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DETERMINANTS OF ADOLESCENT FERTILITY IN KISHI DISTRICT

M.A. THESIS

BY

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**A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE
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An opportunity for advancing education towards higher echelons is a challenging one and to me I see it as a continuum having a start and an end between which one really undergoes a struggle that is itself a test of life. At the end of it all one realises that its achievement is through a concerted effort from the individual and other people as well. It is on this basis therefore that I am indebted to thank the following whose assistance proved a great asset to me.

My sincere thanks go to the University of Nairobi for granting me a vacancy for postgraduate degree programme at Population Studies and Research Institute. I am also glad to extend my appreciation to DAAD Office for their positive response towards my research needs.

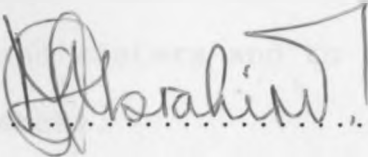
I am greatly indebted to Dr. Z. Muganzi and Dr. E.H.O. Ayiamba for their tireless supervisory role and assistance they extended to me during my writing of the thesis.

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Finally the material support I received from both my relatives and friends is also noted with great appreciation.

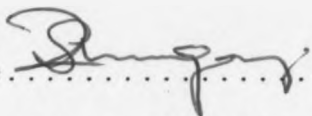
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This thesis is my original work and has not been presented for a degree in any other University.

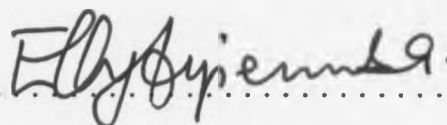
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DEDICATION.

To my father Omari Moiro, my mother Esther Kwamboka, my brothers and sisters and to the memory of my beloved sister Failet Nyaboke.

ABSTRACT.

This study undertakes to examine adolescent fertility in Kisii district. Its major objectives are geared towards the factors that determine adolescent fertility. The study was based on eight clusters sampled using NASSEP III which was adopted by KDHS of 1993. NASSEP III stratifies the country into rural and urban. For the case of Kisii district seven out of 36 rural clusters were sampled for study while one out of four urban clusters was sampled for study. Systematic sampling was used by the interviewers in which they moved from one household to another to interview the suitable respondents. A total of 500 adolescents were interviewed whereby 283 were girls and 217 were boys. Only girls have been used for in depth analysis. The factors that affect adolescent fertility were investigated through Socio-cultural, Socio-economic and demographic variables.

The socio-cultural factors that were considered included: family type and religion while the socio-economic factors included education of adolescent, education of mother, education of father, occupation of adolescent, occupation of mother and occupation of father. The demographic factors included adolescent marital status, parent's marital status, age at marriage, age at first birth, age at menarche, age at first sexual intercourse, frequency of sexual intercourse, knowledge of contraceptives and use of contraceptives.

The data collected was analyzed using Cross-tabulation and

Chi-square, Correlation and Multiple regression analysis. The study found out that adolescent fertility is a consequence of the interaction of multiple factors mentioned above. Cross-tabulation and chi-square analysis revealed that most of the factors under consideration were statistically significant.

The multiple regression result based on the categorical variables explains 42.3 percent variance in adolescent fertility while result based on continuous variables explains 17.6 percent variance.

The study gives some recommendations to be adopted in the face of the increase of adolescent fertility in the district which includes among others compulsory and affordable education, legalisation of abortion as a method of birth control and the need to put in place adolescent programmes such as counselling services and child care training.

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CHAPTER ONE

GENERAL INTRODUCTION TO THE PROBLEM

1.0 Introduction

The problem of adolescent fertility is not only a worry to Kenya in particular, but also to Africa and the world in general. This is so because of the socio-economic implications it has on the individual countries. Research done in Kenya has demonstrated that child bearing is not confined to marital unions only but also to adolescents (Demographic and Health Survey, 1992).

Considering Kenya's population at any particular census, a large proportion of the population is under the age of 25. Sexual activity among the teenagers begins at even an earlier age thus exposing them to untold miseries of life such as: teenage pregnancy, induced abortion, high rates of maternal and child mortality and high risk of HIV and other STDs.

A survey carried out among unmarried Kenyan youth in the age range of 12-19 years reported that more than 50 percent of the population surveyed was sexually active having initiated intercourse between 13 and 14 years of age (Ajayi et. al., 1991). It also reported that although there is a high approval of the use of contraceptives among the young sexually active population, 89 percent of the sexually active population have never used contraceptives.

According to Family Planning Association of Kenya (FPAK), there is no national policy on youths in Kenya. Whereas on the one hand, there is recognition of the high levels of teenage risk of HIV infection, early age of sexual activity, high rates of induced abortion and high rates of school drop out due to pregnancy, on the other hand there is the influence of religious groups such as the Catholic church and government opposition to the provision of contraceptives to young people which has created a climate where service providers are afraid to take any innovative steps in serving the needs of Kenyan youth (Hawkins & Ojaka, Undated).

Looking at the trends of adolescent fertility in Africa, Kenya has been identified as one of the countries with high rates of adolescent fertility (above 100 per 1,000 women aged 15-19) that has remained with little change (less than 20 percent since 1970s, United Nations, 1989). In 1984, for instance, the level of adolescent fertility in Kenya was among the highest in Africa (Hawkins & Ojaka, Undated).

The problem of adolescent fertility is also experienced in most of the developed countries. The U.S for instance has one of the highest rates of teenage child-bearing in the developed world (Moore, 1988).

Scientists from a variety of disciplines have shown that teen pregnancy is rooted in a set of clearly identifiable demographic and social factors (Miller & Moore, 1990) and that early parenthood has multiple negative consequences for the young mother, her

partner and their child.

Demographically, nature prepares the young male and female to reproduce somewhat earlier than it prepares them to form a stable family condition. At this point, we are confronted with another problem. The age at menarche appears to be declining all over the world for reasons which are not altogether clear but which can be attributed to improvement of nutrition and health status. The age of marriage is rising world wide. We thus have a lengthened period of sexual capability and a general postponement of the time in which that sexual capability might find reasonable stability in the married state (Bogue, 1976). Though adolescent fertility occurs within marriage, the declining age at menarche occurs in many cultures and the delay in age at marriage have multiplied the risk of out-of-wedlock births.

The social consequences upon sexual behaviour such as the family and peers are the primary agents. A parent's own behaviour is of great importance. For example, teenagers living with single mothers who date are more likely to be sexually active than those with single mothers who are not dating (Moore, Peterson & Furstenberg, 1984). Peers are also highly influential. While teenagers may not accurately report the sexual activity of their peers, their perceptions of the sexual behaviour of their friends are highly predictive of their own behaviour (Newcomer, Gilbert & Udry, 1980).

Adolescent fertility is also influenced by modernization and

infiltration of foreign cultures which have played a big role in disrupting homes and families closely related to social, economic and emotional problems in the children's own home. Another factor that contributes to pregnancy before marriage is that, since marriage is a very important social institution and children are vital to its stability, young men who wish to marry want to be assured that the girls they take into wedlock are actually fertile. There is a fear that with the widespread use of contraceptive methods and abortions, many young people may be infertile (Bogue, 1976).

A large body of research has focused upon consequences of pregnancy and childbearing for the mother (Card, 1981, Moore & Burt, 1982). Adolescent childbearing is associated with serious health, socioeconomic and demographic problems for young women, young men, their offspring, and indeed for the whole society. Social consequences of adolescent fertility can be overwhelming. Girls often face permanent rejection and are regarded in many cultures as "second class" citizens. Out-of-wedlock pregnancies lead to clandestine and hazardous abortion, suicide and child abandonment (Bogue, 1976).

Children born to young mothers have a much higher risk of morbidity, mortality, and life long mental and physical handicaps than those born to old women (Bogue, 1976). They are also slower to develop and do more poorly in school when they begin their education (Miller et.al., 1992). For all girls, married or

unmarried, early childbearing almost always means the end of formal schooling, lower paying jobs and greater unemployment.

Demographically, early childbearing leads to large completed families, closer spacing between children, and significantly shorter time periods between generations with concomitant dramatic increase in population growth rates (Bogue, 1976 & Miller et. al., 1992).

At the household level, young boys who marry early may have to support the mother and the child under harsh and hard economic and social conditions. And to a large extent, the parents of the boy or girl may have to assume the extra responsibility for looking after the baby or giving money towards this (Kleinman, 1978).

At the individual level, personal traits play a role in influencing sexual activity. Sexual activity is less likely among adolescents who have high educational or career aspirations, who have a greater confidence in their own abilities to affect their environment, and who have a lower propensity to take risks. Even personal skills come into play: high achievers in school and more assertive teenagers are less likely to become sexually active (Miller et. al., 1992).

Contraceptive use and frequency of sexual activity are the primary factors determining whether the sexually active become pregnant. However, they do not always affect behaviour in the same direction and strength. For instance, those from very traditional

home backgrounds are less likely to become sexually active than those from more permissive homes. However, once sexually active, the former are less likely to use contraception than the latter.

Contraceptive use, in addition to being influenced by the personal and social factors, is affected also by more immediate factors such as knowledge of contraception; the availability of contraceptives; and attitudes and beliefs about the morality, side effects and effectiveness of contraceptive use (Miller et.al., 1992).

Unheard of before 1981, Aids is rising rapidly in the ranks of the leading causes of death among the adolescents of ages between 15-24 years. Aids deaths have increased 100-fold between 1981 and 1987. If current trends continue, Aids could well be among the top five causes of death for young people of ages 15-24 in the next few years (Diclemente, 1992).

The potential risk for adolescents is exacerbated by their high rates of risk-taking behaviours such as unprotected sexual intercourse and substance abuse. Likewise, adolescent females who have a high pregnancy rate in a population can transmit the virus to their offspring (Henggeler et. al., 1992).

As regards adolescent fertility at the institutional level, enrolment in secondary schools sector as well as in primary schools reveals high drop out rates at the end of the course. For instance, 429,400 girls registered in standard one in 1983, but only 174,100 sat KCPE in 1990. It is clear that 225,000 (59 percent) dropped out

within a period of 8 years. As for secondary schools sector, a total of 73,783 girls enrolled in form one in 1988, but it is only 57,457 who sat for KSCE in 1991. Note that 16,326 (24 percent) did not finish the cycle (Kenya Government, 1993). Factors for school drop out range from school fees, indiscipline, lack of interest, early marriages and poor parental guidance.

In addition to the above factors, Kinyanjui (1993) argues that cutbacks on education due to Structural Adjustment Programmes (SAPs) have a negative impact on girls' education. The reason being that during this era of harsh economic times, boys are more likely to be favoured in education at the expense of girls in most homes.

It is being argued that older men and boys in schools are to blame for the large number of school girls' pregnancies in the country (Ferguson, 1988). The above contention is justified by the fact that schools shape the context in which peer groups develop and the composition of the student body sets the boundaries within which peer groups can form (Miller et.al., 1992). This will eventually set in motion peer influence which will eventually lead to sexual activity among the school boys and girls.

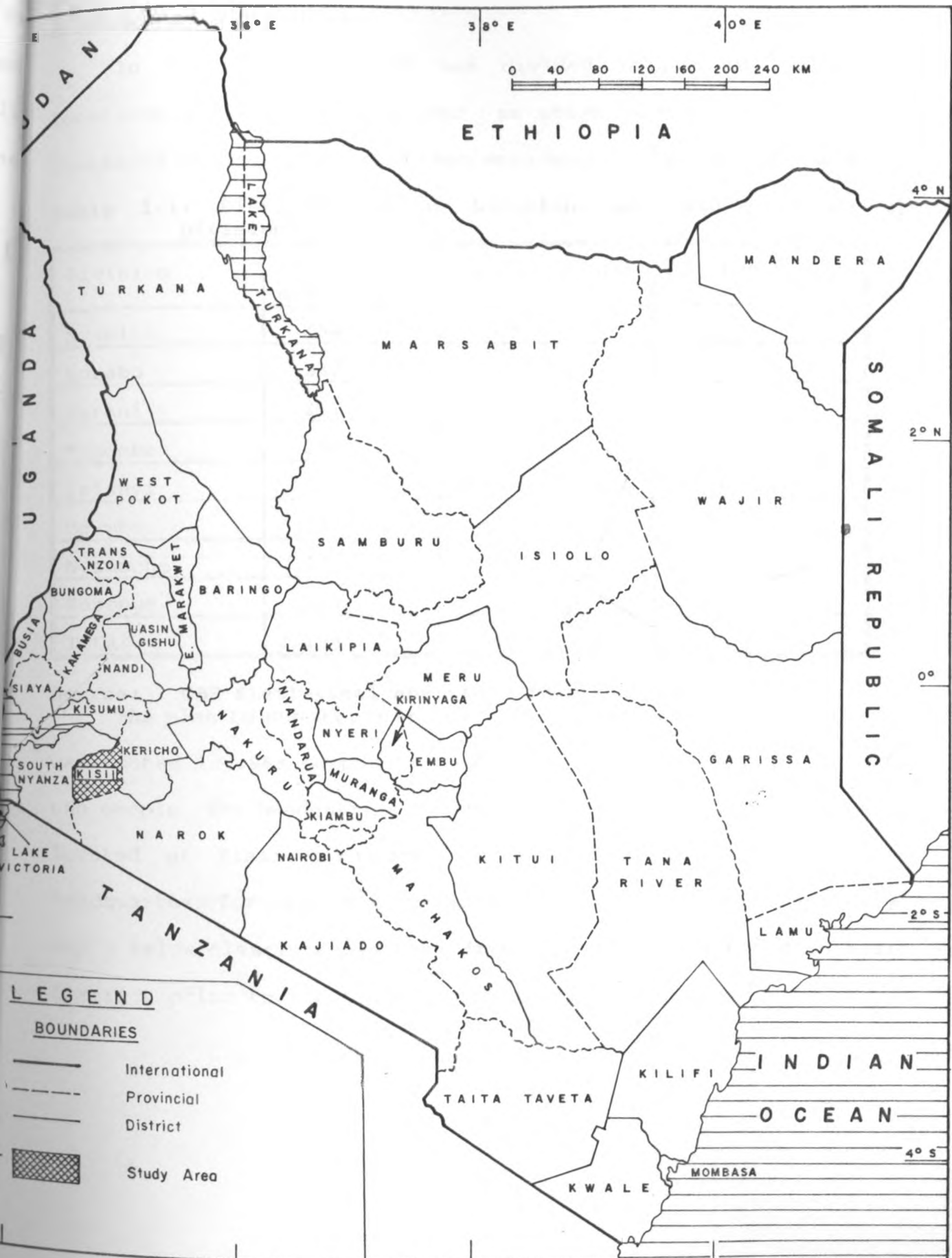
Based on the above threatening revelations of the causes and consequences of adolescent fertility on the national, household, individual and institutional levels, adolescent fertility is a subject which has attracted considerable attention and concern in recent years from a wide range of sources, from governments to those responsible for the welfare of the individual teenager. The

main reasons for the concern have been related to the increasing number of pregnancies and the high incidence of unplanned illegitimate conceptions to this group of girls with all their associated social problems (Parkes et.al., 1989).

1.1 BACKGROUND TO THE STUDY AREA

1.1.1 Position and size

The District prior to its present sub-division into Kisii and Nyamira Districts covered a total area of 2,196 square kilometres making it the smallest of the four Districts in Nyanza province. Administratively, the District shares boundaries with three others, namely, Kericho to the East, Narok to the South and South Nyanza to the West (Map 1).



