Interval scale
Economic	Distance	Kilometer	Ratio scale
	Income	(i) Salary or wage in Tanzania shillings	Ratio scale
		(ii) Ownership of refrigerator, television, bicycle, radio, motorcycle, yield, earning from business	Likert scale
	Education	Level of education in years of schooling	Interval scale
Demographic	Age	Age in years	Ratio scale
	Sex	Male or Female	Nominal scale
	Family size	Number of children that an individual is obliged to support	Number scale
Socio-cultural	Local Beliefs	(i) The level to which children are valued as a symbol of wealth (ii) The extent to which bearing and raising children is the path to respect and dignity in the society	Likert scale
	Social	To what extent do these affect choice (i) Religion (ii) Social networks (family, friends, church group, youth group, women group) (iii) Awareness and knowledge on FP (iv) Perception and attitude towards FP (v) Gender role	Likert scale
Perceived benefits	Perceived benefits	(i) Health of the baby and mother (ii) Reduces maternal death (iii) Strengthen family relationship (iv) Development needs (v) Reduce spread of HIV / AIDS	Likert scale

CHAPTER FOUR

RESEARCH FINDINGS, DATA ANALYSIS, AND DISCUSSION

4.1 Introduction

This chapter presents the findings of the study. The study consisted of six objectives the main objective being to examine the determinants of consumer choice on FP use and its implication in improving family welfare. The specific objectives were to find out the influence of economic factors specifically income, distance and education, to find out the effect of demographic factors specifically age, sex and family size; to examine the effect of socio-cultural factors specifically beliefs and religion, perceived benefits on consumers' choice in FP and to find out the influence of FP in improving the welfare of families in terms of education, health and savings. However, it first presents the sample size and its characteristics. It is followed by a presentation of data on research questions and objectives; with precedence of an overall picture of how Research Findings answer an overall objective of the study.

4.2 Sample Size and Characteristics of Respondents

The study comprised 100 respondents of which 80 (80%) were female and 20 (20%) were male. The age of respondents varied from 18 years to 49 years old with the largest group 40 (40%) between 24 to 29 years, with the smallest 3 (3%) between 42-49 years. Majority 54 (54%) of respondents had primary education, 34 (34%) had secondary education, 10(10%) had college education or above and only 2 (2%) were illiterate. Most of the respondent's 40 (40%) level of income ranged from 1 to 100,000 Tanzania shillings; seventeen (17%) from 100,001 to 200,000; twelve (12%) from 200,001 to 300,000; five (5) from 300,001 to 400,000; four (4%) from 400,001 to 500,000; two (2%) from 500,001 to 600,000 and 20 (20%) respondents had zero income (Table 4.1).

Table 4.1: Summary of respondent's characteristics

Characteristics	Attributes	Frequency	Percent
Sex of the respondent	Male	20	20
	Female	80	80
Age group of respondents	18-23	31	31
	24-29	40	40
	30-35	19	19
	36-41	7	7
	42-49	3	3
Education level of Respondents	Illiterate	2	2
	Primary	54	54
	Secondary	34	34
	College	10	10
Level of income of respondents	0	20	20
	1 $\geq$ 100,000	40	40
	100,001 $\geq$ 200,000	17	17
	200,001 $\geq$ 300,000	12	12
	300,001 $\geq$ 400,000	5	5
	400,001 $\geq$ 500,000	4	4
	500,001 $\geq$ 600,000	2	2
Total		100	100

Source: Research Findings (2013)

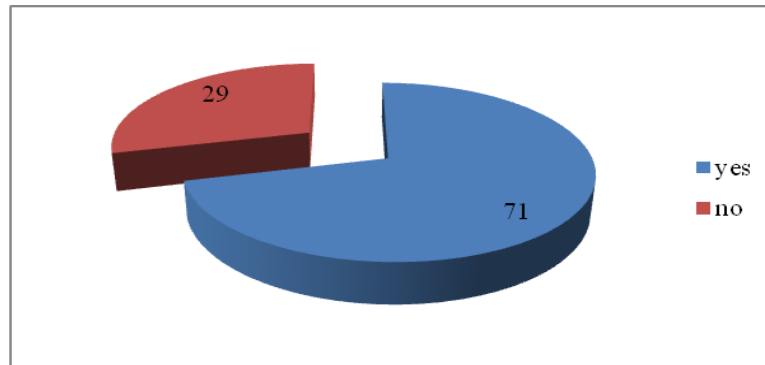
4.3 Consumer Choice and What Determines the Choice

One of the main research questions for this study was what determines consumer choice. In response to this question utilization level, reasons for choosing and reasons for not choosing are examined.

(i) Utilization Level

The results show that 71 (71%) of the respondents choose to use FP while 29 (29%) do not use FP (Fig 4.1)

Figure 4.1: Family planning choice (in numbers)



Source: *Research Findings (2013)*

It should be noted that among 29 respondents who chose not to use FP, twelve (12) were using condom, of these five (5) used it in order to avoid unwanted pregnancy, five (5) used it for HIV/AIDS prevention, one (1) used it for both avoiding unwanted pregnancy and HIV/AIDS prevention, and one (1) used it to avoid unwanted pregnancy and STI's. The results suggest that most of the respondent do not regard condom as a FP method. Because when they were asked if they practice FP they refused.