MAP 1 : LOCATION OF KISII DISTRICT IN KENYA

1.1.2 Administrative units

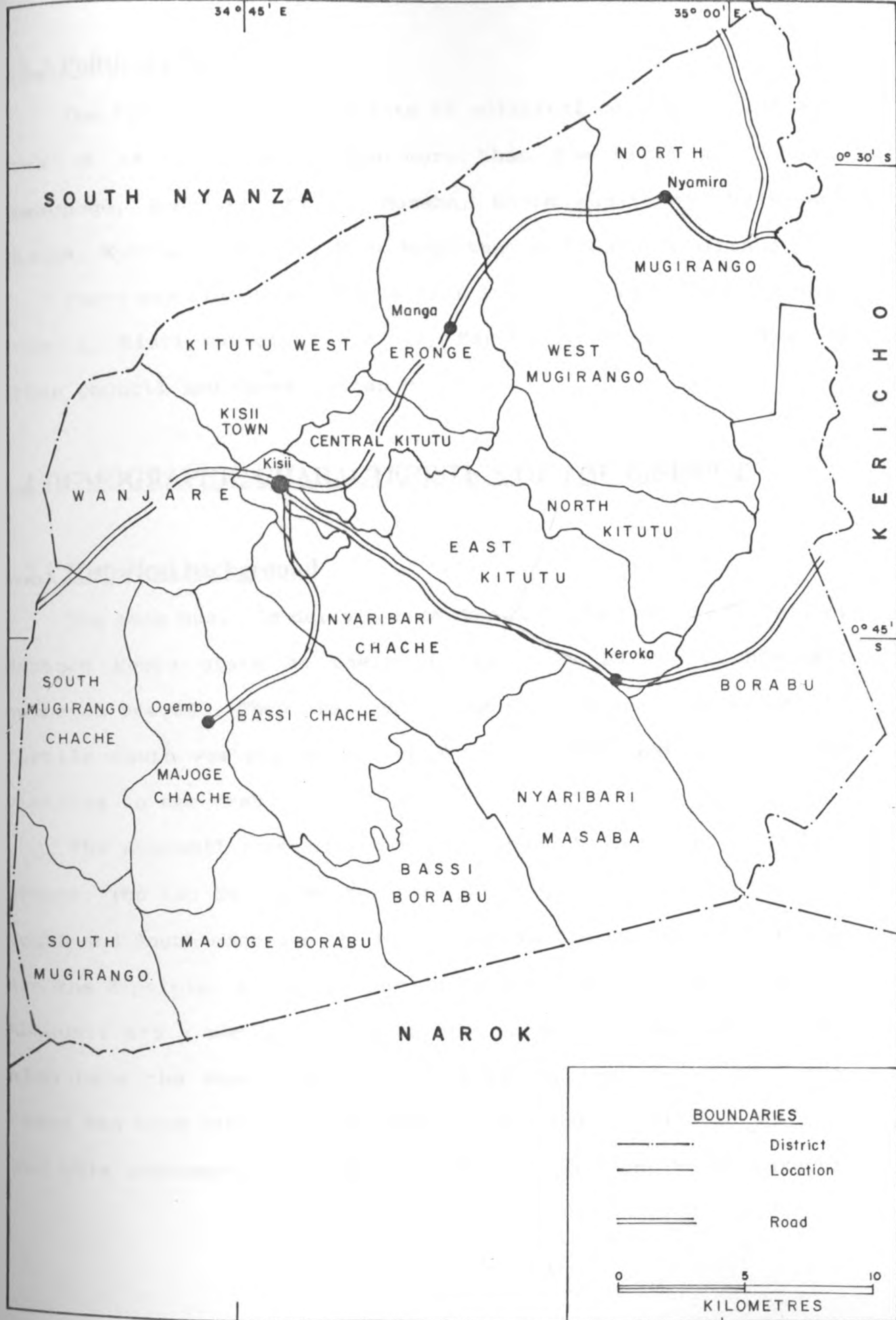
In 1989, the District was divided into 8 Divisions, 40 locations and 133 sub-locations as shown in Table 1.1. The new Divisions which were created then were Borabu, Marani and Nyamache.

Table 1.1: Distributions of Locations and Sub-locations by Divisions.

Division	Area square Kilometre	Locations (No)	Sub-locations
Nyamira	402	7	23
Borabu	238	3	8
Marani	251	5	16
Magombo	204	4	16
Irianyi	314	5	16
Ogembo	217	4	24
Nyamache	241	6	13
Bosongo	324	6	17
Total	2,196	40	133

Source: CBS Statistical Abstracts (Various years)

The plan to subdivide the District into two separate districts was mooted in 1983 purposely to bring the administration closer to the people. The headquarters of the two districts are respectively located at Kisii town and Nyamira Divisional administrative headquarters for current Kisii and Nyamira districts, respectively. Map 2 below clearly shows the administrative units found in Kisii District prior to its present sub-division.



MAP 2: KISII ADMINISTRATIVE BOUNDARIES

1.1.3 Political units

The District is divided into 10 political constituencies with some of them cutting across more than one Division: Bobasi, Bomachoge, Bonchari, Kitutu Masaba, North Mugirango, Nyaribari Chache, Nyaribari Masaba, West Mugirango and South Mugirango.

There are five local authorities in the District: Gusii county council, Kisii municipal council, Keroka urban council, Nyamira urban council and Ogembo urban council.

1.2 DEMOGRAPHIC CHARACTERISTICS OF THE DISTRICT

1.2.1 Historical background

The term Gusii is derived from Mogusii, the person Abagusii of western Kenya claim as their ancestor. By 1979, the Abagusii numbered 944,087. They are a Bantu-speaking people who occupy the fertile South western slopes of Mau Escarpment overlooking Lake Victoria to the West.

The Abagusii community are surrounded by non-Bantu speaking groups. The Luo to the western and North-western frontier, to the South and South-east are the Maasai and to the East and North-east are the Kipsigis. It should however be noted that by and large, the Abagusii are a homogeneous group who speak the same language and also have the same culture. Nevertheless, that being the case, there has been intermarriage between them and the Nilotic speakers and this phenomenon has had significant impact on the demographic

phenomenon of the District.

Culturally the Abagusii community during the old days very much valued virginity as per the information given by our grandfathers and grandmothers. It is said that a woman who was proved not to be a virgin at the time of her marriage was treated with contempt such an act deserved. But as formal education has been encouraged and adopted against informal education of the old days, it has in effect exposed the adolescents to modern ways of living leading to greater association within the peers. This has injected in some kind of permissiveness which was not in existence during the old days. This has consequently led to freedom of movement plus a greater participation in sexual intercourse which is not protected and checked either consequently becoming a fertile ground for increased adolescent fertility.

The age at marriage for boys and girls was ranging from 24-30 years and 18-24 years respectively during old days but as of now the trend has changed in which case a boy of 17 years and a girl of 14 years do marry. For instance, this has occurred especially among the teenagers who drop out of school due to financial problems and pre-marital pregnancy. However, not much has been documented concerning this issue. This is a threat to fertility in general and an increase to adolescent fertility in particular. All these are as a result of the break up of traditional norms which regulated the age at marriage which went a long way to reduce the gestation period of women, thus in effect

affecting fertility negatively.

Also some intermarriage has been extended to other Bantu speaking groups; the Abaluhya and Agikuyu at most. Traditionally, intermarriages with other ethnic communities was very minimal but with increased interaction with the foresaid communities, it is likely that adolescent fertility may also change the trend since they partake in these intermarriages.

Essentially this section is trying to draw some kind of parallelism between the cultural norms and values which were in operation during the old days which by now have undergone changes due to early age at marriage, disappearance of the concept of virginity and greater integration with other communities which when put together provide a suitable ground for increased adolescent fertility.

1.2.2 Population size

The 1979 population census recorded a total population of 970,625 people in Kisii district thus being the third most populous district in Kenya after Kakamega and Machakos with 1,030,889 and 1,022,522 people, respectively. In Nyanza province, Kisii District was the most populous with 32.9 per cent of the total population in the province with 2,643,956 people.

From the 1989 census, Kisii District had a population of 1,137,054 people and this was an increase of 166,429 (17.2 %) people over the 1979 population. Taking Kisii District population

in relation to that of Nyanza province, it was the most populous district with 32.4 % of the total population in the province with 3,507,162 people (Kenya population census, 1989).

With a population of 1,137,054, Kisii District was the fourth most populous District in Kenya after Kakamega, Machakos, and Meru with 1,463,525, 1,402,002, 1,144,594 people respectively having been dislodged from the third position it held during the 1979 census by Meru District.

1.2.3 Demographic profile

The demographic features in the district show that nearly more than three quarters is densely populated as the soils are fertile. Some few parts such as the hill tops and the marshlands are the ones which are sparsely populated.

The rate of population growth of 4 percent in the district is one of the highest in Kenya. This has led to a major policy concern in the district. Various people interviewed during Kisii District Socio-cultural profile were of the opinion that indigenous family planning methods cannot work in regulating births. According to the 1969 and 1979 censuses, the population of Kisii District increased from 675,041 in 1969 to 970,625 in 1979 giving an intercensal growth rate of 4.0 per cent per annum and the natural rate of growth was estimated at 4 per cent per annum (Kenya Government, 1986).

1.2.4 Population composition and structure

The district is dominated by Abagusii according to 1969 and 1979 censuses where they constituted 98.0 per cent of the total district's population of 675,041 and 970,625 people, respectively. During the two censuses, the Luo constituted 0.8 per cent and 1.0 per cent, the Luhya 0.3 per cent and 0.3 per cent, Kikuyu 0.3 per cent and 0.2 per cent, Kipsigis 0.3 per cent and others 0.3 per cent and 0.5 per cent respectively. At most the Luo have increased in the district through utilization of educational, employment, health facilities and intermarriages.

Population structure of the Abagusii is characterised by youthful population. The population of children aged below 14 years was approximately 57.5 per cent and 53.3 per cent of the total population of 1969 and 1979 censuses compared to that of Nyanza province of 52.1 per cent and 49.0 per cent respectively and the country's average of 50.5 and 48.4 per cent, respectively. The decrease in the proportion of the youth in the district shows that there is a general increase in the overall life expectancy of the adult population.

Table 1.2 below indicates that all rural regions in the district are strongly dominated by females. It is only the urban centres which tend to be male dominated. Dependency ratio as per 1969 census was 1440 dependants for every 1000 of active population which dropped to 1370 dependants for every 1000 active population in the 1979 census.

Table 1.2: Pattern of sex-ratios* in Kisii District 1969 and 1979

Region	Sex ratio in 1969	Sex ratio 1979
Kisii District	101	95
Nyaribari Chache	97	94
Nyaribari Masaba	97	95
Central Kitutu	97	94
Kisii Town	151	104
Keroka Town	-	141
Wanjare location	95	94
South Mugirango Chache	95	90
South Mugirango Borabu	95	93
Majoge Chache	97	94
Majoge Borabu	99	94
Bassi Chache	102	97
Bassi Borabu	102	92

Source: Computed from census data 1969/79

* The low sex ratios observed above can be due to male out migration.

Note: Some areas cannot be strictly compared owing to intercensal boundary changes.

1.2.5 Population distribution and density

Kisii is the most densely populated districts in Kenya, when urban areas are not considered. Map 3 gives a summary of the District's pattern of population density in 1979. Percentage change in population density between 1969 and 1979 was approximately 29.9 per cent from 304 per square kilometre to 395 people per square

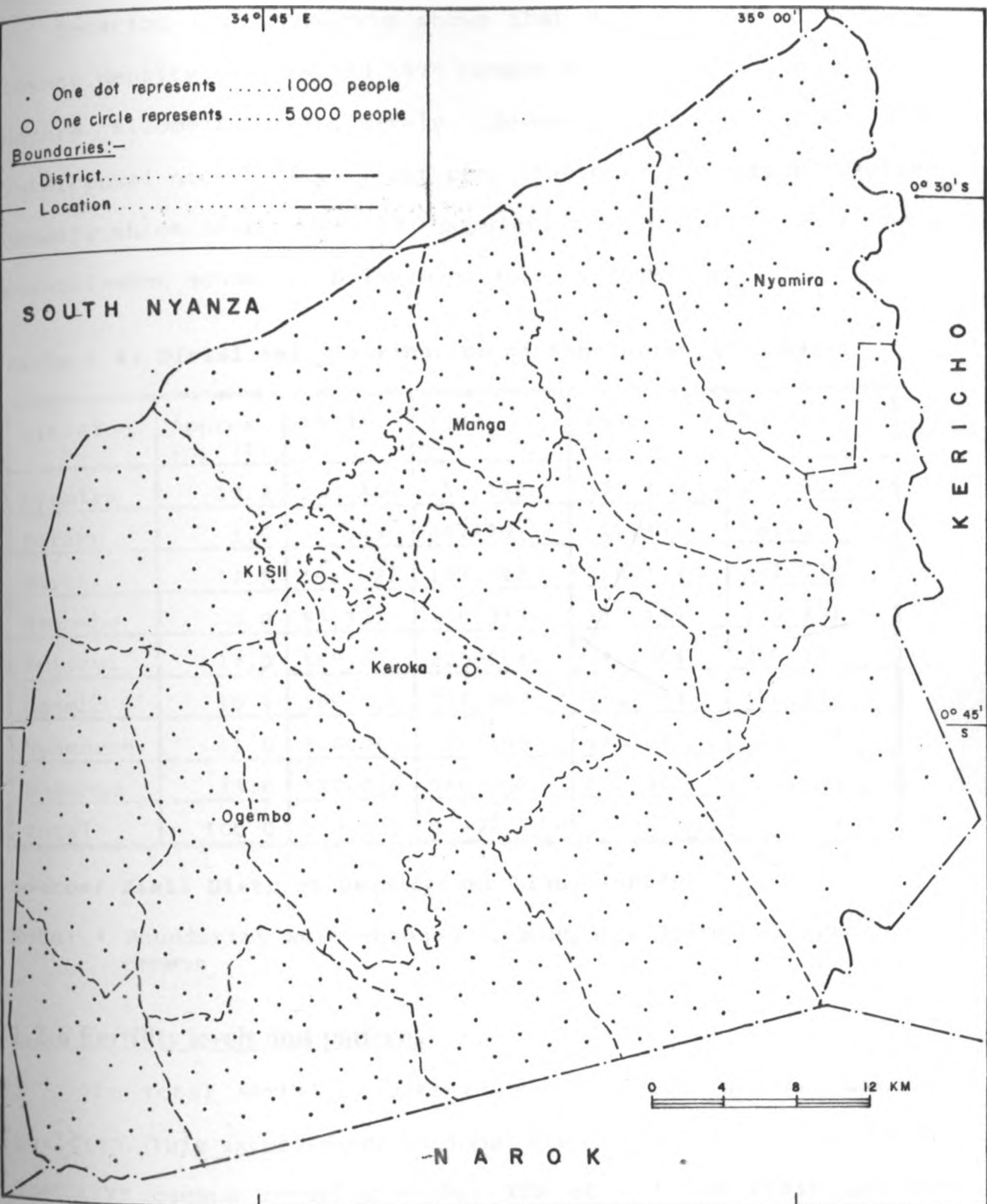
kilometre as shown in table 1.3 below. The 1989 census reveals that with a population of 1,137,054 and an area of 2,198 sq.Km, Kisii district had a population density of 517. Compared to that of 1979 census, this population density represented a percentage change of approximately 30.9 per cent

With a total land area of 2,196 square kilometres, Kisii District had an average population density of 395 people per square kilometre making it the third most densely populated district in Kenya after Mombasa and Nairobi districts with 1,622 and 1,210 people per square kilometre respectively as shown in Table 1.3 below (Kenya population census, 1979).

Table 1.3: Population density and intercensal change between 1969 and 1979.

Location	Population density per Km ² in 1969	Population density per km ² in 1979	percentage change
Borabu	85	123	44.7
North Muqirango	278	342	23.0
West Muqirango	367	379	3.3
Kitutu East	415	427	2.3
Kitutu West	342	431	2.9
Kitutu Central	472	764	26.0
Bassi	332	390	61.9
Nyaribari Chache	331	437	17.5
Nyaribari Masaba	297	409	32.0
Majoge Borabu	320	446	33.7
Majoge Chache	303	422	39.4
Waniare	279	398	38.3
South Muqirango	240	315	42.7
Kisii Town	2156	844	60.9
Kisii District	304	395	29.9

Source: Kenya population census 1979, Vol.1



MAP 3: KISII DISTRICT — POPULATION DISTRIBUTION, 1979 CENSUS

Location level analysis shows that Borabu location had the lowest density in 1969 and 1979 census with 85 and 123 people per square kilometre respectively. However, it experienced high intercensal growth of 44.7 per cent (Table 1.3) in its population density which is attributed to population in-migration as it was a resettlement scheme with low population [Table 1.4].

Table 1.4: Divisional Distribution of Population 1979-1993.

Division	Approx. Pop (%)	1979*	1988	1990	1993
Nyamira	19.2	186,360	254,298	271,499	298,857
Borabu	3.6	34,943	48,179	51,437	56,620
Marani	14.9	144,623	197,048	210,377	231,576
Magombo	9.8	95,121	130,333	139,149	153,171
Irianyi	17.0	165,006	225,604	240,864	265,134
Ogembo	10.9	105,788	144,987	154,794	170,392
Nyamache	11.0	106,769	146,158	156,042	171,767
Bosongo	13.6	132,005	180,168	192,353	211,739
Total	100.0	970,629	1,326,773	1,416,515	1,559,253

Source: Kisii District Development Plan, 1988/93

Note: * Boundaries were changed forming new Divisions after 1979 census

1.2.6 Fertility levels and patterns

The total fertility rate of the District in 1969 was 7.3 children. This exceeded the national TFR of 6.6 children per woman. The 1979 census revealed higher TFR of 8.7 for Kisii and the national average of 8.1 births. This increase is attributed to the

effect of modern services (CBS 1979).

The high fertility rate of the Abagusii is due to:

(a) Kisii District like the other parts of Kenya, is within the high fertility belt which runs from Ethiopia across East Africa into Mozambique (S.H Ominde, 1975).

(b) Abagusii have a relatively low proportion of childless women (proportion of women aged 40-49 who have never given birth). According to the 1979 census, the proportion of such women in Kisii was only 2.1 percent while in Siaya, it was 5.8 percent. Thus Kisii women are comparatively more fertile.

(c) There are high observed age-specific fertility rates as shown in Table 5 with maximum fertility occurring among females aged between 25-29 years.

Table 1.5: Age Specific Fertility Rate for 1979.

Age group	A.S.F.R	% of total fertility	Cumulated percent
15-19	0.115	7.8	7.8
20-24	0.317	21.7	29.5
25-29	0.355	24.3	53.8
30-34	0.291	19.9	73.7
35-39	0.261	14.8	88.7
40-44	0.120	8.2	88.7
45-49	0.049	3.3	96.7
TFR	7.3	-	100.0

Source: 1979 Kenya's population census

1.2.7 Marital levels and patterns

The District has high observed birth rate which is attributed to the cultural practice of universal marriage. In 1969 census, about 69.5 percent of all reproductive women were married as opposed to 23.4 percent single, 3.8 percent were widowed and 2.4 percent divorced or separated. In 1979 census, 64.4 percent of reproductive women were married compared to 29.4 percent divorced or separated.

According to the Kenya Fertility Report (1980), the median age at birth was 17.8 years compared with 17.7 years for Luhya and 16.2 years for Luo. With modernization process in place, age at first marriage is expected to rise and the proportion remaining single to increase. In addition, KDHS (1993) indicates that childbearing begins early in Kenya. One in every five teenage women (15-19) was found to have begun childbearing. The survey further found out that by the age of 19, over 40 percent had begun childbearing.

1.3.0 Statement of the problem

Adolescent fertility is an issue of great concern not only in Kisii but also in Kenya and the world at large. In Kenya, pre-marital pregnancy contributes immensely to a higher school drop out rate among girls, both in primary and secondary schools thus making them a liability than an asset by over stretching the family budget through the new siblings. Adolescent fertility increases the risk

of unsafe abortions and it leads to the deterioration of both the mother's health and that of the child.

From a demographic point of view, adolescent fertility is a worry to developing countries in that its ultimate contribution to the aggregate population of a country is much greater since their reproductive period is long enough and it thus makes it hard for them to control the high birth rates experienced unless this is accompanied by socio-economic development and the use of contraceptives.

With HIV/Aids on the increase, adolescent fertility is more likely to accelerate its spread as most adolescents are not using contraceptives. This scenario is likely to worsen further because of the opposition from the church and the state on the use of contraceptives by the adolescents.

Studies done in Kenya and in other parts of the world have established that adolescent fertility is on the increase partly due to the breakdown of the social control mechanisms that were meant to safeguard the adolescents such as the value of virginity before marriage. Also, modernization through urbanization has contributed to the same. Furthermore, the social organizations that traditionally provided economic support to young mothers are also weakening thus putting adolescents at risk making it hard for them to develop their future careers.

The widening gap between the old and the young generation leaves the adolescents more permissive than ever before thus

increasing the peer influence which in essence relegates parental guidance.

In the light of the above, this study makes an attempt to address itself to the factors that determine adolescent fertility which are broadly grouped as social, cultural, economic and demographic.

1.4.0 Objectives of the study

The broad objective of this study is to investigate the social, cultural, economic and demographic factors affecting adolescent fertility in Kisii District.

1.4.1 Specific objectives

1. To investigate how religion affects adolescent fertility.
2. To examine the role of adolescent education on fertility.
3. To investigate the role of adolescent occupation on fertility.
4. To examine the effect of age at menarche on adolescent fertility.
5. To investigate the effect of age at first intercourse on adolescent fertility.
6. To investigate the effect of age at first marriage on adolescent fertility.
7. To examine how age at first birth affects adolescent fertility.
8. To investigate the effect of availability and utilization of

contraceptives on adolescent fertility.

9. To examine the effect of mother's occupation on adolescent fertility.
10. To investigate the effect of mother's education on adolescent fertility.
11. To investigate the effect of father's occupation on adolescent fertility.
12. To study the effect of father's education on adolescent fertility.
13. To examine how family type affects adolescent fertility.
14. To investigate how parent's marital status affects adolescent fertility.
15. To outline policy recommendations based on the findings of the study as to the best way of tackling the problem of adolescent fertility.

1.5.0 Justification of the study

Adolescent fertility is a major problem not only for the less developed countries, but also the most advanced countries. The reason being, the early age of giving birth will in the long run contribute substantially to the country's total fertility rate.

Kenya at the moment is experiencing high fertility rate thus sustaining high population growth rates which as per 1979 was 3.8 percent per annum. The contribution of adolescent fertility is enormous in that Kenya like other developing nations has a youthful

population which is causing a double effect on the general population through increased births thus increasing the dependency ratio.

Kisii District which is under study is one of the densely populated districts. It had a very high total fertility rate as per 1979 i.e. 7.3 children per woman. Also the district is characterised by high adolescent fertility which has contributed to the observed high rate of adolescent school drop out. Adolescent fertility is therefore viewed as a problem that needs urgent solutions because of the consequences it is associated with. Demographic, obstetrical, health and psychological consequences are all associated with adolescent fertility and therefore need to be looked into first by limiting adolescent fertility.

Adolescent fertility is also likely to attract the increase of the spread of HIV, Aids and other STDs. The reason is that the adolescents being sexually active, sexual intercourse among them is likely to be high. Also most of them practice unprotected sex by not adopting the use of modern contraceptives especially the condom.

Adolescent fertility is on the increase within Kisii district as can be seen from the number of adolescents with children. This in itself does not augur well with the planning pace of the district which is faced with problems like shortage and poorly maintained primary and secondary schools and health facilities.

Adolescent fertility is a threat to education which is a

prerequisite to achievement of socio-economic development. Adolescents whom education is meant to benefit in the long run as the future generation, are dropping out of school in large numbers due to early marriages and pre-marital pregnancies.

Since Kenya in general and Kisii district in particular suffers from the problem of youthful population which partly explains the low life expectancy, the study of adolescent fertility therefore calls for an urgent attention so as to reduce its magnitude. Thus the need to investigate the determinants of adolescent fertility in the district.

1.6.0 Scope and Limitation

Unlike some districts where adolescent fertility has been studied by some researchers, Kisii district has not been studied along these lines. The study therefore seeks to address the situation in the district in relation to adolescent fertility.

The study hopes to examine fertility among the adolescents (aged 15 to 24) both in school and out of school. The study, however, does not categorise them on the basis of school attendance but considers the households from various parts of the district and in the process the adolescents who were in or out of school, married and unmarried, literate and illiterate were interviewed during the survey.

Other than the study concentration on the adolescent fertility, some Focus Group Discussions with community leaders,

parents and adolescents were also carried out to get their attitudes about adolescent fertility. In other words the study examined the community attitude toward adolescent fertility within the context of how children are valued within the Abagusii community. Essentially the inclusion of the adolescent's parents, teachers, medical officer and Educational Officer was to gather the qualitative information on adolescent fertility and the steps they are taking in order to contain the situation.

Since contraceptive use is currently advertised as a means of controlling fertility, the study investigates if there exists any unmet need for the adolescents within the District. Under this, the study underscores information, education and communication (IEC) of the adolescents regarding contraceptive use.

However, one limitation of the study lies in the definition of the concept of adolescent fertility. There is no clear cut definition as to which age limit this should refer. Some studies indicate adolescent fertility to refer to age group 15-19 while others extend this to include age group 20-24. This study covered the two age groups (15-24).

CHAPTER TWO

2.1.0 Literature Review

Various studies have been done both in the developed and developing countries concerning adolescent fertility. Out of these studies, adolescent childbearing and its consequences are receiving increased attention.

In the United States for example, about 70 percent of unmarried young women in urban areas in 1979 had sexual intercourse by the age of 19. This indicated a sharp increase over the 1976's figure of 60 percent and the 1971's figure of 50 percent (Washington Post, 1980).

Lee (undated) has classified into two broad categories of laws affecting adolescent fertility:

(1) Laws which directly affect adolescent fertility namely, those pertaining to contraception, abortion and sterilization.

(2) Laws which indirectly affect adolescent fertility such as education (both general and sex education), labour (both children and women) law, housing law, tax law, child allowance law, minimum marriage age law and the various incentives and disincentive laws aimed at encouraging and discouraging teenage pregnancy. He has also categorised fourteen rights that affect adolescent fertility and are more relevant and which are specified in the Universal Declaration of Human rights.

Moore and Hofferth (1978) have demonstrated in the United

states that the young mother is never able to catch up educationally or economically with her peers who delayed child-bearing.

Zelinik and Kantner (1977) in a study they carried out in the United States of America have shown that there is a decline in the age at first intercourse and that although these teenagers do not intend pregnancy to occur, there is no indication that teenagers commence contraception at the same time that they begin sex. This in itself exposes them to the high risk of pregnancy which will consequently accelerate adolescent fertility.

Baldwin (1977) in a study done in America, found that teenage child-bearing was associated with risks to the health of the mother and the baby. Serious complications of pregnancy are common among teenage girls more than older women due to physical immaturity of their bodies. Studies have demonstrated that maternal mortality is highest for women under age 15 and still quite high for girls aged between 15 and 19.

Ross (1982) has given immediate causes of early childbearing as conceptions among teenagers which result from early and unprotected intercourse. In America, intercourse has been found to be more prevalent among older teenage women and among women who are less educated and hold negative attitudes toward education (Zelinik and Kantner, 1977).

A few studies have indicated that psychological characteristics such as low levels of self-esteem, risk-taking

attitudes and greater passivity or dependence are related to adolescent intercourse. Teenage women who have never been pregnant, who are having intercourse sporadically and who are not in a steady or committed dating relationship are also likely to be regular users of contraceptives.

Westoff, Calot and Foster (1983) in a study done in 31 developed countries on teenage fertility, have found that blacks in U.S.A and Arabs in Israel had twice as many children on average as their white and Jewish counterparts respectively by the time they completed their teenage years. Taking 1979 as an example, the black and white teenage age specific fertility rates were estimated as 715 and 274 per 1000 women respectively.

Wieland (undated) has noted that adolescent girls face problems once pregnant and they are mainly socio-economic problems and include: her education is always handicapped, shame before the family and friends, her inability to rear the child in an ideal situation of parenthood and she is deprived of marriage and feels she must turn to prostitution in order to support herself and child.

In developing countries, adolescent fertility rates are affected by variations in levels of physical and social maturation of young people. The average age at menarche in developing countries varies from 12 to 15, or later among malnourished.

On average, about 40 percent of women aged 15-19 years were married in Africa, 30 percent in Asia, 15 percent in the Americas

and Oceania, 9 percent in the Soviet Union and 7 percent in Europe. Only in a few Asian and European countries were fewer than 5 percent of women married between the ages of 15 and 20 (UNESCO, 1973).

There are high levels of teenage unions and child-bearing in nine Latin American and Caribbean countries. Over half of all women in these countries have had a sexual relationship before their 20th birthday and between one-third and one-half have had a child. Teenage fertility has also been found to be higher in such developing countries as Guatemala and El Salvador and among rural women and the least educated: It is lower in the more industrialized countries, in urban areas and among teenagers who have completed at least secondary school.

Moore and Hofferth (1978) have found that in less developed countries (LDCs), it is more likely that teenage child bearing is inversely related to female educational attainment merely because enrolment in secondary school precludes marriage.

McGarth (1979) has argued that in the light of the practical impossibility of promoting virginity, infertility or miscarriage, the only feasible policy interventions would be improvement of contraception and abortion services.

In developing countries, early marriage is now and traditionally has been the leading factor precipitating adolescent sexual experience and child bearing. Where age at marriage has risen, adolescent fertility rates have generally declined. It has

been found out that, West Africa and the Caribbean have the highest rates of adolescent fertility (McGrath, 1979).

Although increased access to contraception and abortion can lower fertility rates, current teenage practice of contraception and utilization of abortion do not really 'explain' adolescent fertility because they are higher than they ever have been. In eight Latin American maternity care centres, 12.2 percent of pregnant adolescents of age group 15-19 experienced complications of labour compared to 11.7 percent of adolescents aged 20-24. In general, about 23.9 percent adolescents (15-24) have problems during labour (McGrath, 1979).

Jagdeo (1984) in his study of teenage pregnancies in the Caribbean found out that teenage pregnancies in the region are unplanned and that neither teenagers, parents, teachers, church leaders nor other centres of formal authority in society approve of teenage pregnancies. Adolescents comprise about 20-25 percent of the total population of developing countries.

McNeil (1983) in a study he did in Jamaica found out that pregnancy and motherhood usually results in termination of adolescent girl's education.

Population reports (1985) quoting the words of the slogans used in Jamaica, "Before you be a mother, be a woman" and "Before you be a father, be a man" clearly are destined to enhance adolescent fertility and its consequential child-bearing. The reason being, this is an encouragement of the young adolescents to

get children out of wedlock as a prerequisite to marriage as now she has proved that she will make a woman.

On any map showing fertility levels for the various countries of the world, Africa stands out as a region of strikingly high fertility. World Bank (1986), shows that the 45 continental countries had a total fertility of 6.3 children per woman on average in the early 1980s and nearly a quarter of them had estimated total fertility levels of 7.0 or higher. This can be attributed to early age at marriage and non-use of contraception.

Demographic and Health surveys (1990) have shown that adolescent fertility continues to contribute substantially to overall fertility in sub-Saharan Africa, comprising between 15 and 20 percent of total births in 11 countries for which data are available.

Gyepi-Garbrah (1985) has demonstrated that fertility among teenagers (15-19) rose from 141 per 1000 women in 1962 to 179 per 1000 women in 1979. He has attributed this to a combination of an increase in the incidence of out-of-wedlock births and arise in teenage marital status. He has also shown that adolescents aged 20-24 had the highest recorded fertility levels in Africa between 1962 and 1978. Their age specific fertility rate rose further from 207 to 569 births per 1000 females (Table 2.1).

Table 2.1: Total Fertility Rate, Adolescent Fertility Rate per 1000 and Adolescent contribution to TFR, Kenya and selected African countries 1969-1983.