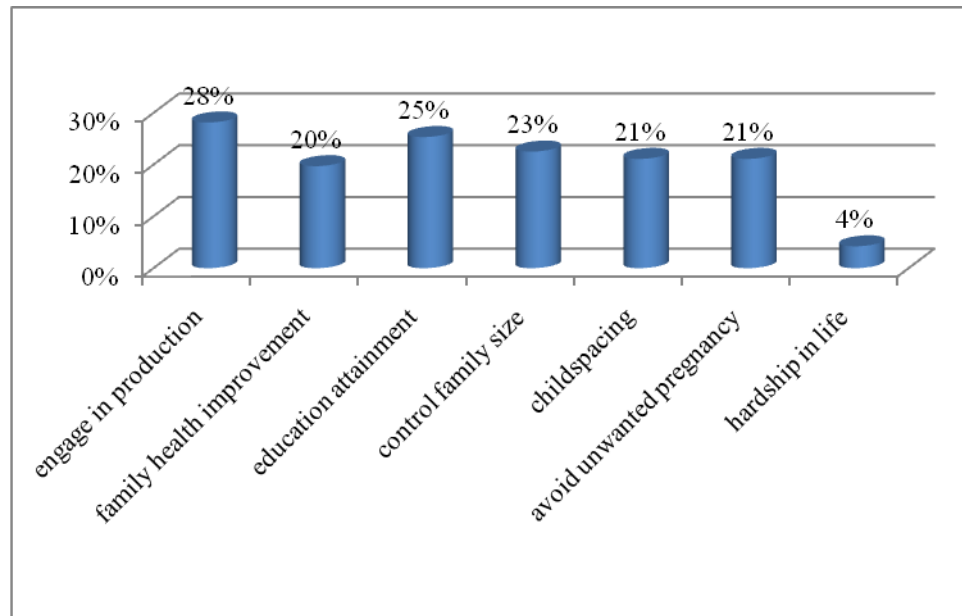
Based on these results, it seems that the majority of the respondents were using condoms only for HIV/AIDS prevention rather than for FP. Thus awareness of condom use should be increased, and more intensify counseling on the proper use. Nonetheless, this will requires outreach efforts towards both men and women together with media campaign. FP service providers need to reinforce positive messages that condoms preserve women's health, provide reliable protection against pregnancy, and prevent spread of HIV/AIDS when used correctly and consistent.

(ii) Why Choose Family Planning

The results show that 20 (28%) respondents among 71 respondents who chose to practice FP said having time to engage in productive activities guide their choice, 14 (20%) respondents said improving family health influence their FP choice, 18 (25%)

respondents said need for attaining education, 15 (21%) child spacing and avoiding unwanted pregnancy influence their FP choice, Six (6) (8%) respondents said investment purposes influenced their choice, 16 (23%) family size controlling influence their FP choice and only three (3) (4%) respondents said hardship in life influence their FP choice (Fig 4.2).

Figure 4.2: Reasons for choosing family planning



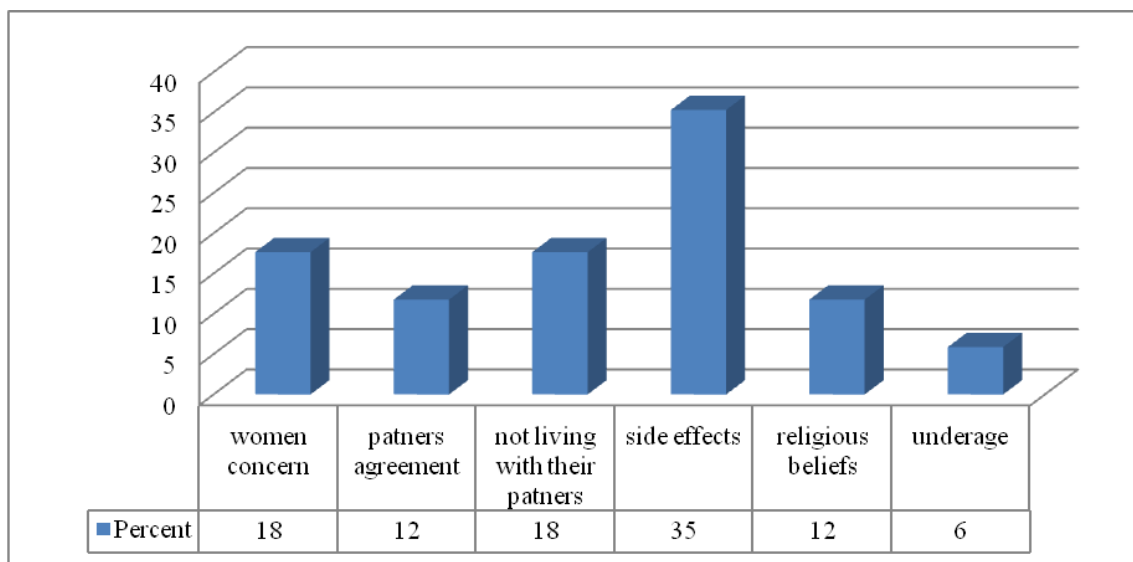
Source: *Research Findings (2013)*

(iii) Reasons for not Choosing Family Planning

The results shows that three (3) (18%) respondents among 17 respondents who chose not to practice FP said that FP is a matter for women so they are not ready to talk about it, two (2) (12%) respondents said it was an agreement between them and their partners not to use FP, three (3) (18%) respondents claimed that they are not leaving with their partners so they do not see any importance of using FP, Six (6) (35%) said they once used FP but they stopped because of some side effects, Two (2) (12%) said they are not using FP for religious reasons (Roman Catholics) and only one (1) (6%) respondent said

she was too young to use FP, and she commented that she will definitely use it when the right time comes, because of its importance (Fig 4.3).

Figure 4.3: Reasons for not choosing to use family planning



Source: *Research Findings (2013)*

The low rate of using FP methods which is the result of its side effects necessitated further investigations on ways to reduce the side effects. The MOHSW in collaboration with NGO's should form strategy focusing research on ways to minimize side effects also educating people on the benefits of using FP as well as to ensuring that FP services are available in all health facilities on time. It should be emphasized that for individuals to effectively engage in FP methods use they should be sensitized and be advocated through adequate counseling about the correct use of it. Equal importance to clearing misconception about side effects of FP methods to women by health service providers should be given to increase acceptance of FP. Also religious leaders should be advised on the importance of using FP. Both NGO's and MOHSW should put their efforts on achieving proper FP education through training personnel's and health service providers to deliver education and proper service.

(iv) Response on the Use of Family Planning Methods by Type

The current use of FP methods by type reveals that among 71 women who used FP 28 (28%) use injection only, 10 (10%) oral contraceptives only, one (1) (5%) tubectomy only, 11 (11%) implants only, 3 (3%) intrauterine devices only and 8 (8 %) condoms. 4 (4%) traditional methods only. 2 (2%) use condom, injection and pills, 2 (2%) use pills and implants, 1 (1%) condom, implants and injection and 2 (2%) use condom and implants (Table 4.2).

Table 4.2: Current use of family planning by type

		use of family planning		Total
		No	Yes	
Method used	Condom	0	8	8
	Intrauterine device	0	3	3
	Injection	0	28	28
	Implants	0	11	11
	Oral contraceptives	0	10	10
	Traditional methods	0	4	4
	Condom, injection ,pills	0	2	2
	Pills, implants	0	2	2
	Condom, implants ,injection	0	1	1
	Condom, implants	0	2	2
Total		0	71	71

Source: *Research Findings (2013)*

Injection are most practiced FP method because it is given only once per three months so the users do not have to visit clinic many times. Injections are more available than implants and IUDs. We now turn to the factors that affected this utilization level.