Country			Fertility per 1000		contributing (%) to TFR
	Year	TFR	15-19	20-24	15-24
Kenya	1977-78	8.0	168	343	31.9
	1969	7.6	132	331	30.5
	1962	6.8	141	304	32.7
Burundi	1971	6.1	51	252	24.7
Chad	1964	5.4	171	282	42.0
Ethiopia	1968-71	5.8	163	287	39.1
Gabon	1960-61	4.1	171	190	43.1
Ghana	1979-80	6.5	136	255	30.1
Mozambique	1970	5.8	96	248	29.9
Nigeria	1981-82	5.7	127	256	33.8
Senegal	1978	7.1	197	305	35.4
Zambia	1974	6.7	137	286	21.4

Source: Gyepi-Garbrah 1985 p 6.

In Kenya, where births to adolescent women represent up to 20 percent of the country's total fertility rate of 6.7, only a few schools, churches, family planning organisations, and social service agencies have recognised this information gap and provide information, counselling or contraceptives to the youth. The complexity of the matter is accompanied by a national policy to expel girls who become pregnant from school and this in effect dooms their career.

Barker and Rich (1990) have shown that early pregnancy in Kenya's urban areas and often in rural areas is characterised by out-of-wedlock births, forced school expulsion and a high rate of unsafe, septic abortion. They have further identified causes of early child-bearing in Kenya as strong desires during adolescence, lack of proper education, and attending dances and discos. The young people strongly relied on peers as chief source of information regarding sexuality and that to tackle the problem of early child-bearing, the study revealed apparent reliance on abortion as a strategy for dealing with unwanted out-of-wedlock births.

Ajayi et al (1991) in a study they did in Kenya, found out that 68 percent of more than 3,000 youth aged 12-19 surveyed had received some information on sexuality within school, friends and a same-sex relative being the main sources of information. In Kenya, it has been observed that adolescent fertility levels have been on the increase since 1962. In age group 15-19, age specific fertility rate increased from 141 per 1000 women in 1962 to 179 per 1000 women in 1979 census while in age group 20-24, it was much higher and it increased from 304 per 1000 women in 1962 census to 368 per 1000 women in 1979 census (CBS, 1984).

A study carried out by Aggrawal and Mati (1983) revealed that the incidence of teenage pregnancy in Nairobi was 18.6 percent and 10 percent in Machakos. The incidence could be higher considering that many teenagers have been engaging in pre-marital sexual

intercourse as demonstrated by Gachuhi (1974) where only 10 percent of teenage males and 38 percent of the females had not had sexual intercourse before the age of 20.

Data collected from the 1989 Demographic and Health Survey (1990), has shown that the proportions of adolescents with pre-marital sexual experience and child-bearing are relatively high.

2.1.1 Demographic Factors

Age at menarche has gone down due to the improvement of nutritional status. This improvement has resulted in potential pregnancy risks for the adolescents.

A woman's age at the time she begins bearing children is related to the ultimate size of her completed family size as well as to the proportion of her life she devotes to child-bearing and child-rearing. There is considerable variation in the intervals between the initiation of sexual experience, marriage and child-bearing.

Coale (1974) argues that marriage at an early age provides the longest reproductive life between couples resulting in the fastest increase of population in the shortest period of time in other words the doubling time is very short. Omondi-Ahawo (1980) in studying adolescent fertility in Kenya observed that adolescent fertility was on the increase in Kenya although age at first marriage had gone up due to increased school enrolment for women. This means that the age at which women marry is a cause of

adolescent fertility.

Nyaga (1989) in his study of adolescent fertility in Chogoria location, Meru District, found out that most adolescents had parity one with most infants being more than two years old. The study also revealed that about 95 percent of the respondents indicated that it was accidental conception, having no information about contraceptive before.

Mang'oka (1987) in his study of adolescent fertility in Kenya, has found that illegal abortions are on the increase among adolescents.

Juma (1992) in a study done in Agoro-West sub-location, Kisumu District on adolescent fertility, found out that fertility was highest among adolescent girls who could not explain how a contraceptive they had named is used and low among those who could explain how the contraceptive they had named is used. In effect therefore, Juma found out that adolescent fertility decreased with the use of contraceptives.

Data collected in the KDHS (1989) indicate that although young women are marrying later, many are still having births at young ages. More than 20 percent of teenage girls had at least one child and 7 percent were pregnant at the time of the survey. The survey also witnessed evidence of an unmet need for family planning services. Of the births occurring in the 12 months before the survey, over half were either mistimed or unwanted. One fifth occurred less than 24 months after a previous birth.

The first inter-African conference on Adolescent Health (1992), has noted a very low level of contraceptive use among sexually active adolescents despite widespread knowledge. Also, it was noted that only a small minority of teenage women can identify their fertile period. It has also been observed that menarche or the ability to conceive is occurring earlier and earlier among adolescents.

PSRI (1992) has shown that out of the total respondents, 38.1 percent were adolescents between the ages of 15-24. The study revealed that the age at first marriage was on the increase in both high and medium contraceptive prevalence districts.

Wulf and Singh (1991) in a study done in Sri Lanka, have found that high incidence of unmet need for spacing is found among young women with one or two children. The breakdown of unmet need for limiting increases with age while unmet need for spacing declines sharply. Analysis of unmet need according to the number of children ever born produce results largely consistent with those for age. The unmet need for limiting generally rises with increasing number of children ever born. Respondents with a higher education generally have lower level of unmet need according to the measures treating traditional methods as satisfying unmet need.

DHS data (1992) support the expected correlations and show that women who start having children when they are still in their teenage years have between 2 and 3 more children than those who defer their first birth. The differentials appear to be smallest in

high fertility countries and largest in countries where birth rates are on the decline.

Adolescent fertility contributes to large family size and short intervals between generations. The two factors fuel rapid population growth.

2.1.2 Socio-economic factors

Studies done within Kenya and elsewhere have indicated that adolescent fertility is closely related to socio-economic factors at play. Such factors include education and parent's occupation among others.

Mugwe (1989) in her study of adolescent fertility in Kirinyaga District found out that education and frequency of intercourse are inversely related, hence the higher the level of education of the respondents, the less the frequency of intercourse. She also found out that most adolescent pregnancies occur to girls from families of low socio-economic status.

Nyaga (1989) has also underscored the economic aspect of adolescent fertility in which case he found out that parents with better income had few cases of adolescent pregnancies.

Ruthiru (1992) in his study of adolescent fertility in Meru District found out that the level of education and frequency of intercourse among the adolescents are inversely related, that is the higher the level of education the less the frequency of intercourse.

Eshiwani (undated) has found out that 10 percent of Kenya's female students drop out of secondary schools every year because of pregnancy. In essence, this directly undermines our country's policy that advocates involvement of women in development.

Khasiani (1985) has highlighted the economic aspect of adolescent fertility whereby the young unskilled adolescent girls depend on their families for upkeep. When an adolescent drops out of school, all the finances spent on her is counted a waste as the final goal of finishing school is not achieved. When the men responsible for adolescent pregnancy abandon the adolescent girls after pregnancy, it is the girl's parents who shoulder the added financial responsibilities. For many of these adolescent mothers, this marks the beginning of a cycle of poverty with the negative consequences such as high fertility which is itself a cost to the individual and the family.

With the current inflation in our country, adolescent fertility is viewed as a burden to the already strained household and national economy as it is mostly characterised by pre-marital pregnancies which have no place in society. Adolescent fertility is a threat to the country's efforts to arrest the already high fertility rates which are a cause of high population growth rates.

Haggstrom et. al. (1981) found that the direct consequences of teenage parenthood upon young's people ambitions and attainments are not as severe as one would surmise from comparisons of outcome measures between early parents and their peer. Married women

displayed a clear decline in career aspirations after they become mothers and their educational attainments and educational expectations decline to a lesser extent. They also found out that early fathers lagged behind the other males in both educational attainment and educational aspirations.

PSRI (1992) sampled and studied six districts concerning contraceptive prevalence. They found out that economic benefits of children in terms of labour, supplementary income and security in old age tended to promote high fertility. Kisii was one of the districts studied and this implies that these benefits explains the value of children in the community. On the other hand, children were perceived as posing economic costs particularly as far as food, clothing and schooling were concerned. In essence the study found out that besides the positive contribution of children in the community, economically also, they are a burden on the parents.

2.1.3 Socio-cultural factors

With the current modernisation pace at play, the cultural values that helped to safeguard adolescent fertility are fast eroding as traditional systems do not count any more. African societies' have been since time memorial advocated high moral standards that safeguard pre-marital intercourse. Taking the Abagusii community for instance, virginity was highly valued that a woman who was not found to be a virgin at the time of marriage was treated with contempt and heavily fined. Therefore adolescent

contribution to fertility levels was highly minimised during those days unlike now when permissiveness is engulfing the society.

Furstenberg (1979) has shown that pre-marital adolescent pregnancy interrupts the normatively defined roles and statuses and society reacts negatively. This problem becomes complex when considering a society like Kenya which is characterised by scarce family resources which are not enough to support even the legitimate members of the family.

Khasiani (1985) has revealed that there is a strong negative reaction to adolescent fertility which cuts across institutions and age. This has led to alienation and isolation of adolescent young mothers. At the same time the negative reaction of the society is not accompanied by the necessary concern about adolescent fertility as a social problem.

In an African set up, the concept of grand-child is still strong such that it in away encourages adolescent fertility. The parents of the girl soon forget the problem of adolescent child-bearing and start loving the child. This is mostly evident in families where parents have not been lucky to get a baby boy who now their young daughter gives birth to. This in a way becomes a special situation but is exactly the opposite in families with many boys and also the total number of children is high.

Mugwe (1989) has found out that the frequency of sexual activity increases with age is greatly determined by boy/girl friend relationship.

Mang'oka (1989) in his study of adolescent fertility in Kenya, found out that where the family background is not very strong and there is nobody to care for the adolescent mother and her child, chances of the mother abandoning the baby are high and such babies are given up for adoption or left under the care of friends.

Customs that are maintained in Africa and more so in rural communities may be reflected in the adolescent. For instance, where teenage circumcision is practised, once this initiation is carried out the adolescent is expected to be a grown up. In the case of a girl, she may be looked at as being ready for sex, marriage and to bear children. A boy may start experimentation with sexual intercourse to prove his manhood now that he has been given a head by this rite. This often leads to teenage pregnancies and marriages which are unprotected and uncalled for respectively especially where there is breakdown of traditional social pressures and the loss of traditional methods of fertility control.

2.2.0. Research gaps to be addressed.

From the foregoing literature, the following research gaps have been identified:

- 1. The educational level:** The recently carried out research which was assessing adolescent fertility in some districts in Kenya and which included Kisii district, found out that adolescent fertility was high in the district. However, it should be noted that the study only made reference to in-school adolescents leaving

out those out-of-school who in this study will comprise of school drop-outs and married adolescents. This study will therefore assess the general behaviour of adolescent fertility in the district taking into account both the in-school and the out-of-school married and unmarried adolescents. To achieve this goal, the study was conducted during April holiday when schools were closed so that to capture these groups.

The study is therefore an integration of some kind in trying to bring together the in-school and the out of-school adolescents and this in essence forms the basis of departure from the previous studies that have been done.

2. The Parent's view: From the highlighted literatures, studies done have ignored the parental feeling on adolescent fertility and this has formed their weakness. Whereas they have ignored parental view, this study will include how the parents of the studied adolescents are actually considering the problem of adolescent fertility. Parental view is a major ingredient in this study since they bare the burden of rearing these adolescents and they therefore can be better placed to tell freely the impact of early child-bearing not only to them but also to the community.

3. The policy maker's view: From the foregoing studies, it should be noted that the experience of the policy and programme officers as pertains to the problem of adolescent fertility is conspicuously missing. It is from this point of view that this study is designed and intended to capture their view on the problem

and its magnitude in the district.

Since the foregoing studies have been done independent of these people, this study will thus incorporate them as an integral part through which the government administers her policies for implementation.

4. The Focus Group Discussion: The study done by PSRI (1992) on District Contraceptive Prevalence Survey (DCPS), they found out that the value of children influences fertility in the districts studied, *kisii* inclusive, but the information was purely statistical in nature without supporting evidence as to what might have influenced the observed statistics.

This study hopes to fill this information gap through holding focus group discussions (FGD) from which one will be in better position to explain how the value of children is influencing adolescent fertility in the district. Thus FGD will be vital in this study as it gives the much needed qualitative information on adolescent fertility and therefore go a long way to explain the statistical or the quantitative behaviour of the problem in the district.

5. Coverage: Studies done in Kenya have not really come up with a proper district case in terms of adolescent fertility. For instance Juma (1992) gave a location level analysis on adolescent fertility from which she generalised to indicate a district outlook, while PSRI (1992) based their study on six districts in a more general form and consequently they have used these to imply a

district level analysis.

This study views the above studies as being unfairly representing the implied districts due to inadequate coverage and therefore out to study Kisii district as a single entity in order to come up with a fairly representative coverage and a sample size that will get rid of the unrepresentative nature of the samples taken for the previous studies.

It is from the foregoing pointed gaps and their likely adduced remedies that this study intends to capture diverse information from diverse sources on adolescent fertility so that to come up with clear policy recommendations on how best to solve the problem.

2.3.0. Theoretical Statement.

From the preceding literature review, a number of factors can be said to determine adolescent fertility. These factors form the basis of our conceptual and operational models. In this study therefore, the theoretical statement is stated as this;

" Adolescent fertility in Kisii District is likely to be influenced by socio-cultural, socio-economic and demographic factors"

2.3.1. Theoretical framework

The conceptual framework developed below comprises of three main variables that are mostly likely to affect adolescent fertility indirectly through what is termed as the proximate

determinants. They are socio-economic, socio-cultural and demographic variables.

This model was first developed by Davis and Blake (1956) and later modified by Bongaarts (1978) and since then it has stood the test of time.

The proximate determinants of adolescent fertility are biological and behavioural factors through which socio-economic, socio-cultural and demographic variables affect adolescent fertility. The variables do not directly affect fertility but do so through the proximate determinants which have direct influence on adolescent fertility. Changes in the proximate determinants such as increased use of contraceptives, will lead to a reduction in adolescent fertility in the long run and vice versa.

The conceptual framework presented below is therefore a modification of Bongaarts model of fertility determinants.

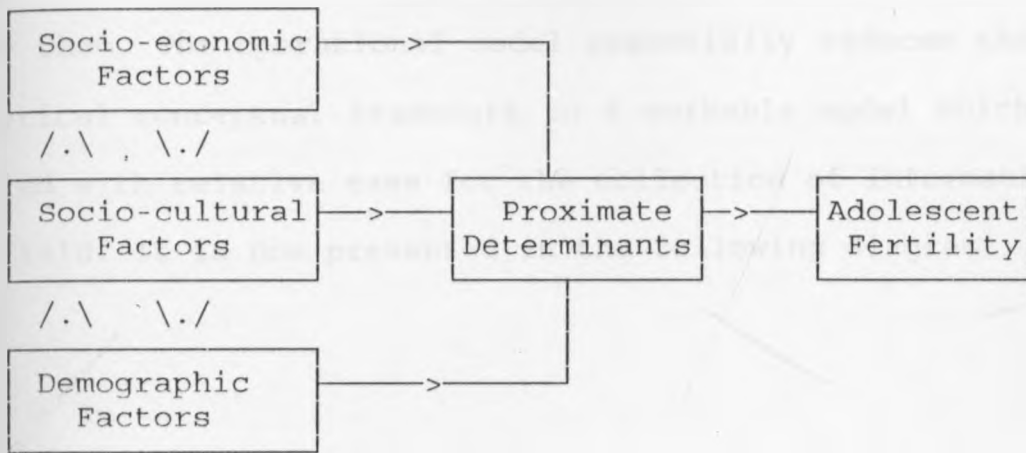
Socio-economic variables such as the adolescent's level of education are assumed that they will affect her use of contraceptives and this will consequently affect her fertility negatively or vice versa. An adolescent who is educated is more likely to use the contraceptives than one without education. Also income of the parents as determined by their occupation and the adolescent occupation will enable them purchase contraceptives and use them unlike those with minimal or no income at all.

Socio-cultural factors such as religion affect adolescent fertility in that some religions do not allow the use of

contraception which results in high fertility.

Demographic factors such as age at menarche and age at marriage affect adolescent fertility through abstinence and coital frequency. This will also influence abortion if the pregnancy was unintended thus lowering adolescent fertility.

Figure 2.1 Conceptual Framework



Source: Modified Bongaarts model of fertility (1978)

2.4.0. Conceptual Hypotheses

This study is based on the following conceptual hypotheses:

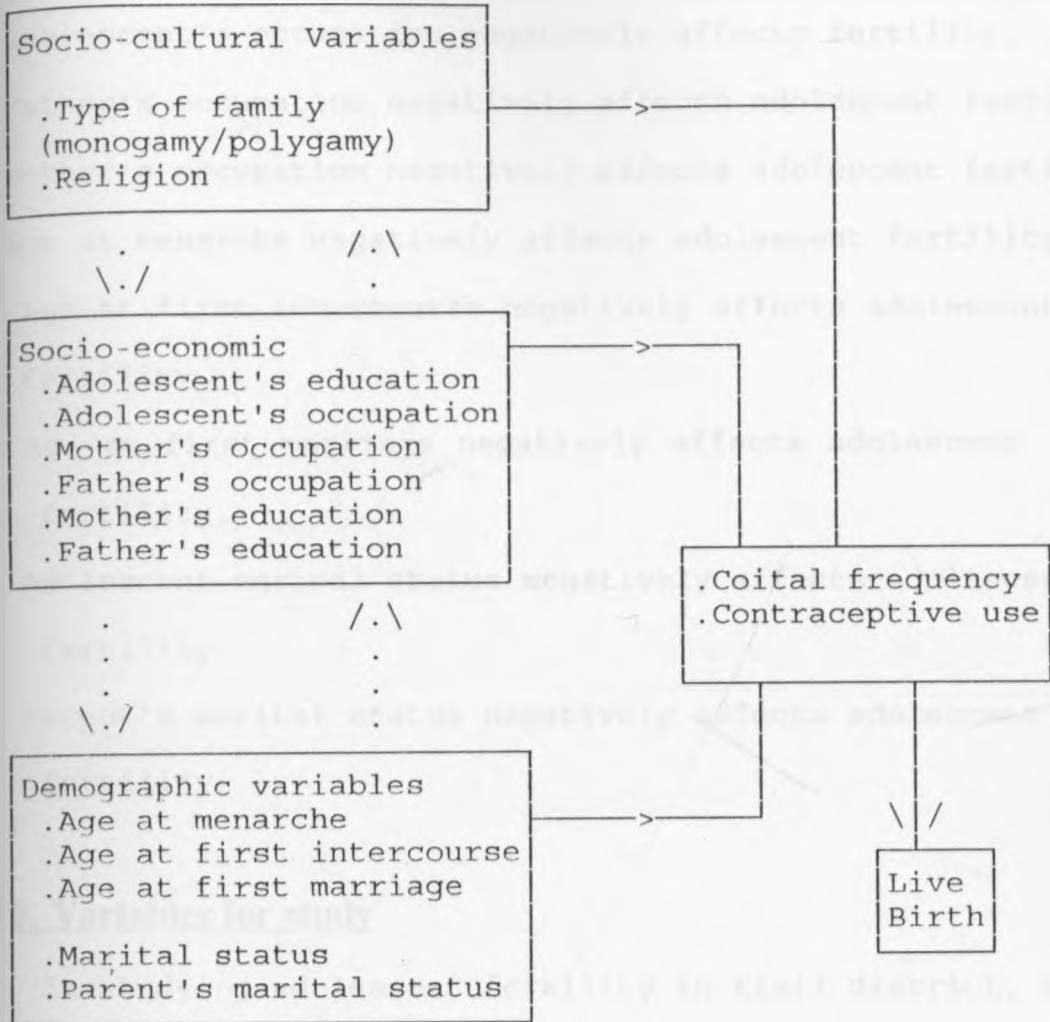
1. Socio-economic factors affect adolescent fertility.
2. Socio-cultural factors affect adolescent fertility.
3. Demographic factors affect adolescent fertility.

2.4.1 Operational model

From the above conceptual framework the following operational model has been adopted. This is the model that contains the variables which are measurable and can directly be translated to the questionnaire for collection of information.

The operational model has sub-divided the socio-economic, socio-cultural and the demographic factors into small units by indicating and demarcating clearly which measurable variables fall under them. The operational model essentially reduces the highly analytical conceptual framework to a workable model which can be applied with relative ease for the collection of information from the field. It is now presented in the following diagram.

Figure 2.2 Operational model



2.4.2. Operational Hypotheses

The operational hypotheses of the study are :

1. The type of family negatively affects adolescent fertility.
2. Religion negatively influences adolescent fertility.
3. Adolescent's level of education negatively affects fertility.

4. Mother's education negatively affects adolescent fertility.
5. Father's education negatively affects adolescent fertility.
6. Adolescent's occupation negatively affects fertility.
7. Father's occupation negatively affects adolescent fertility.
8. Mother's occupation negatively affects adolescent fertility.
9. Age at menarche negatively affects adolescent fertility.
10. Age at first intercourse negatively affects adolescent fertility.
11. Age at first marriage negatively affects adolescent fertility.
12. Adolescent marital status negatively affects adolescent fertility.
13. Parent's marital status negatively affects adolescent fertility.

2.5.0. Variables for study

In studying adolescent fertility in Kisii district, a number of variables have been considered which will eventually help in realizing the objectives of the study.

2.5.1 Independent variables

These are variables whose change either positively or negatively will have an effect on adolescent fertility. The following are considered in the study among others:

1. **Parental marital status:** This refers to either stable

marriage, divorced, separated or single.

2. **The type of family:** This refers to either whether the adolescent belongs to either polygamous or monogamous family.
3. **Religion:** This refers to either protestant, catholic or islam.
4. **parental education and occupation:** This refer to educational level attained and any gainful employment on which they depend.
5. **Age at menarche:** This refer to the age which marks the onset of menstrual cycle among woman.
6. **Age at first marriage:** This refer to the age that a woman enters into a consensual union.
7. **Age at first birth:** This refers to age the adolescent had her first baby.

2.5.2 Dependent variable

This is the variable which shows a pattern that is determined by the independent variables. In this study adolescent fertility is the dependent variable, which will be considered against the above listed variables.

Adolescent fertility is measured by the fact that an adolescent has ever given alive birth. The dependent variable adopted for continuous variables will be age at first birth in a multiple regression.

2.5.3. Definition of concepts.

1. **Adolescent fertility:** Denotes childbearing among young women under age 25.
2. **Adolescence:** This is a time of growing up when young people are getting to know themselves and know each other and the world around them. They make friends, exchange ideas, and have strong feelings about people, about work and play, and how the world should be run. They may form a close relationship with someone they like and this may turn to love.
3. **Contraception:** Any means used to try to prevent pregnancy occurring.
4. **Psychological:** Dealing with the functions of the mind.
5. **Virginity:** This can apply to both girls and boys and it means the state of never having had full sexual intercourse.
6. **Unmet need:** Unmet need arises when a woman is not practising contraception, is physiologically capable of conceiving, is exposed to the risk of pregnancy and desires to avoid or postpone pregnancy.
7. **Natural fertility:** Is the fertility which exists in the ~~absence~~ of deliberate birth control methods.

CHAPTER THREE

3.1.0. METHODOLOGY

3.1.1. Introduction

The methodology utilised in this study especially the sampling method was that adopted by the KDHS (1993) known as the NASSEP III cluster sampling technique. It is an advancement of the sampling frame which was also adopted by CBS during the 1989 census referred to as the NASSEP II cluster sampling technique. From these clusters which are distributed all over the district, 500 households were earmarked for study.

The questionnaires used to collect the information from the field were four in number each targeting different categories of people but converging on the theme of adolescent fertility. They were:

1. Individual questionnaire for adolescents (15-24 years):

Being the target population for the study, this provided demographic, social, cultural and economic data.

2. Parent's questionnaire: This was used to collect the relevant information on adolescent fertility from the parents whose children aged 15-24 years had been interviewed. The reason was to get additional information from the parents which the adolescents might have inadvertently or willingly never revealed during the interview.

3. Questionnaire for policy makers and implementers: This

focused on government officers who are in a position to tell the behaviour of adolescents in the district such as the Education officer, teachers and medical officer.

4. Qualitative questionnaire: Unlike the above three categories of questionnaires which used both coded and pre-coded (structured) questions, this questionnaire had questions administered on five broad themes from which questions for discussion were generated. The nature of administration also differed from the rest in that questions were discussed and answered through Focus Group Discussions (FGD).

Methods of data analysis used in the study include Cross-tabulation, Chi-square, Correlation and Regression analysis.

3.1.2. Sample design and implementation.

In order to reach the potential and required target group (respondents), the sampling procedure followed was the National Sample Survey and Evaluation Programme (NASSEP III).

Basically NASSEP III underscored the improvements made on the National Integrated Sample Survey Programme (NISSP) of 1975-1979, NASSEP I of 1980-1984, and NASSEP II of 1985-1989. NASSEP III has the following major characteristics features taken to generate the frame.

1. NASSEP III unlike the preceding programmes covers the entire country including the pastoral/nomadic districts.
2. Two levels of stratification have been adopted: the rural

and the urban category. In total the rural sample covers 40 districts (excluding Nairobi and Mombasa) and the urban sample covers 58 urban centres. The number of clusters which have been selected is 1048 in rural areas and 325 in urban areas. On average, the above clusters cover about 5 percent of the population in rural and urban areas respectively.

3. The number of clusters per district has been decided upon by the district size in terms of the total population enumerated in 1989 census. Note that each cluster has approximately 100 households with a deviation of about 40 households.

NASSEP frame is based on reliable population data. The household listing of the selected clusters provides a ready frame which can be utilised without any major cost. The CBS has on the ground experienced and well trained field staff who are residents of the clusters assigned to them. The long period of exposure to diverse surveys since NISSP has enhanced the capability and adaptability of the staff in carrying out any household based survey.

The availability of the above staff to institutions and researchers saves time and financial resources that would be required to launch a survey using new and unexperienced staff. The CBS staff have an added advantage in the communities in terms of acceptability and trust. The survey population understands and values their role. At the same time since they cover people of their own cultural base, some of the non-sampling errors arising

from mis-interpretation of the survey objectives and suspicion are minimized.

This sampling procedure assisted the researcher in identifying the households from which to get the respondents who in this case the adolescents. Adolescents were mainly boys and girls who were either in school or out of school. Since the research was carried out during the December holiday, it was very easy to capture the adolescents of all educational levels.

Systematic sampling was employed in all clusters in order to achieve a sample size of 500 households.

Nassep III as applied in Kisii District has a total of 40 clusters out of which 36 clusters are rural and 4 clusters are urban. The 36 rural clusters are distributed within 10 divisions found in the district namely: Nyamache, Nyacheki, Sameta, Kenyenia, Ogembo, Masimba, Keumbu, Marani, Suneka and Nyamarambe while the 4 urban clusters are within Kisii municipality.

we randomly sampled 7 divisions from a total of 10 divisions from which we sampled a cluster per each. The divisions sampled were: Nyamache, Kenyenia, Ogembo, Masimba, Keumbu, Marani and Suneka.

In total, therefore, 7 clusters out of 36 rural clusters were studied. They represented 19.4 percent of the total rural clusters. The same procedure was applied in sampling town clusters from which 1 cluster was sampled out of 4 urban clusters for study. This represented 25 percent of the total urban clusters. In total, 8 clusters were covered out of 40 clusters in the district. In terms

of the distribution of households, a total of 500 households were covered. The study finally yielded the required sample size of 500 adolescents in which 283 were girls and 217 were boys.

3.1.3 Methods of data collection

Two main procedures were adopted in the collection of data from the field. They were the structured questionnaires and focus group discussion.

3.1.4 The questionnaire

Both qualitative and quantitative questions were employed which were designed respectively to have open and pre-coded questions.

In open ended questions, the respondent was given freedom to decide the aspect, form, detail and length of his/her answer. It was the interviewer's work to record as much of it as he could, as long as the options given had relevance to the questions asked. This mainly gathered the qualitative view on adolescent fertility.

In adopting pre-coded questions, the respondents were either given a limited number of answers from which to choose or the question was asked as an open question and the interviewers allocated the answer to the appropriate code category.

The questionnaires were developed in English and during implementation, the interviewers were at most using the same language during the fieldwork or at least making translations for

those who could not understand it. Since translation itself can distort the whole intended aim of the questions, complex translations were discussed and agreed upon during training sessions.

3.1.5. Major themes of the questionnaires.

The following were the major themes covered:

1. **Individual questionnaire for adolescents (15-24):** This questionnaire contained the following themes.

- Individual information: Where the adolescents come from.
- Background information of the adolescents.
- Home background of the adolescents.
- Sexual experience of the adolescents.
- Knowledge of reproduction and sexually transmitted diseases by the adolescents.
- Contraceptive knowledge and use by the adolescents.
- Information, Education, and Communication (IEC) of contraceptive use by the adolescents.
- Benefits and value of children as perceived by the adolescents.
- Pregnancy and abortion (females only) by the adolescents.

2. **Parents' questionnaire:** Covered the following themes:

- Identification information of the parents.
- Background information of the parents.
- Information on the adolescents from the parents.

This questionnaire was administered to parents whose adolescents had been interviewed for easy counter-checking of the information.

3. The questionnaire for policy makers and implementers had the following themes:

- Identification information of the policy makers and implementers.

- Problems facing the youth today.

- The magnitude of adolescent pregnancy in the district.

- Solutions to adolescent pregnancy.

3.1.6. Focus group discussion

Under this method, a group of people were brought together for joint interview sessions. The focus group discussion addressed itself to topical issues, which mainly constituted open ended questions. The group leader guided the people in talking about whatever issue was put for discussion.

Since the study centred on adolescent fertility, separate focus group discussions with adolescents in and out of school, for boys and girls were held since a joint focus group discussion was likely to jeopardise chances of getting full information.

Also to gauge the community attitude towards the issue of adolescent fertility, two focus group discussions one comprising of women and the other comprising of men were held. The following topics were the main focus of the focus group discussions:

- Community attitude towards adolescent fertility.
- The value of children among Abagusii community.
- Attitudes towards contraceptive use by adolescents.
- Community attitude towards abortion as a method of regulating fertility.
- Program-related suggestions from the youth and the community as well.

3.1.7. Selection of participants for F.G.D.

The procedures adopted in selecting participants for FGD here named as discussants was as follows:

First it took into consideration the age limit given, that is 15-24 years for the adolescents and here we had boys and girls separately forming independent groups. Then from girls, we chose those who were currently schooling to form one group was normally composed of 6-8 discussants and then administered the questions on FGD. Like wise for the boys who were schooling the same procedure was followed.

As for the out of school adolescents, we also had separate groups for boys and girls. Here, since adolescents who are either married or unmarried are legible for interviewing as long as they were within the age limit, and since most adolescents were currently schooling, we had, in these two groups included married and unmarried adolescents together so as to form the FGD.

As for parent mothers, we had those who at least had an

adolescent aged between 15-24 years to form a discussant group. And lastly for parent fathers, besides them having adolescents of the above age, they were also clan head men. The main reason being, they were better placed to talk on the community attitude towards adolescent fertility.

In a nutshell, we had six Focus Group Discussions from which we assessed the problem of adolescent fertility in the district.

3.1.8. Training and fieldwork.

Eight interviewers were trained for 3 days at Kisii Central Bureau of Statistics (CBS) offices. All of them were CBS field officers who have a wealth of experience in dealing with research questions. They are the ones who carried out researches on Kenya Demographic and Health Surveys of 1989 and 1993. They were preferred in this research because each is allocated his own cluster for doing any research and therefore they are well known by the local people and this helped to curb the problem of suspicion which is detrimental to good research work and consequently reduced non-response and incorrect answers.

The trainer was the principal researcher who had the sole responsibility of designing the questionnaire and therefore clearly understood what was required and the boundary of the answers that befitted the research. The actual fieldwork commenced on 20th December, 1993 and was completed on 7th January, 1994.