4.4 Factors Determining Choice

4.4.1 Economic Factors and Family Planning Choice

(i) Income

The theory about income is that those with higher income choose and access FP than those with lower income. In support to this theory, the results show that respondent's with income ranging from 300,001 to 400,000 access FP mostly 80 % and those with

zero income access FP the least. Those with income ranging from level 1 to 100,000 and 100,001 to 200,000 have high percentage 77.5% and 76.5% respectively because majority of the respondents ranged from the mentioned income. Also there were only two (2) respondents who ranged from 500,001 to 600,000 and that's the reason for 50% (Table 4.3).

Table 4.3: Level of income and family planning choice

		no (N)	%	yes (N)	%	Total
Level of income	0	9	45	11	55	20
	1 $\geq$ 100,000	9	22.5	31	77.5	40
	100,001 $\geq$ 200,000	4	23.5	13	76.5	17
	200,001 $\geq$ 300,000	4	33.3	8	66.7	12
	300,001 $\geq$ 400,000	1	20	4	80	5
	400,001 $\geq$ 500,000	1	25	3	75	4
	500,001 $\geq$ 600,000	1	50	1	50	2
	Total	29	29	71	71	100

Source: Research Findings (2013)

Based on these results we can say that level of income has a direct relationship with the frequency of using FP. The results make sense because income has impact on the use of FP. High income earners not only can be able to access FP services whether the services are charged or provided free but also have facilities enabling them to reach the health facilities even if they are far from their homes. It was also noted that those with high income have better understanding on the importance of controlling the family size as it is easy for them to access FP services regardless to how expensive the service is.

(ii) Education

The theory assumes that those with higher level of education access FP than those with low level of education. The results show that 6 (60%) out of 10 respondents with university education choose to use FP followed by 18 (53%) among 34 of the respondents with secondary education, one (1) (50%) out of two (2) who are illiterate and 46 (85 %) out of 54 with primary education (Table 4.4). This is consistent to the theory.

Table 4.4: Percent showing education level and the level of family planning use

	N	USE	%	NOT USE	%
Illiterate	2	1	50	1	50
Primary	54	46	85	8	15
Secondary	34	18	53	16	47
University	10	6	60	4	40
Total	100	71	71	29	29

Source: Research Findings (2013)

Based on these result it can be concluded that the FP choice is directly correlated to level of education. . In other words, the higher one moves along the educational ladder, the more he access FP. That is individuals FP behavior is influenced by increase in formal education. In case of primary education the percent use has been observed to be high due to the fact that, most of the respondent had attained primary education so it cannot be concluded that those with primary education are the one who choose to access FP than other education level.

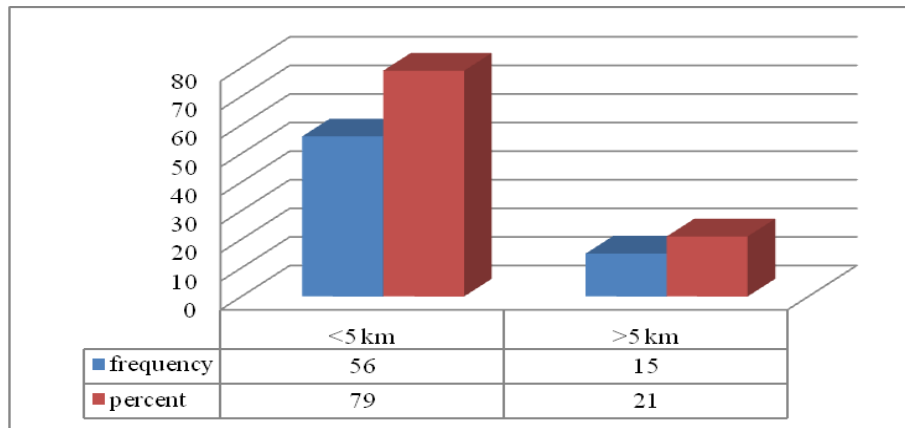
This observation is in line with other findings as it was recognized that educated women have direct influence on reducing fertility (Kumar S *et al*, 2005). Government policy and plans for FP should be stated clearly and implemented to ensure people get education so as to raise their social status and be able to make participate in decisions making especially in FP advocacy.

(iii) Distance

The theory assumes that the shorter the distance from the health facility the more one access FP. This is contrary to the field data as it does not show much difference between the two groups. The results show that 56 (79%) of respondents who choose to use FP

stay less than five (5) kilometre from a health facility while 15(21%) stay beyond 5 kilometres from the health facility (Fig 4.4).

Figure 4.4: Distance from the health facility in kilometres'



Source: Research Findings (2013)

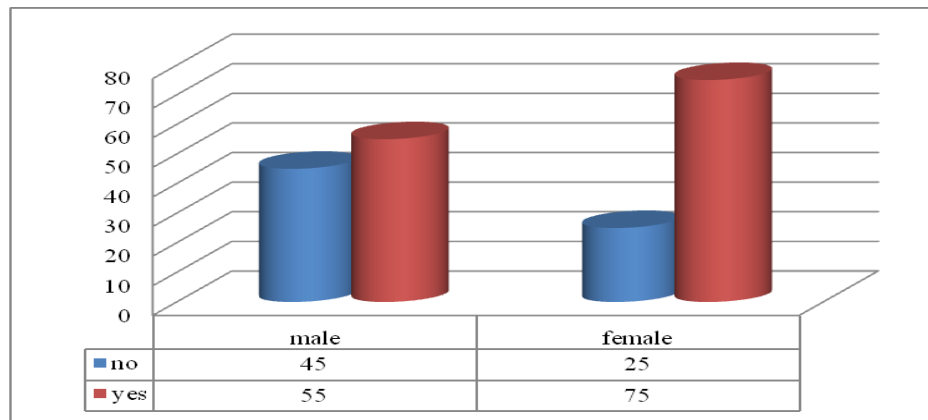
It was further noted that most of the respondents stay nearby a health facility and for those few who are far from a health facility they still access FP. The results also suggest that the health policy of 2000 which stipulates that there should be a dispensary within five (5) kilometres, a health centre within 10 kilometres is implemented. Generally the results are inconsistent with the theory.