3.1.9. Data Processing and Analysis.

The processing operation consisted of editing which was simultaneously carried out as the research was going on and it was done by the principal researcher. Any error of omission on any questionnaire was to be corrected by the research assistant at the field level. This was easier done because every questionnaire had household number and he could easily trace the respondent in that category.

Besides that, coding of open ended questions and data entry were done at PSRI by the principal researcher. Data entry was done by computers at PSRI using statistical package for social sciences program (SPSS). Coding and data entry commenced in mid January and was completed by March 1994.

Data analysis was done using SPSS package in which all the methods of data analysis which were applied are installed thus; Cross-tabulation and Chi-square, Correlation and Regression analysis.

3.2.0. Methods of data analysis.

3.2.1 Cross-tabulation and chi-square test

Cross-tabulation is a method employed where we have only two variables under consideration. Here the method is only able to give an indication of the strength of the relationship between the two variables.

Chi-square test is applied to enable us to know whether there

exists a significant relationship or not between the two variables. In applying the chi-square test, we first of all formulate two types of hypotheses, the null hypothesis (H_0) and the alternative hypothesis (H_1). The null hypothesis is always formulated in such a way as to invalidate the outcome of the two variables and is the one which is tested in the long run.

When the null hypothesis is tested statistically and proved to be true, it is rejected and consequently the alternative hypothesis is accepted. Thus cross-tabulation procedure and chi-square tests are used to determine the nature of the relationship between the two variables such as parental marital status and adolescent fertility.

To Calculate the test statistic (X^2) the formula used is:

$$X^2 = \sum_i \sum_j \frac{(O_{ij} - E_{ij})^2}{E_{ij}}$$

where;

X^2 = Chi-square

\sum_{ij} = Summation (sigma)

O_{ij} = Observed frequency (values)

E_{ij} = Expected frequencies

The expected values for each cell are computed using the row and the column total. For instance taking;

Row totals are denoted by n_i

Column total are denoted by n_j

Grand total is denoted by N ,

then the expected values are computed as;

$$E_{ij} = \frac{n_i \cdot n_j}{N}$$

The calculated X^2 value is compared with table X^2 value so as to be able to determine the statistical significance of the X^2 statistic obtained. For possible comparisons we require;

- (i) confidence level ($\alpha = 0.05$)
- (ii) degree of freedom calculated by formula (Rows-1) (columns-1)

If the calculated X^2 value is greater than the table X^2 value at the specified confidence level and degrees of freedom, then the null hypothesis (H_0) is rejected and hence the alternative hypothesis is accepted.

3.2.2. The advantages of chi-square test

The chi square test has the following advantages in its application.

1. Chi-square as a test of independence: With the help of chi-square test we can find out whether two or more attributes are associated or not. For instance adolescent fertility status on the one hand and variables like adolescent marital status, education of adolescent and religion of adolescent.

2. Chi-square test as a test of goodness of fit: Chi-square test is very popularly known as a test of goodness of fit for the

reason that it enables us to ascertain how well the theoretical distribution such as Binomial and Normal, fit empirical distributions, i.e., those obtained from sample data. For example distribution of age at menarche, age at first marriage and age at first birth which in the case of adolescents can show normal distribution.

3. Chi-square test as a test of Homogeneity: The chi-square test of homogeneity is an extension of chi-square test of independence. Tests of homogeneity are designed to determine whether two random samples are drawn from the same population or from different populations. For instance if age of the adolescent as defined in the study will be used to test homogeneity, then taking any sample from the population must have age between 15-24.

3.2.3. The limitations on the use of Chi-square test.

Chi-square test is widely used in practice. However, in order to avoid the misapplication of the test, the following limitations should be kept in mind.

1. Frequencies of non-occurrence should be omitted for binomial events. For instance if we take age 19 to be the marriage age among the adolescents, we should get the number married or unmarried by that age in order to apply the chi-square test. Not married by age 19 is in our case frequencies of non-occurrence.

2. The formula presented for chi-square statistics is in terms

of frequencies. Hence an attempt should be made to compute on the basis of proportions or other derived measures. For instance when we consider adolescents who have either given birth or not, we will have frequencies of either category that is when the chi-square test will apply.

3. The formula presented in this study is not appropriate for cases in which repeated measurements on the same or matched groups are represented in one table. When data from questionnaires and similar devices are analyzed, the reader should be careful that he does not set up the tables incorrectly. For instance it will be incorrect to have the adolescent fertility status on the horizontal against adolescent marital status when calculating the statistic.

3.2.4. Regression

The method of regression enables us to predict values for one variable (y) given values for the other variable (x). If this is done, we need to find a line which is a good fit for the points on a scatter gram and then use that line to find the value of y corresponding to each given value of x.

3.2.5 Techniques for estimating a line of best fit

Three techniques are used to determine a line of best fit.

These are:

(a) Scatter graph

(b) Simple linear regression analysis

(c) Multiple regression analysis

3.2.6. Multiple regression analysis

For the techniques so far described above, there is an assumed relationship between one dependent variable y and one independent variable. Multiple regression analysis in contrast, involves more variables. There is still a dependent variable, y , but now there are two or more independent (or explanatory) variables.

In this study, adolescent fertility was the dependent variable while education, occupation and religion were independent variables. The behaviour of adolescent fertility was regressed against the said independent variables.

As with linear regression, the function for y is derived from an analysis of historical data. The function of the formula,

$$Y = a + bx_1 + cx_2 + dx_3 + \dots + hx_n,$$

where $x_1, x_2, x_3, \dots, x_n$ are the various factors which affect the value of y_i .

a = a constant value; b, c, d and so on reflect the impact on y of each of the particular factors.

The aim of multiple regression analysis is to improve predictions of the value of y by recognising that several different explanatory factors might be improved. Multiple regression analysis is particularly likely to be useful when there is fairly high

correlation between the x variables and the y variables, but low correlation between pairs of the x variables. As for the study, age at first birth has been used as the independent variable while such variables as age at first marriage, adolescent occupation and the benefit of children are the dependent variables. Also, the table 4.20 clearly shows that x variables have low inter-correlations.

The disadvantage of multiple regression analysis is its relative complexity, and a computer programme would normally be needed to derive the function for y. By using the computer we apply SPSS PC in which case the option for analysis of the data will be stepwise selection.

3.2.7. Advantages of multiple correlation analysis

The coefficient of multiple correlation serves the following purposes.

1. It serves as a measure of the degree of association between one variable taken as the dependent variable and the independent variables. For example age at first birth and use of contraception.

2. It also serves as a measure of goodness of fit of the calculated plane of regression and consequently as a measure of the general degree of accuracy of estimates made by reference to equation for the plane of regression. For instance an equation derived from age at first birth against other explanatory variables like adolescent occupation and education helps to explain the strength of the explanatory variables.

3.2.8. Limitations of multiple correlation analysis.

1. Multiple correlation analysis is based on the assumption that the relationship between the variable is linear. In other words, the rate of change in one variable in terms of another is assumed to be constant for all the values. In practice most relationships are linear but follow some other pattern. This limits somewhat the use of multiple correlation analysis. For example in our case age at first birth is taken to assume that it is a function of age at first marriage but this in practice may not be the case as some adolescents give birth outside a customary defined marital union.

2. A second important limitation is the assumption that effects of independent variables on the dependent variable are separate, distinct and additive, a given change in one has the same effect on the dependent variable regardless of the sizes of the other two independent variables. For instance age at first birth cannot be assumed to depend on only marital status of the adolescent but also on religion, benefits of children, occupation and parent's pressure on the adolescent to be married for purposes of dowry. These factors usually work jointly and not independently as assumed.

3. Linear multiple correlation involves a great deal of work relative to the results frequently obtained. When the results are obtained, it calls for proper training in the method to be able to interpret them. This is true in that once the results of multiple

correlation are obtained as in our example of age at first birth and other explanatory variables, interpretation is usually hard in the absence of proper training.

CHAPTER FOUR.

4.1.0: VARIABLES ASSOCIATED WITH ADOLESCENT FERTILITY.

4.1.1: INTRODUCTION.

This chapter includes a description of the variables used in the analysis. These descriptions are discussed in section one and they include; adolescent marital status, age at menarche, age at first intercourse, age at first marriage, knowledge of safe period, contraceptive knowledge and use, Parental marital status, type of family (polygamy or monogamy) to which the adolescent belongs, religion of the adolescent, benefit of children, adolescent's level of education, adolescent's occupation, mother's occupation, mother's education, father's education and occupation.

The second section of the chapter examines the association of each of these variables with the dependent variable. Analysis undertaken in this chapter is based on 275 girls respondent in the survey.

4.1.2. CHARACTERISTICS OF THE ADOLESCENTS

This study focused on adolescents aged between 15-24. A total of 500 adolescents were interviewed (217 boys and 283 girls). Some of the important characteristics of these adolescents are summarised in Table 4.1. As shown in this table, the average age at first marriage was 19.4 years with the minimum age being 14 years

and the maximum being 24 years. The average age at first birth was 18.7 with the minimum age being 15 years and the maximum being 24 years. The average age at menarche was 14.2 years with the minimum age of 9 years and the maximum of 18 years. The average age at first sexual intercourse was quite low at 15.1 years with the minimum age of 9 years and the maximum of 23 years.

Table 4.1. Demographic Characteristics of the Adolescents.

Variable Label	Mean Age	Minimum Age	Maximum Age	Eligible Sample
Age of Adolescent	18.9	15	24	500
Age at first marriage	19.4	14	24	110
Age at first birth	18.7	15	24	94
Age at menarche	14.2	9	18	267
Age at first sexual intercourse	15.1	9	23	396

Source: Calculated from field Data.

Knowledge and use of contraception among the adolescents summarised in Table 4.2 and 4.3 respectively show that 67.6 percent adolescents knew at least a method of preventing pregnancy the rest (32.4 percent) did not have any knowledge showing that the kind of knowledge among the adolescents is not as high. However, the use of

contraception for preventing pregnancy was very low. As expected the use of contraception among the adolescents is low with only 16.2 percent having used at least one method for preventing pregnancy while the rest (83.8 percent) had not used any method.

Table 4.2: Percent distribution of adolescents by their Knowledge of contraceptives.

Value Label	Frequency	Percentage
Has Knowledge	338	67.6
Does not have Knowledge	162	32.4
TOTAL	500	100.0

Source: Calculated from field data

Table: 4.3. Percent distribution of adolescents by whether they had ever used contraceptives.

Value Label	Frequency	Percentage
Ever used Contraceptive	81	16.2
Not used contraceptive	419	83.8
Total	500	100.0

Source: Calculated from field data.

4.2.0. Description of the variables

Table 4.4 summarises the variables used in further analysis. The factors associated with adolescent fertility are based on 275 girls on which the analysis could be undertaken.

Table 4.4. Percent Distribution of the Categorical Variables.

DEPENDENT VARIABLE	PERCENTAGE	NUMBER OF CASES
Ever given birth		
Given birth	65.6	
Not given birth	34.4	275
SOCIO-ECONOMIC	PERCENTAGE	NUMBER OF CASES
Adolescent occupation		
Student	53.8	
Peasant	44.7	
Currently working	1.5	275
Mother's occupation		
Farmer	92.0	
Earning	8.0	264
Father's occupation		
Farmer	61.6	
Earning	38.4	216

Adolescent Education		
Standard 1-4	4.7	
Standard 5-8	50.5	
Secondary form 1+	44.7	275
Father's Education		
None	6.9	
Primary	61.8	
Secondary	31.3	217
Mother's Education		
None	25.0	
Primary	66.7	
Secondary	8.3	264
SOCIO-CULTURAL VARIABLES	PERCENTAGE	NUMBER OF CASES
Family Type		
Monogamy	68.0	
Polygamy	32.0	272
Religion		
Protestant	56.7	
Catholic	43.3	275
DEMOGRAPHIC VARIABLES	PERCENTAGE	NUMBER OF CASES

parental marital status		
Currently married	74.2	
Single parents	1.8	
Widowed	20.7	
Separated	1.8	
Orphanhood	1.5	275
Adolescent marital status		
Currently married	26.2	
Single	70.5	
Divorced	0.7	
Separated	2.5	275
PROXIMATE DETERMINANTS	PERCENTAGE	NUMBER OF CASES
Use of contraception		
Used	15.3	
Not used	84.7	275
Coital Frequency		
Once a week	7.3	
Thrice a week	17.8	
Once a month	20.0	
Once in three months	18.9	
None	36.0	275

The dependent variable used is a categorical variable indicating whether the adolescent had given a birth or not. As shown in this table a substantial population of the adolescents, 65.6 percent had given birth while 34.4 percent had not.

The independent variables used in the analysis broadly categorised as socio-economic, socio-cultural and demographic variables shown in the table are described below.

4.2.1. SOCIO-ECONOMIC VARIABLES.

Adolescent Occupation.

The occupation of the adolescent variable which was classified into three categories viz:- student, peasant and employed show that 53.8 percent were students, 44.7 percent were peasants and only 1.5 percent were working.

Mother's occupation.

The mother's occupation was categorised into whether she was a farmer or in wage employment. As shown in the table most of the adolescent's mothers were farmers (92.0 percent) while 8.0 percent were earning their living from sources like business and employment.

Father's occupation.

The father's occupation was also categorised into whether the father was a farmer or earning income. Compared to the mothers, more fathers (38.4 percent) were earning their living from other sources like business and employment while the rest were farmers.

Adolescent education.

The adolescent's education was categorised into three categories with 4.7 percent, 50.5 percent and 44.7 percent for standard 1-4, standard 5-8 and secondary education respectively.

Father's education.

Father's education was categorised into three categories. As shown 6.9 percent had no education, 61.8 percent primary education and 31.3 percent had secondary education and above.

Mother's education.

The mother's education which was also categorised as the fathers education reveals that 25 percent had no education, 66.7 percent had primary education and 8.3 percent had secondary education. Showing as expected that fathers have a high level of education than mothers.

4.2.2. SOCIO-CULTURAL VARIABLES.

Family type.

Family type variable in the study categorised the adolescents on the basis whether the adolescent belonged to a polygamous family or a monogamous family. As shown in the table most of the adolescents (68.0 percent) were from a monogamous family while 32.0 percent were from a polygamous family.

Religion.

Religion was categorised into protestants and catholics. The table shows that most adolescents (56.7 percent) were protestants while 43.3 percent were catholics.

4.2.3. DEMOGRAPHIC VARIABLES.

Parental marital status.

Marital status was categorised into five categories viz:- currently married, single, widowed, separated and orphans. As shown 74.2 percent of the adolescents were in families which the parents were currently married, 1.8 percent were single, 20.7 percent were widowed, 1.8 percent were separated and 1.5 percent were orphans.

Adolescent marital status.

Adolescent marital status was categorised into four categories namely currently married, single, divorced and separated. As shown, 26.2 percent of the adolescents were currently married, 70.5 percent were single, 0.7 percent were divorced and 2.5 percent were separated.

4.2.3. PROXIMATE DETERMINANTS.

The following proximate determinants were included in the analysis.

Use of contraceptives.

Ever use of contraceptive which was categorised into those who had ever used a method and those who had not used show that only 15.3 percent of the adolescents had ever used contraceptives while the majority (84.7 percent) had not used any method of contraception.

Coital frequency.

Coital frequency among the adolescents was observed to be high with only 36 percent adolescents having not had sexual intercourse. The distribution of other categories were as follows, 7.3 percent had sex once a week, 17.8 percent had sex thrice a week, 20.0 percent had sex once a month, 18.9 percent had sex once in three months.

Table 4.5. RELATIONSHIP BETWEEN DEPENDENT AND INDEPENDENT

VARIABLES.

The table below examines the relationship between the dependent variable ever given birth and each of the independent variables. The table gives coefficients of the various categories used in the analysis. In addition coefficients of variables used as reference categories have also been given.

Before discussing the results summarised in this table it is important to note that these coefficients represent the probabilities of having a birth and the difference between these categories for example the coefficient for the reference category for the adolescent occupation indicates that the probability of ever given birth for this category is about .06 and it is highest among the peasant which is $.61910 + .06122 = .68$. Thus as expected adolescent fertility is lowest among students and highest among those classified as peasants. Coefficients for other variables can be interpreted in a similar manner and are discussed below.