4.4.2 Demographic Factors and Family Planning Choice

(i) Gender

The theory assumes that female choose to use FP more than male. In support to this thoery, Figure 4.5 revels that 11(55%) male chose to practise FP while nine (9) (45%) do not to compared to 60 (75%) female chose to use FP and 20 (25%) do not.

Figure 4.5: Percent showing family planning choice by gender



Source: *Research Findings (2013)*

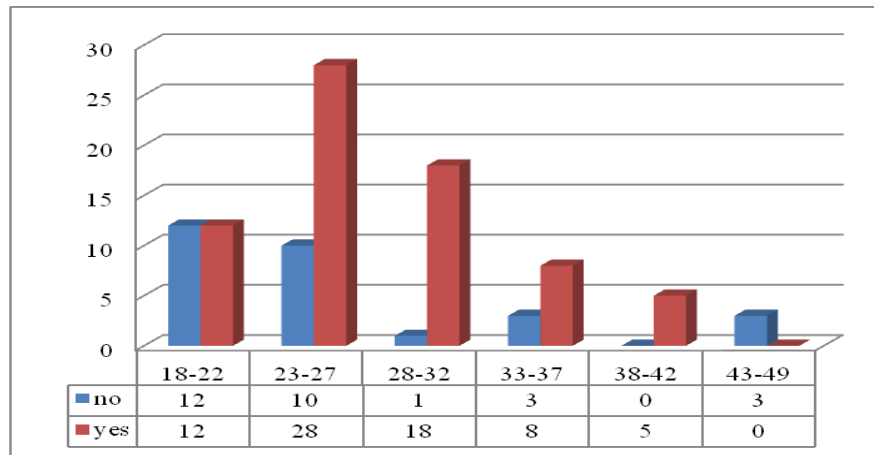
These results are in line with what has been observed in developed countries. For example a survey conducted in the United States, where, in average male comprises only six percent of all FP clinic clientele. At the US-Federally subsidized clinics, male made up only two (2%) of the total client population, meaning few men patronize the FP service (Ababio, 2009). The reasons for the low levels of use of male methods are the way they use what they know and have. Even though men have the knowledge and some positive attitudes, about FP methods, data on existing facts on usage indicated that men are not interested in the use of male methods of contraceptives. The extent of male utilization of FP and the nature of men's role in FP in developing countries, indicated lack of supply and inadequate information as key reason for insufficient use of male contraception (Ababio , 2009).

FP has been an age long practice, mostly among women. It is important to note that, increase in the usage of the service by men will help guard against unwanted pregnancy, improve child spacing and prevent sexually transmitted infections including HIV by using the appropriate contraceptive. It will also contribute to the achievement of the millennium development goals (MDG) 5 and 6, which is to improve maternal health, by preventing both maternal and child mortality and also to combat HIV/AIDS, malaria and other diseases (Ababio , 2009).

(ii) Age

The theory assumes that for woman as age increase the chose to use FP increases and it reaches a peak where the behavior changes and the chose decreases while for male as age increase the chose to use FP increases. The results show that respondents in the middle age classes (23 to 27) and (28-32) to 33-37 years old practice FP more than young (18-22) and the sub-adults (45 and above). Thus as age increase the use of FP corresponding increases but reaches a plateau where it starts to decrease (Figure 4.6).

Figure 4.6: Age of the respondents against family planning choice



Source: *Research Findings (2013)*

The results make sense because at the age categories 28-32 and 33-37 is the most effective population (breeding age) in which women fecundity is at its maximum and the desire for having a baby increases and incase for man are highly sexual active such the need for FP is very crucial. In principle women reach menopause at the age of 43 and above so the need for practicing FP decline as the chances of conception is relatively very low.

(iii) Family Size

The theory behind family size implies that those who use FP are more likely to have small and manageable family size than those who do not use. The results are consistent with the theory. Choice to use FP increases as the number of dependants increases. For those with no children seven (7) respondents chose not to use FP since they do not have children yet, for those with a single child 24 chose to use FP and 14 opted not to use FP for those with three (3) dependants all of the respondents chose to use FP and for those with four (4) children, four (4) chose to use FP and only three (3) of them chose not to use FP and this was because they have already reached menopause so they are no longer fertile. Only one (1) respondent had five (5) dependants and he chose to use FP. (Table 4.5).

Table 4.5: Family planning choice and family size

		Number of dependants						Total
		0	1	2	3	4	5	
Family planning choice	no	7	14	5	0	3	0	29
	yes	3	24	25	14	4	1	71
Total		10	38	30	14	7	1	100

Source: Research Findings (2013)

It was noted that the hardship of life and need to provide for the dependant in terms of health and education has greatly influenced the choice of FP use. One respondent testified that: “my young don’t you see the current national economic crisis, you are too young to imagine what’s happening in the families, birth control is currently a must otherwise you will die of poverty. My wife and I chose to use FP for good reasons and I would gladly advise all couples to do the same for family welfare improvement”.

4.4.3 Social Cultural Factors and Family Planning Choice

The theory assumes that social cultural factors influence FP choice. To analyze this, the researcher used the Likert scale and she classified them into two categories where by two responses (strongly agree and agree) are combined and termed as accept, and two responses (disagree and strongly disagree) are combined and termed as reject.

The results show that 25 respondents accepted that religion influenced their choice to use FP and 39 rejected, nineteen (19) respondents said they do not use FP because to them large number of children are sign of wealth and 60 rejected, 11 respondents accepted that they do not use FP because to them a value of a women is connected to the number of children she conceives and 71 rejected, 53 respondents agreed that being aware and having knowledge on FP influenced their FP choice while 12 rejected, 53 accepted that perception and attitude of an individual towards FP affects their FP choice while 11 rejected, eight (8) respondents accepted that bearing and raising children builds respects and dignity in the society thus there is no reason for them to use FP and 74 rejected, 69 respondents accepted that social networks being family members, religious group, peer groups influenced their FP choice and only nine (9) rejected, 50 respondents accepted that as a gender role there are suppose to use FP and this was observed mostly on women, while 12 respondents rejected. Table 4.6 also provides the summary by collapsing categories into either strongly agree, agree, disagree and strongly disagree.

Table 4.6: Social cultural factors affecting family planning choices

Socio-cultural factors affecting your family planning use	Strongly agree	Agree	Disagree	Strongly disagree
Religion	22	3	1	38
Children are sign of wealth	17	2	3	57
A woman is valued as per the number of children she gives birth to	9	2	3	68
Awareness and knowledge on family planning	23	30	1	11
Perception and attitude towards family planning	24	29	1	10
Bearing and raising children is the path to respect and dignity in the society	7	1	2	72
Social networks (family, friends, church group, youth group, women group)	65	4	0	9
Gender role	47	3	0	12
Summary	Accept		Reject	

Source: Research Findings (2013)

Social cultural factors are thus seen to have definite impact on acceptance or rejection of FP.

4.4.4 Perceived Benefits and Family Planning Choice

Theory assumes that the perceived benefits positively impact FP choice. To analyze this the researcher used the Likert Scale analysis in which she classified the analysis into two categories where by two response (strongly agree and agree) are combined and termed as accept, and two response (disagree and strongly disagree) are combined and termed as reject

Table 4.7 shows that, 51 respondents accepted that FP use is good for health of the baby while 12 respondents rejected, 56 accepted that FP is good for health of the mother while 11 rejected, 25 respondents accepted FP helps reducing maternal death while 15 rejected, 54 respondents agreed that choosing to use FP strengthen relationship in the family while 9 rejected, 72 respondents accepted that FP is essential for development needs and eight (8) rejected, 32 respondent accepted that FP helps in reducing spread of HIV/ AIDS , and 36 rejected. Table 4.7 also provides a summary by collapsing the response in either strongly agree, agree, strongly disagree, and disagree.

Table 4.7: Perceived benefits affecting family planning choices

Family planning is important because of the /it	Strongly agree	Agree	Disagree	Strongly disagree
Health of the baby	27	24	1	11
Health of the mother	31	25	1	10
Reduce maternal death	5	20	2	13
Strengthens family relationship	29	25	3	6
Development needs	56	16	4	4
Reduces spread of HIV/ AIDS	17	15	5	31

Source: *Research Findings (2013)*

In general those who accepted to use FP said that FP is crucial because of the mentioned benefits (Table 4.7) since there have been experiencing the same for instance FP improves health of both mother and child and reduces maternal death because a mother has enough time to rest, re-gain, take care of the baby and provide necessary health

requirement like being able to breast feed for the required time. For those who use condom insisted on the benefits of HIV/AIDS prevention, development needs and strengthening both partners and family relationship. One respondent claim that;

FP helps in child spacing and limiting number of children which provides enough time to engage in different income generating activities which paves the way to development also having manageable number of dependants reduces conflict among partners since partner will have enough time together as well as being able to plan for their family. If you keep conceiving without plan especially for women you will not be able to engage in productive activities which hinders development and you will be forced to ask for money from your partner which in most cases results into conflicts.

Those who rejected complained on the side effects of FP methods, and said FP use has nothing to do with the mentioned perceived benefits but FP is simply beneficial for child spacing only.

Consequently, it can be declared that, perceived benefits helps in determining individuals choice towards FP. Increasing awareness on the benefits of FP is crucial because when an individual is equipped with the right information on FP it will enhance their choice.

4.5 Econometric Analysis of Determinants of Family Planning Choice

The aim was to capture how the explanatory variables including distance, years of schooling, age, gender, income, family size, perceived benefits and social factors influencing a decision to choose to use FP.

Table 4.8: Logit model for family planning choice

Variable	Coefficient	Standard error	P-value
Distance	0.9125346	0.5390466	0.090
Years of schooling	-0.1513112	0.090447	0.094
Age	0.0336284	0.056628	0.553
Gender	0.2274652	0.6012704	0.705
Family size	0.3899804	0.3376465	0.208
Income	0.033765	0.0564783	0.550
Perceived benefits	1.845239	0.5858939	0.002
Social factors	-0.2616579	0.5929957	0.659
Constant	-1.08201	1.828109	0.554
LR chi2(8) =	29.87	Prob > chi2 =	0.0002
Pseudo R2 =	0.2382	Number of observation =	100

Research Findings (2013)

Table 4.8 presents the econometric results of logit model for FP choice as explained above, logit regression has been used to test the model, Maximum likelihood method to estimate the coefficients. As it can be seen from the table level of significance is set at 10% (0.1). It is clear from the table that three factors, distance ($p=0.090$), years of schooling ($p=0.094$) and perceived benefits ($p=0.002$) contribute significantly to FP choice since their p-value is less than 0.1. It can further be seen from table 4.8 that, other variables had p-value greater than 0.1, thus were found to be not significant.

Each slope coefficient in logit regression results is a *partial slope* coefficient and measures the change in the estimated logit for a unit change in the value of the given regressor (holding other regressors constant) (Gujarati, 2004) example the sales coefficient of 0.2622321 means, with other variables held constant, if sales increases by a unit, on average the estimated logit increases by about 2.83 units, suggesting a positive relationship between the two. As noted previously, a more meaningful interpretation is in terms of odds, which are obtained by taking the antilog of the various slope coefficients (Gujarati, 2004).

Distance coefficient has positive sign and is statistically significant at 10% level. The coefficient is 0.9125346, its antilog is 2.4906 ($e^{0.9125346}$), this suggests that

respondents with shorter distance from home are more than 2 times likely to choose to use FP than respondents with larger distance from home, other things remaining the same. This supports the hypothesis that the shorter the distance from home to the nearest health facility the more access one has to health service and therefore FP.

Years of schooling coefficient has negative sign and is statistically significant at 10% level. The coefficient is -0.1513112, its antilog is 0.8596 ($e^{-0.1513112}$), this suggests that respondents with years of schooling are less than 1 times likely to choose to use FP than respondents with no years of schooling, other things remaining the same. The sign of the coefficient of year of schooling show that respondents are less likely to access FP when their year of schooling increases. This is contrary to the theory behind education that the higher the level of education one has attained, the higher the access to FP.

Perceived benefits coefficient has positive sign and is statistically significant at 1% level. The coefficient is 1.845239, its antilog is 6.3296 ($e^{1.845239}$), this suggests that respondents who have knowledge on the perceived are more than 6 times likely to choose to use FP than respondents who do not understand them, other things remaining the same. This supports the hypothesis that if one has perceives FP practice positively then the higher the access to FP.