VARIABLE	BETA	SIGNIFICANCE TEST
Adolescent occupation		
Student*	.06122	
Currently working	.43878	.0184
Peasant	.61910	.0000

Mother's occupation		
Businesswoman*	.47619	
Farmer	-.13179	.2224
Employed	-.38529	.0297
Father's occupation		
Businessman*	.41772	
Employed	-.20804	.0098
Farmer	-.05409	.4208
Adolescent education		
Standard 1-4*	.69231	
Standard 5-8	-.37576	.0064
Secondary form 1+	-.35346	.0107
Father's education		
None*	.44444	
Primary	-.10610	.1261
Secondary	-.19444	.0156
Mother's education		
None*	.38961	
Primary	-.03329	.6064
Secondary	-.29870	.0093

Family type		
Monogamy*	.31183	
Polygamy	.31183	.0992
Religion		
Catholic*	.32680	
Protestant	.03987	.4932
Parental marital status		
Currently married*	.33005	
Orphanhood	.41995	.0799
Separated	-.33005	.1245
Single parents	-.13005	.5442
Widowed	.08067	.2597
Adolescent marital status		
Currently married*	.73611	
Separated	.12103	.4407
Divorced	.26389	.3533
Single	-.56424	.0000
Use of contraception		
Ever used*	.54762	
Not used	-.24026	.0025

Coital frequency		
Once a week*	.17647	
Once in three months	.05882	.4035
Thrice a week	.61945	.0000
Once a month	.23094	.0009

Note. * These are variables that were used as reference categories. They are constants in the analysis.

Socio-Economic variables.

Adolescent Occupation.

As noted adolescent fertility was highest among those who were peasants and lowest among those who were students while those classified as currently working were lower compared to those classified as peasants. As shown in this table these differences are statistically significant.

Mother's Occupation.

Adolescents whose mothers were involved in business are found to have the highest probability of having given a birth and lowest

among those whose mothers were employed. Adolescents whose mothers were farmers had a slightly higher chance of even having given birth. These differences are however not statistically significant.

Father's Occupation.

The relationship between fathers occupation and the adolescent fertility is similar to that discussed above for the adolescents mothers occupation. As shown in this table between these differences are only significant between those whose fathers were employed.

Adolescent Education.

Adolescent's level of education is negatively related to adolescent fertility. Adolescents having standard 1-4 level of education the probability of ever giving a birth was a 0.7 which is less than half for those with standard 5-8 and secondary plus. These differences are noted to be statistically significant.

Mother's Education.

The adolescent's mothers education shows a similar relationship with adolescent fertility as that discussed above for the adolescent education. Adolescents whose mothers had no education had the highest probability of having ever given birth. As shown in this table these differences are only statistically significant for those whose mothers had secondary education level and above.

Father's Education.

The adolescents father's education shows a relationship similar to that discussed above for the mothers education. An educated father knows the importance of education and therefore is more likely to take the adolescents to school. School attendance in most cases enlightens the adolescent on the modern methods of contraceptives and also increases the age at marriage.

Demographic Variables.

Adolescent Marital Status.

As expected adolescent fertility is highest among adolescents who are married and lowest among those who are single. Those who are separated and divorced are however observed to have the highest levels although they were not statistically different from those currently married. The differences between those married and single is statistically highly significant.

Use of contraception.

The relationship between contraception and adolescent fertility is not in the expected direction with those who have ever used showing higher probabilities of having ever given a birth and these differences are statistically significant.

Coital frequency.

The coital frequency and adolescent fertility are related as expected with adolescents indicating having sexual relations thrice a week having the highest probabilities. This positive relationship is expected in that for those adolescents whose coital frequency is high are more likely to be pregnant. This will positively influence adolescent fertility.

4.3.0: RESULTS OF CROSS-TABULATION AND CHI-SQUARE ANALYSIS

4.3.1. Demographic Factors

Marital status of adolescent.

Under marital status, adolescents were asked to state whether they were married or not at the time of the study. The cross-tabulation between marital status and adolescent fertility shows that of those who had given birth, 74 percent were married while only 16.4 percent were single. On the other hand of those who had not given birth, 26 percent were married while 83.6 percent were single. Table 4.4 below shows how adolescent fertility status is distributed by marital status of the adolescents.

Table 4.6. Percent distribution of adolescents by fertility status and marital status .

Adolescent fertility status	Adolescent marital status		Row total
	Currently married	Single	
Given birth	54 (74%)	33 (16.4%)	87 (31.8%)
Not given birth	19 (26%)	168 (83.6%)	187 (68.2%)
Column total	73 (100%)	201 (100%)	274 (100.0%)

Chi-square: 81.85968

D.F: 1

Significance: .0000

Cross-tabulation of marital status of the adolescents and adolescent fertility indicated an observed significance of .0000. Thus at .05 level of significance, we may conclude that adolescent fertility is dependent on marital status of the adolescent.

Ever married.

The cross-tabulation between ever married adolescents and adolescent fertility shows that 77.6 percent of those who had given birth had ever been married while 14.3 percent were unmarried. On

the other hand, of those who had not given birth, 22.4 percent were married while 85.7 percent were unmarried. Table 4.5 below shows distribution of adolescent fertility status by ever married.

Table 4.7. Percent distribution of adolescents by fertility status and ever married.

Adolescent fertility status	Ever married		Row total
	Married	Not married	
Given birth	66 (77.6%)	28 (14.3%)	94 (33.5%)
Not given birth	19 (22.4%)	168 (85.7%)	187 (66.5%)
Column total	85 (100%)	196 (100%)	281 (100.0%)

Chi-square : 106.92041

D.F: 1

Significance: .0000

Cross-tabulation of adolescent fertility and ever married showed a significance of .0000. Therefore, at .05 level of significance, adolescent fertility is dependent on ever married.

Parent's marital status.

The cross-tabulation of parent's marital status and adolescent fertility revealed that of the adolescents who had given birth,

32.4 percent belonged to parents who were married while 39.7 percent belonged to widowed parents. Also of those who had not given birth, 67.6 percent belonged to married parents while 60.3 percent belonged to widowed parents. Table 4.6 below shows adolescent fertility status against parent's marital status.

Table 4.8. Percent distribution of adolescents by fertility status and Parent's marital status

Adolescent fertility status	Parental marital status		Row Total
	Married	Widowed	
Given Birth	68 (32.4%)	23 (39.7%)	91 (34.0%)
Not given Birth	142 (67.6%)	35 (60.3%)	177 (66.0%)
Column Total	210 (100%)	58 (100%)	268 (100.0%)

Chi-square: 1.07236

D.F: 1

Significance: .3004

Analysis of cross-tabulation of adolescent fertility and parental marital status indicate a significance of .3004. Thus, at .05 level of significance, adolescent fertility does not depend on parental marital status.

Age at menarche.

Age at menarche was considered and in this case adolescents were asked to state the age at first menstrual cycle. Cross-tabulation of their age at menarche and adolescent fertility showed that of the adolescents who had given birth, their age at menarche was distributed as follows, 47.8 percent at age 12, 40 percent at age 13, 26 percent at age 14, 34.7 percent at age 15, and 31 percent at age 16. Whereas, among those who had not given birth, 52.2 percent had menarche at age 12, 60 percent at age 13, 74 percent at age 14, 65.3 percent at age 15 and 69 percent at age 16. Table 4.7 below shows adolescent fertility status against age at menarche.

Table 4.9. Percent distribution of adolescents by fertility status and age at menarche.

Adolescent fertility status	Age at Menarche					Row Total
	12	13	14	15	16	
Given birth	11 (47.8%)	18 (40%)	19 (26%)	25 (34.7%)	9 (31%)	82 (33.9%)
Not Given birth	12 (52.2%)	27 (60%)	54 (74%)	47 (65.3%)	20 (69%)	160 (66.1%)
Column Total	23 (100%)	45 (100%)	73 (100%)	72 (100%)	29 (100%)	242 (100%)

Chi-square: 4.88603

D.F: 4

Significance: .2992

Cross-tabulation of age at menarche and adolescent fertility indicate a significance of .2992. Thus at .05 level of significance, adolescent fertility does not depend on age at menarche.

Knowledge of safe period.

Knowledge of safe period was established by asking the adolescents whether a girl who had not reached her menarche can be pregnant in the event of her having sexual intercourse. Cross-tabulation of adolescent fertility and knowledge of safe period shows that of the adolescents who gave birth, 41.5 percent said that a girl can be pregnant before her periods, 40.9 percent said she cannot be pregnant while 11.3 percent did not know. Also, of the adolescents who had not given birth, 58.5 percent said a girl can be pregnant before her periods, 59.1 percent said she cannot be pregnant and 88.7 percent did not know. Table 4.8 below shows adolescent fertility status and knowledge of safe period.

Table 4.10. Percent distribution of adolescents by fertility status and knowledge of safe period.

Adolescent fertility status	Knowledge of safe period*			Row Total
	Can be pregnant	Can't be pregnant	Don't know	
Given birth	17 (41.5%)	70 (40.9%)	8 (11.3%)	95 (33.6%)
Not given birth	24 (58.5%)	101 (59.1%)	63 (88.7%)	188 (66.4%)
Column Total	41 (100%)	171 (100%)	71 (100%)	283 (100%)

* The index knowledge of safe period is measured by asking the adolescents whether a girl can be pregnant before menarche.

Chi-square: 21.14197

D.F: 2

significance: .0000

Cross-tabulation of the knowledge of safe period and adolescent fertility indicate a significance of .0000. Therefore, at .05 level of significance, adolescent fertility depends on knowledge of safe period.

Knowledge of contraception.

Knowledge of contraception was established by asking the adolescents whether they knew any method of preventing pregnancy. Cross tabulation of the answers given and adolescent fertility shows that of the adolescents who had given birth, 38 percent knew of at least a method of preventing pregnancy while 23.2 percent did not know of a method. Also, of those who had not given birth, 62 percent knew of a method of preventing pregnancy while 76.8 percent did not know a method.

It is important to note that the above statistics is based on the information given by the adolescent girls only. Table 4.9 below shows adolescent fertility status by knowledge of contraceptives.

Table 4.11. Percent distribution of adolescents by fertility status and knowledge of contraception.

Adolescent fertility status	Knowledge of Contraception		Row Total
	Has knowledge	Has no knowledge	
Given birth	76 (38 %)	19 (23.2 %)	95 (33.7 %)
Not given birth	124 (62 %)	63 (76.8 %)	187 (66.3 %)
Column Total	200 (100 %)	82 (100 %)	282 (100 %)

Chi-square: 5.72489

D.F: 1

Significance: .0167

Cross-tabulation of adolescent fertility and knowledge of contraception indicates a significance of .0167. Thus, at .05 level of significance, adolescent fertility depends on knowledge of contraception.

Use of contraception

The adolescents were asked to state whether they had ever used any method of contraception. Then cross tabulation of the answers given and adolescent fertility shows that of the adolescents who

had given birth, 53.3 percent had used a method to prevent pregnancy while 29.8 percent had not used. On the other hand, of the adolescents who had not given birth, 46.7 percent had used a method to prevent pregnancy while 70.2 percent had not used. Either case therefore, the users of contraception are fewer than the non-users. Table 4.10 below shows adolescent fertility status by use of contraception.

Table 4.12. Percent distribution of adolescents by fertility status and use of contraception.

Adolescent fertility status	Use of Contraception		Row Total
	Ever used contraception	Never used contraception	
Given birth	24 (53.3 %)	71 (29.8 %)	95 (33.6 %)
Not given birth	21 (46.7 %)	167 (70.2 %)	188 (66.4 %)
Column Total	45 (100 %)	238 (100 %)	283 (100 %)

Chi-square: 9.37307

D.F: 1

Significance: .0022

Analysis of cross-tabulation of adolescent fertility and use of contraception indicate a significance of .0022. Therefore, at .05 level of significance, adolescent fertility depends on use of contraception.

4.2.2. Socio-economic factors.

Education of the adolescent.

Education as a factor was established by asking the adolescents to state their highest education standard or form they had attained at the time of the interview. Cross-tabulation of education and adolescent fertility showed that of the adolescents who had given birth, 69.2 percent had primary education standard 1-4, 31 percent had primary education standard 5-8 percent while 32.8 percent had secondary education plus. Also, as for those who had not given birth, 30.8 percent had primary education standard 1-4, 69.2 percent had primary education standard 5-8 while 67.2 percent had secondary education plus. Table 4.11 below shows adolescent fertility status by education of the adolescent.

Table 4.13. Percent distribution of adolescents by fertility status and education of the adolescent.

Adolescent fertility status	Education of the adolescent			Row Total
	Standard 1-4	standard 5-8	secondary plus	
Given birth	9 (69.2 %)	44 (31%)	42 (32.8%)	95 (33.6%)
Not given birth	4 (30.8 %)	98 (69.2%)	86 (67.2%)	188 (66.4%)
Column Total	13 (100%)	142 (100%)	128 (100%)	283 (100%)

Chi-square: 7.87151

D.F: 2

Significance: .0195

Cross-tabulation of education and adolescent fertility indicate a significance of .0195. Therefore, at .05 level of significance we may conclude that adolescent fertility is dependent on education.

Occupation of adolescent.

The occupation of the adolescent was determined by asking them to state their occupation at the time of the interview. Cross-tabulation of adolescent fertility and occupation of the adolescent

shows that 5.8 percent of those who had given birth were students while 67.5 percent were peasants. Also, of those who had not given birth, 94.2 percent were students while 32.5 percent were peasants. Table 4.12 below shows adolescent fertility status and occupation of the adolescent.

Table 4.14. Percent distribution of adolescents by fertility status and occupation of adolescent.

Adolescent fertility status	Occupation of adolescent		Row Total
	Student	Peasant	
Given birth	9 (5.8 %)	83 (67.5 %)	92 (33.1 %)
Not given birth	146 (94.2 %)	40 (32.5 %)	186 (66.9 %)
column Total	155 (100%)	123 (100%)	278 (100%)

Chi-square : 117.80783

D.F: 1

Significance: .0000

Cross-tabulation of adolescent fertility and occupation of adolescent indicates a significance of .0000. Thus at .05 level of significance, adolescent fertility is dependent on occupation of

the adolescent.

Mother's education.

The adolescents were asked to state the highest level of their mother's education. Then cross-tabulation of the answers given with adolescent fertility shows that of the adolescents who had given birth, 38.8 percent had mothers with no education while 34.1 percent had mothers with primary education. As for those who had not given birth, 61.2 percent had mothers with no education while 65.9 percent had mothers with primary education. Table 4.13 below shows adolescent fertility status by mother's education.

Table 4.15. Percent distribution of adolescents by fertility status and Mother's education.

Adolescent fertility status	Education of the Mother		Row total
	No education	Primary education	
Given birth	26 (38.8 %)	62 (34.1 %)	88 (35.3 %)
Not given birth	41 (61.2 %)	120 (65.9 %)	161 (64.7 %)
Column Total	67 (100 %)	182 (100 %)	249 (100 %)

Chi-square :.48150

D.F: 1

significance: .4877

Analysis of cross-tabulation of adolescent fertility with highest education level of the mother show an observed significance of .4877. Thus, at .05 level of significance, we may conclude that adolescent fertility is not dependent on mother's education.

Father's occupation.

Cross-tabulation of adolescent fertility and father's occupation shows that of the adolescents who had given birth, 33.3 percent had fathers who were businessmen, 35.3 percent were farmers and 20.6 percent were employed. Also, of those who had not given birth, 66.7 percent had fathers who were businessmen, 64.7 percent were farmers and 79.4 percent were employed. Table 4.14 below shows adolescent fertility status by father's occupation.

Table 4.16. Percent distribution of adolescents by fertility status and Father's occupation.