Overall significance of the model: The log likelihood ratio (LR) statistic is a measure used to test the significance of all explanatory variables of the model. It is used to test the null hypothesis that all the slope coefficients are simultaneously equal to zero. It follows the chi-square distribution with degree of freedom equal to the number of explanatory variables. In this case all the explanatory variables have significant influence on choice of FP; therefore, the whole model is statistically significant at 1% level since the LR statistic is 29.87 with a p value of 0.0002. In the model the pseudo $R^2=0.2382$ this means that 23.82% variation of the dependent variable that is FP choice

is well accounted for by the independent variables such as distance, years of schooling, age, gender, income, family size, perceived benefits and social factors.

From Table 4.9, under certain condition it is assumed that the distribution of Hosmer Lemeshow (HL), when the model is correct can be approximated to chi-square distribution with number of groups minus 2 degree of freedom. The null hypothesis is that the model is correct (in the sense it correctly predicts subgroup of sample) Large value of statistic (small p-value) indicates that the model fit badly. Though HL test does not perform well with small sample (< 400), from Table 4.9 HL test accept the model as correct as $\text{Prob} > \chi^2 = 0.5429$ and HL $\chi^2 (3) = 2.14$, it indicates that the overall model fit is good.

Table 4.9: The Hosmer – Lemeshow Test.

Number of observations =	100
Number of groups =	5
Hosmer-Lemeshow $\chi^2(18) =$	2.14
Prob > $\chi^2 =$	0.5429

Source: *Research Findings (2013)*

Generally the study has found that FP choice depends on year of schooling, distance from healthy facilities and social factors. The study also found that overall model is fit, good and all variables simultaneously have significant contribution on FP choice.

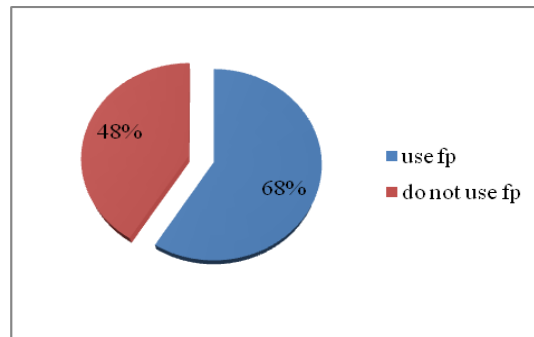
4.6 Role of Family Planning in Family Welfare Improvement

(i) Health

The theory about health is that, those who do not chose to use FP are more likely than the one who chose to use FP to delay or forgone medical care. Figure 4.7 shows that 56 (68%) of those who choose to use FP access health services and 10 (48%) of those who chose not to use FP access health service. This is consistent to the theory because it suggests that the families who practice FP are able; and do access health service more than those who do not. It was observed that the reason behind high access to health

service by those who chose to use FP is because those who attend FP clinic are taught on the importance of visiting health centre's whenever their sick or incase a baby/ partner is sick. Also for women most of them do deliver at the hospital compared to those who do not access FP

Figure 4.7: Percent showing respondents access to health service



Source: Research Findings (2013)

The benefits of family planning and birth spacing reach far beyond the individual level for women and their families. Women who can plan the number and timing of the birth of their children enjoy improved health (www.familypact.org, 2006).

(ii) Income

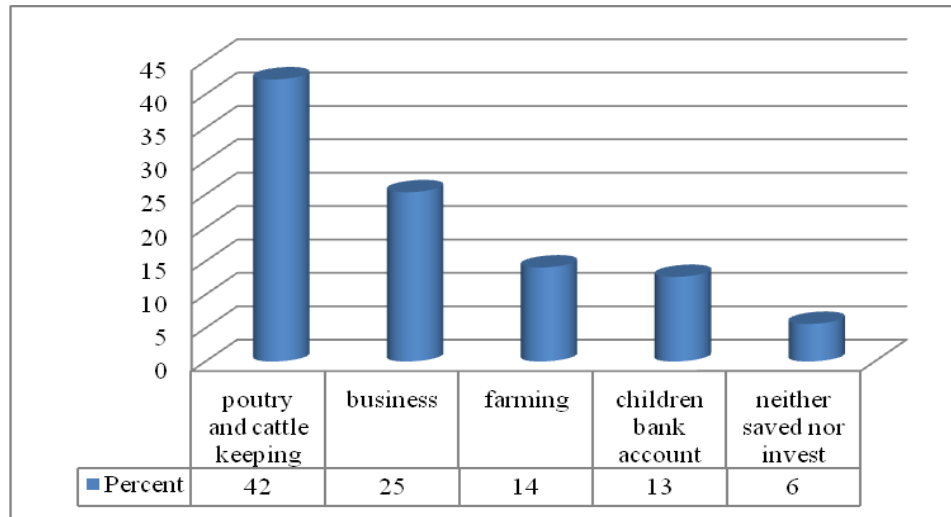
The theory about income is that FP choice leads to improvement in saving and investment level. Inorder to capture income the resercher decided to categories into level of saving and investment, and possession level.

(a) Level of Saving and Investment

The results show that 30(42%) of respondents who choose to use family planning invest in poultry and cattle keeping, 18 (25%) invest in business such as kiosk, shops and stationery, 10(14%) invest in farming for both subsustnce and commercial purposes, nine (9) (13%) have opened accounts for their children and deposits atleast 50000 thousands every month, and only four (4) (6%) have never been able to save (Fig 4.8). For those who choose not to use family planning only 5 (17%) of them are able to save

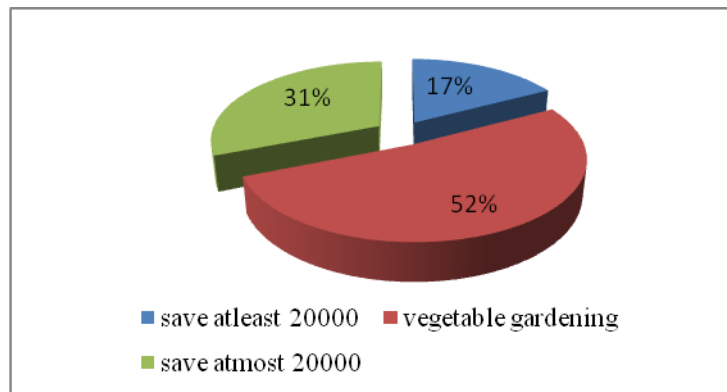
atleast 50000 thousand per month, 15(52%) have never been able to save and only 9(31%) have invested in vegetable gardening (Fig 4.9).

Figure 4.8: Percent showing level of saving and investment for those who chose to use family planning



Source: *Research findings, (2013)*

Figure 4.9: Percent showing level of saving and investent for those who choose not to use family planning



Source: *Research Findings (2013)*

(b) Possession of Assets

On analyzing respondents possession level, the researcher ranked 1-5, five (5) whoever owns at least 3 items, four (4) whoever owns a car and computer, three (3) whoever owns motorcycle and radio, two (2) whoever owns a television and modern toilet, and one (1) for those who have modern toilets. Among 36 respondents who fall on the fifth category 30 use FP and only six (6) do not use FP, among 15 respondents who fall on fourth category eight (8) use FP and seven (7) do not use FP, among 25 who fall on the third category 15 use FP and 10 do not use FP, among 14 who fall on the second category 10 use FP and only four (4) do not use FP, and among 10 respondents who fall on the first category eight (8) use FP and two (2) do not use FP (Table 4.10). The results suggest that those who chose to use FP possess atleast 3 items while those who do not use FP possess only one (1) item.

Table 4.10: Possession level of respondents

Category	Respondents		Total
	Use FP	Do not use FP	
5	30	6	36
4	8	7	15
3	15	10	25
2	10	4	14
1	8	2	10
Total	71	29	100

Source: *Research Findings (2013)*

Conclusively, the results conquer with the theory. FP choice has proven to be correlated with higher level of savings, investement and possession. This may be due to the fact that parents get enough time to engage in different productive activites, also contolling family size provides savings opportunity because expenses decrease when you have a managable family size. Investments in family planning are often justified on economic and environmental grounds. Rapid population growth and high fertility typically lead to slower economic growth and higher levels of poverty than would otherwise be the case.

Conversely, rapid fertility decline creates a so-called “demographic dividend,” which boosts economic growth for a few decades by increasing the size of the labor force relative to both young and old dependents and by stimulating savings (Bongaarts, 2009). In addition for those women who have control over their fertility have more educational and employment opportunities which enhances their social and economic status and improves the well-being of their families. (www.familypact.org, 2006).

(iii) Education

The theory behind education is that those who chose to use FP will invest more in education than those who do not. The findings of this study, however, undercut the validity of this theory, as the results show that 72 respondents have invested into either parents or children education. Out of these, 53(74%) respondents use FP and 19 (26%) do not. Among those who use FP, 26(49%) pay school fees above one million, fifteen (15) (28%) pay from 500,001-1,000,000 and 12 (23%) pay from 0-500,000. Among those who chose not to use FP six (6) (32%) pay from 500,001-1,000,000; 12 (63%) pay from 0-500,000 and only one (1) (5%) respondent pay above 1,000,000 (Table 4.11)

Table 4.11: Level of investment in education

		use FP		do not use FP	
		N	%	N	%
school fees	0-500,000	12	23	6	32
	500,001-1,000,000	15	28	12	63
	above 1,000,000	26	49	1	5
	Total	53	100	19	100

Source: *Research Findings (2013)*

The results show that only 10 respondents who do not use FP have not invested in education compared to 18 who use FP. The result further suggests that investing in

education have no correlation to either one use or do not use FP since they all invest in education.

CHAPTER FIVE

SUMMARY, CONCLUSION AND POLICY IMPLICATIONS

5.1 Summary

The purpose of this study was to find out what guides consumer choices to use FP and its implications in improving family welfare at Meru district. The specific objectives were (i) to find out the influence of economic factors specifically income, distance and education consumers' choice in FP (ii) to find out the influence of demographic factors specifically age, sex and family size consumers' choice in FP (iii) To find out the influence of socio-cultural factors specifically beliefs and religion consumer's choice in FP (iv) to find out the influence of perceived benefits on consumers' choice in FP (v) to find out the influence of FP in improving the welfare of families in terms of income education, health.

Generally of the 100 respondents 79(79%) went for FP while the remaining 21(21%) did not opt for it. The reason for choosing FP included having time to engage in productive activities 20(28%), improving family health 14(20%), need for attaining education 18 (25%), child spacing 15(21%), avoiding unwanted pregnancy 15(21%), investment purposes Six (6) (8%), controlling family size 16 (23%), and hardship in life three (3) (4%).

With respect to economic factors for choosing FP as the theory suggest, income and education seemed to play a crucial role in influencing family planning use. Respondents who chose to use FP had higher income, and the higher one moves along education ladder the more one accesses FP. However the results did not show distance as the factor that influence FP choice as there was no significance difference between those who stay within 5 kilometers and those who exceeded five kilometers.

Demographic parameters also play a role in determining FP choice. It was noted that the 75% females use FP comparing to only 45% males. In regard to age, FP choice increase as individual age increases but it reaches a peak for females because of menopause. It was also noted that the desire to control/ or reduce family size determines FP choice. Decision to use FP increases as number of dependants increases. Social cultural factors and perceived benefit have been observed to influence individuals choice towards FP, However there were some rejection of FP due to poor understanding of the benefits and fear of side effects, other traditional, culture and religious beliefs. The use of FP is generally leads to improving health of the families, good education and increase in level of savings and investments.

5.2 Conclusion

Based on the findings of this study, it seems that FP was largely determined by level of income, education, gender, age, family size, social cultural factors and perceived benefits. It can be concluded that there is inadequate information on how far can FP use change both family and national living standard. There is a need to incorporate FP for economic development when providing FP education. It has to reach point where people object FP beyond child spacing. Also despite of the several benefits obtained from the use of FP, we should not underscore the challenges as highly contribute to the cost benefit analysis of the use of FP. The government and NGO's should ensure people are equipped with the right FP education in order to stabilize population growth and enhance productivity for sustainable livelihood.

5.3 Policy Implications

Since education was an important determinant, this implies that if we are to make a successful move towards controlling population then FP education is inevitable. It has to reach point where education must make people perceive FP beyond child spacing and more important incorporate how it affects family's economic status. There is also a need to provide FP education to school children, both boys and girls through schoolchildren the message can easily be delivered to their parents and as they grow up with FP

knowledge it will be easy for them to control fertility. The findings of this study in terms of gender showed that female are the ones who choice to access FP than male this indicated little male involvement. Giving the crucial role that African men play in family decisions, their support and involvement is essential for FP to become more widespread and effective. Both MOHSW and NGOs could build up strategies for involving men in FP include policies aimed at increasing male involvement and utilization.

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APPENDICES

Appendix 1 Contraceptive prevalence rate among African women 2005

RANK	COUNTRY	PERCENTAGE OF WOMEN AGED 15-49 YEARS
1	Mauritius	76
2	Tunisia	66
3	Morocco	63
4	South Africa	60
5	Egypt	59
6	Algeria	57
7	Zimbabwe	54
8	Cape Verde	53
9	Botswana	48
9	Swaziland	48
10	Libya	45
11	Namibia	44
11	Congo	44
12	Kenya	39
13	Lesotho	37
14	Zambia	34
15	Gabon	33
15	Malawi	33
16	Democratic Republic Of Congo	31
17	Sao Tome and Principe	29
18	Central African Republic	28
19	Madagascar	27
20	Comoros	26
20	Cameroon	26
20	Togo	26
20	Tanzania	26
21	Ghana	25
22	Uganda	20
23	Benin	19
24	Gambia	18
25	Rwanda	17
25	Mozambique	17
26	Burundi	16

27	Côte d'Ivoire	15
27	Ethiopia	15
28	Burkina Faso	14
28	Niger	14
29	Nigeria	13
30	Senegal	12
31	Djibouti	9
32	Mauritania	8
32	Eritrea	8
32	Mali	8
33	Sudan	7
33	Guinea	7
34	Angola	6
35	Sierra Leone	4
36	Chad	3

Source: <http://hdrstats.undp.org/indicators/56.html>

APPENDIX II

QUESTIONNAIRE

ANALYSIS OF CONSUMER CHOICE ON CONTRACEPTIVE USE AS A TOOL FOR IMPROVING FAMILY WELFARE

I am Selina Thadei a student of Mzumbe University pursuing Masters of Science in Economics majoring in Project Planning and Management conducting a study on consumer choice on contraceptive use and its implications on family welfare. The main aim of the study is for completion of my master's studies. I hereby kindly request you to answer the following because your answers will help in the process of finding the solution to solve the problem and thus improving the use of family planning. This information will be confidential, may you be free to answer the questions as no name will be written in any paper to identify you. Thank you for taking part in this study and accepting to be interviewed.

Instructions

- i. Do not write your name
- ii. Choose the answer by cycling the answer and mention or explain where needed

Background information

1. Gender i) Male ii) Female
2. Age of the participant.....
3. Marital status

 i) Single iii) Married
 ii) Widowed iv) Divorced
4. How many years schooling.....

i) Illiterate	iii) Secondary
ii) Primary	iv) University/ college

i) Employed ii) Self employed iii) Unemployed

- i. Refrigerator
- ii. Television
- iii. Computer
- iv. Modern toilets
- v. Motorcycle

11. If yes respond to the following by putting a tick where appropriate

If there is any other reason as to why you chose to use family planning please explain.....

12. If no, why?

- | | |
|----------------------------|------------------------------|
| i) Culture and traditions. | v) Not available easily |
| ii) Not well understood. | vi) Religious belief |
| iii) Lack of income | vii) Reduces sexual pleasure |
| iv) They have effects | viii) Others please mention |

.....
.....

13. If no does it mean you have never used condom?

- i) Yes ii) No

14. If you used condom what made you use

it.....

15. If you are using family planning which method do you use?

- | | |
|-------------------------|-----------------------------|
| i) Condom | v) Pills |
| ii) Intrauterine device | vi) Sterilization |
| iii) Injection | vii) Traditional methods |
| iv). Implants | viii) Others please mention |

.....

16. Why choose the method

.....

17. How often do you use family planning.....

18. How long have you used family planning methods

Economic factors

19. How far is the nearest health facility from your home in kilometers.....

20. How much time do you spend for visiting family planning service.....

21. Does the time allocated for family planning service affects your daily timetable

- i) Yes ii) No

22. If yes how.....

23. How much money do you spend for family planning method you use.....
24. Have you been able to save by limiting number of children.....
25. Have you been able to attain education by limiting number of children
- i. Yes ii. No
26. Who managed to get education in your family
- i. Mother iii. Father
- ii. Children
27. Investment in education please indicate the fee paid and total number of either children, wife, husband in school or that have been to school

Level of education	Public	Private	Fees paid
Primary			
Secondary			
University			
Abroad			

Socio-cultural factors

28. Have you ever heard about family planning methods?
- i) Yes ii) No
29. If yes where did you get the information? From;
- i) Health center
- ii) Mass media (TV, Radio, Magazine, internet)
- iii) Others (friends, wife, Non Governmental Organizations.....)
30. Which type of method have you heard about?
- i). Condom v) Sterilization
- ii) Implants vi) Contraceptive pill

iii) Injections

vii) Traditional methods

iv) Intrauterine device

viii) Other

31. Please put a tick [] where appropriate

Socio-cultural factors affecting your family planning use	Strongly agree	Agree	Disagree	Strongly disagree
Religion				
Children are sign of wealth				
A woman is valued as per the number of children she gives birth to				
Awareness and knowledge on family planning				
Perception and attitude towards family planning				
Bearing and raising children is the path to respect and dignity in the society				
Social networks (family, friends, church group, youth group, women group)				
Gender role				

Perceived benefits

32. Is there any importance of using family planning methods to you?

i) Yes

iii) No

iii). I don't know.

33. If yes please explain.....

.....

34. If no please explain.....

.....

35. Is there any cost of using family planning

i) . Yes

ii) No

36. If yes please explain.....

.....

If no please explain.....

.....

37. Please tick [] on the appropriate answer

Family planning is important because of the /it	Strongly agree	Agree	Disagree	Strongly disagree
Health of the baby				
Health of the mother				
Reduce maternal death				
Strengthens family relationship				
Development needs				
Reduces spread of HIV/ AIDS				

Availability

38. Do you use contraceptives?

i) Yes

ii) No

39. Are the methods available when needed?

i) Yes

ii) No

40. Does the health center provide education about family planning methods?

i) Yes

ii) No

41. Have you ever visited a health center to seek for family planning education?

i) Yes

ii) No

42. What motivate you to seek family planning education

43. Please explain what was taught

44. How did you benefit from family planning education.....