Adolescent fertility Status	Occupation of the Father			Row Total
	Businessman	Farmer	Employed	
Given birth	7 (33.3 %)	49 (35.3%)	13 (20.6%)	69(30.9%)
Not given birth	14 (66.7 %)	90(64.7%)	50(79.4%)	154(69.1%)
Column Total	21 (100 %)	139(100%)	63(100%)	223(100%)

Chi-square: 4.39670

D.F. : 2

Significance: .1110

Cross-tabulation of adolescent fertility and father's occupation indicate a significance of .1110. Thus, at .05 level of significance, adolescent fertility does not depend on father's occupation.

Father's education.

Father's education was observed from the adolescents' responses who stated their father's highest educational level.

Cross-tabulation of father's education and adolescent fertility shows that out of the total number of adolescents who had given birth, 40 percent had fathers who had no education, 33.6 percent had primary education, and 23.6 had secondary education. As for those who had not given birth, 60 percent had fathers with no education, 66.4 percent had primary education and 76.4 percent were employed. Table 4.15 below shows adolescent fertility status by father's education.

Table 4.17. Adolescent fertility and Father's education.

Adolescent fertility status	Education of the Father			Row Total
	No education	Primary education	Secondary education	
Given birth	6 (40 %)	46 (33.6%)	17 (23.6%)	69 (30.8 %)
Not given birth	9 (60%)	91 (66.4%)	55 (76.4%)	155 (69.2 %)
Column Total	15 (100%)	137(100%)	72 (100%)	224 (100 %)

Chi-square: 2.83688

D.F. : 2

Significance: .2421

Cross-tabulation of father's education and adolescent

fertility shows a significance of .2421. Therefore at .05 level of significance, adolescent fertility does not depend on father's education.

4.3.3. Socio-cultural Factors.

Family type.

Family type as used in this context refers to either monogamy or polygamy. The adolescents were asked to state the family they belonged to. Cross-tabulation between family type and adolescent fertility shows that of the adolescents who had given birth, 26.6 percent belonged to a monogamous family while 40.7 percent were of a polygamous family. On the other hand, of those who had not given birth, 70.4 percent belonged to a monogamous family while 59.3 percent were of polygamous family. Table 4.16 below shows adolescent fertility status by family type.

Table 4.18. Adolescent fertility and Family type.

Adolescent fertility status	Family type		Row Total
	Monogamous family	Polygamous family	
Given birth	56 (29.6 %)	37 (40.7 %)	93 (33.2 %)
Not given birth	133 (70.4%)	54 (59.3%)	187 (66.8 %)
Column Total	189 (100%)	91 (100 %)	280 (100 %)

Chi-square: 3.36872

D.F. : 1

significance: .0664

Cross-tabulation between adolescent fertility and family type indicate a significance of .0664. Thus at .05 level of significance adolescent fertility does not depend on family type.

Religion of adolescent.

The adolescents were asked to state the religion they belonged to. Then cross-tabulation between adolescent fertility and religion of adolescent shows that of the adolescents who had given birth, 31.9 percent were Protestants while 36.1 percent were Catholics. As for those who had not given birth, 68.1 percent were protestants while 63.9 percent were catholics. Table 4.17 below shows adolescent fertility status by religion of adolescent.

Table 4.19. Percent distribution of adolescents by fertility status and Religion of adolescent.

Adolescent fertility status	Religion of the adolescent		Row Total
	Protestants	Catholics	
Given birth	51 (31.9 %)	44 (36.1 %)	95 (33.7 %)
Not given birth	109 (68.1 %)	78 (63.9 %)	187 (66.3%)
Column Total	160 (100 %)	122 (100 %)	282 (100 %)

Chi-square : .54414

D.F. : 1

Significance: .4607

Cross-tabulation between adolescent fertility and religion of the adolescent indicate a significance of .4607. We thus conclude that at .05 level of significance, adolescent fertility does not depend on religion of adolescent.

4.4.0. FACTORS WHICH INFLUENCE ADOLESCENT

FERTILITY.

4.4.1. Introduction.

As in Chi-square analysis above, the factors that were considered are now analyzed using multiple regression technique which has been discussed in chapter 3. Multiple regression analysis enables us to measure the joint effect of any number of independent variables upon a dependent variable. The multiple regression equation describe the average relationship between these variables and this relationship is used to predict or control the dependent variable.

Multiple regression analysis is therefore used to assess the individual and the combined effect of these factors on adolescent fertility. The computation of the regression coefficients that make up this analysis was done using A Statistical Package for Social Sciences (SPSS). The method of analysis used was Stepwise regression.

However, multiple regression analysis has two problems not mentioned earlier and which need to be pointed out at this stage. Besides the procedure being cumbersome, there is the problem of multicollinearity (inter-correlation) in which case independent variables do overlap. This consequently lowers the reliability of the regression coefficients. Secondly, most important explanatory (independent) variables end up missing in the final regression

equation.

The problem of multicollinearity was tackled through the computation of partial correlation and the results showed that the variables were lowly correlated meaning therefore that the result is reliable as multicollinearity is low.

The dependent variable used was age at first birth which essentially earmarks the onset of adolescent fertility. The variable is somewhat universal in the sense that it treats all adolescents in one level irrespective of their marital status.

The variables that were analyzed in this category were:

- (i) Age at first marriage
- (ii) Age at first menstrual cycle
- (iii) Age at first sexual intercourse

The table below shows the results obtained.

Table 4.20. COEFFICIENT OF DETERMINATION (R^2) AND STANDARDIZED COEFFICIENT REGRESSION (BETAS) FOR THE SELECTED EXPLANATORY CONTINUOUS VARIABLES DETERMINING ADOLESCENT FERTILITY.

Variables	R	R^2	Adjusted R^2	Standard Error	Sig T
Age at first marriage	.36211	.13112	.12938	5.15606	.0000
Age at menarche	.40494	.16398	.16062	5.06271	.0000
Age at first sexual contact	.42490	.18054	.17558	5.01737	.0016

The above three continuous variables were all found to be significant. The method used is stepwise regression. Age at first marriage explains 12.9 percent variance in adolescent fertility. Age at first marriage show a significance of .0000. At .05 level of significance, adolescent fertility is determined by age at first marriage.

The addition of age at menarche in the second equation increased the variance explained to 16.4 percent. Upon inclusion of

age at first sexual intercourse, the variance explained also increased to 18.1 percent.

Table 4.21. CONTINUOUS VARIABLES EQUATIONS.

Variables	1	2	3
Age at first marriage	.41300	.38410	.33835
Age at menarche		-.02785	-.02775
Age at first sexual intercourse			.11595
Constant	5.83441	7.29963	6.39125
Adjusted R ²	.12938	.16062	.17558

Using the above continuous variables we can construct the best fit line explaining the regression equation,

$$Y = a + bx_1 + cx_2 + dx_3 + e.$$

Y = is the computed or estimated value of the dependent variable and x_1 , x_2 and x_3 are the independent variables.

a = is a constant and is the intercept made by the regression plane.

Therefore,

$$Y = 6.39125 + .33835x_1 - .02775x_2 + .11595x_3 + 5.01737$$

4.4.2. DUMMY VARIABLE TECHNIQUE.

The use of multiple regression in analyzing the variables best suits those which are continuous in nature. Categorical variables are introduced in the regression by way of dummy variables.

According to Kleinbaum and Kupper (1978), a dummy variable is any variable which takes on finite number of values for the purpose of identifying different categories of nominal variable.

4.4.3. INTERPRETATION OF RESULTS.

Results obtained by dummy variable technique are had to interpret but the following explanation can offer insight.

R.A. Little (1980), for a k-category variable, one category is selected and called the reference category. For each of the (k-1) other categories, a dummy or indicator variable is defined and zero otherwise.

Example

Taking into consideration the variable Religion, protestant is chosen as the reference category then:

Catholic (cat) = 1=catholic

0=otherwise

Also taking into consideration Education of the adolescent as an example, standard 1-4 is taken as the reference category and we define k-1=1 as:

Standard 5-8 (std58) = 1=standard 5-8

0=otherwise

Secondary form 1+(sec) = 1=secondary

0=otherwise

Therefore the factor Education of the adolescent is represented in the regression by a set of dummy variable defined in this case as Std58 and Sec.

To see the effect of this, the fitted values from this regression are:

$$Y_i = b_0 + b_1 \cdot \text{Std58}_i + b_2 \cdot \text{Sec}_i.$$

Where values Std58i, Seci are the values of Std58, Sec for respondent i. For individuals with education standard 1-4,

$$\text{std58i} = \text{Seci} = 0$$

Hence the predicted mean $(y/\text{stad58}=1)=b_0$ the intercept of the regression. For individuals with 5-8 years of education Std58=1 and Sec=0, hence the predicted mean is

$$(y_i/\text{sec}=2) = b_0 + b_1.$$

4.4.4. DEFINITION OF VARIABLES IN THE REGRESSION ANALYSIS.

Many dummy variables were put in the regression equation but the following categories of different variables were found to significantly determine adolescent fertility when considered with the reference categories.

SOCIO-ECONOMIC:

Student(stud)= This refers to the occupation of the adolescent in which case they are students.

DEMOGRAPHIC

Single (unmarried adolescents)= This refers to adolescents who were not married.

Cuma (currently married) = This refers to adolescents who were married.

Yes (use of contraceptives) = This refers to the adolescents who were using contraceptives.

The rest of the variables introduced in the multiple regression were not significant and therefore not included in the final regression.

4.4.5. DUMMY VARIABLES RESULTS DISCUSSED.

The equation finally obtained from the above variables can be summarised as follows:

$$Y = a + bx_1 + cx_2 + dx_3 + \dots + hx_n + e.$$

Y = computed or estimated value of the dependent variable which in our case is adolescent fertility.

x_1 , x_2 and x_3 are the various factors which affect the value of y_i .

a = a constant value and is the intercept made by the regression plane.

b, c, d reflect the impact on y of each of the particular factors.

Therefore,

$$Y = .41999 - .43158x_1 - .22143x_2 + .16821x_3 + .28883x_4 + .35287.$$

Table 4.22. DUMMY VARIABLE EQUATIONS.

VARIABLES	1	2	3	4
STUD	-.57322	-.43714	-.42115	-.43158
SINGLE		-.24840	-.24313	-.22143
YES			.15601	.16821
CUMA				.28883
CONSTANT	.64045	.74651	.71095	.41999
ADJUSTED R2	.36839	.40273	.41357	.42321

Key.

Stud = This stands for student and it represents the occupation of the adolescent.

Single = Single is a marital status to which the adolescent belongs.

Yes = This stands for the use of contraception.

Cuma = This stands for currently married in which case those interviewed were married.

CHAPTER FIVE.

5.0. SUMMARY OF MAJOR FINDINGS.CONCLUSION AND RECOMMENDATIONS.

5.1. INTRODUCTION.

This study on the determinants of adolescent fertility in Kisii district was designed to look into the factors that can explain adolescent fertility. Since not much has been done on this area in the district, the study depended entirely on the primary data collected from the field on December 1993.

The study utilised such methodological procedures as cross-tabulation, chi-square analysis and multiple regression analysis. All these were used to test the association between adolescent fertility as the dependent variable against such explanatory variables as age at menarche, age at first sexual contact, frequency of sexual contact, knowledge of safe period, knowledge of contraceptives, use of contraceptives and benefits of children, religion of adolescent, marital status of adolescent, age at first marriage, age at first birth, occupation of adolescent, education of adolescent, parental marital status, family type, education of mother, education of father, occupation of father and occupation of mother.

5.2. SUMMARY OF MAJOR FINDINGS.

The composition of the thesis is such that it has five chapters. Chapter 1, gives the background of the study area. Here political and administrative units, the demographic situation and the geographical landscape of Kisii district have been highlighted. The purpose of the chapter is to give the reader an insight of the socio-cultural, socio-economic and the demographic background of the people under study to be able to make reference to them and acknowledge the discussed factors that are assumed to determine adolescent fertility.

Chapter 2 makes reference to the existing literatures touching on adolescent fertility. From the reviewed literatures, one learns that the problem of adolescent fertility is not only a worry to developing countries which lack material wealth but also developed countries such as U.S.A. which have enormous wealth. The major points of departure from the existing literatures and which form the basis of this study have also been addressed. Also, the theoretical and the conceptual frameworks have been given in this chapter. The conceptual framework adopted is that of John Bongaarts (1978) in which the factors under consideration only acts through proximate determinants to cause an effect.

Chapter 3 gives the detailed view of the methodology that was used in sampling stages, collection and analysis of data. The sampling procedure used was NASSEP III that was also used in the 1989 census by CBS and KDHS 1993. Methods of data collection

include questionnaires and Focus group discussion (FGD). Methods of data analysis include Cross-tabulation and Chi-square and Multiple regression analysis. Also their advantages and disadvantages have been discussed.

Chapter 4 forms the core of the study. It deals with the analysis of the primary data to enable us realize the objectives of the study which is trying to come up with the factors that determine adolescent fertility in Kisii district.

Based on the results of the analysis done in chapter 4, the following are the **major findings** of the study.

Cross-tabulation and chi-square analysis reveal that two demographic variables of parental marital status and age at menarche are not significant in explaining adolescent fertility. Also three socio-economic variables of mother's occupation, father's occupation and father's education do not explain adolescent fertility. While religion of adolescent which is a socio-cultural variable is not significant either in explaining adolescent fertility.

In multiple regression variables are categorised into two namely continuous and categorical variables. Results of continuous variables explains 17.6 percent variance while the categorical variables explains 42.3 percent variance in adolescent fertility.

In summary therefore, based on the hypotheses of the study and on account of the foregoing analysis, the following continuous factors positively affected adolescent fertility, namely: age at

first marriage and age at first sexual intercourse while age at menarche negatively affects adolescent fertility.

Considering the categorical variables the results reveals that the variable student and single negatively affects adolescent fertility while use of contraceptives and currently married positively affects adolescent fertility.

5.3. Conclusion.

Adolescent fertility is affected by a wide range of rapidly changing factors acting through multiple, complex pathways ranging from social, cultural, economic and demographic factors as analyzed above. The study has shown that an increase in adolescent fertility outside marriage is one of the emerging patterns among women. Childbearing outside marriage is increasing when women's opportunity costs are also rising and this particularly becomes a perturbing issue when such opportunities are lost through pregnancy.

Like many studies done, this study also found out that ignorance about reproduction particularly knowledge of safe period and how to prevent pregnancy along with the unavailability and inaccessibility of family planning services are the major factors leading to premarital pregnancy. Also the early age at which the adolescents get married contributes much to the problem of adolescent fertility.

The study, both from the adolescents and the parents reveals that pregnancy during adolescence is as much a personal problem as it is a collective or community problem. This information is based on field data that is not documented here and on this basis we can conclude that, whereas the adolescents feels that their future life is threatened through dropping out of school, the community also shares the same feelings plus the fear that increased population and theft are a consequence.

The prevention of unplanned pregnancy of the adolescent should be based on programs of family life and physiological education. Nevertheless, R.W. Kistner categorically states, " The problem concerning sexually active adolescents is complex, and the incidence of unwanted pregnancies will not decrease simply by prescribing contraceptives".

The high risks of bearing a mentally retarded child apply equally whether a baby is born to a fifteen year old in the context of a socially accepted, contracted marriage or in an out-of-wedlock union that is condemned by the society. In as much as the adverse effects of early childbirth may be emphasised and signalled to the would be receivers, the problem of adolescent fertility is a protracted issue considering the high esteem held for the benefits of children within the society. That is why young adolescents become under intense pressure to start having children soon after marriage (FGD).

Therefore, in the face of the above, an intense and creative effort is needed to inform the youth and erase these erroneous conceptions and to do this, a contraceptive strategy must be developed and it must be acceptable, more realistic and more adequate for the adolescents.

5.4. RECOMMENDATIONS

5.4.1. policy Recommendations.

Given that adolescent fertility has generally been studied in Kenya and given that this study is the first one in Kisii district, it is time that the government took this problem seriously and move quickly to curb the problem before it escalates to levels that might otherwise be unmanageable.

Reason for the above argument is that adolescent fertility is a threat to the government's efforts to curb high population growth. Adolescents start childbearing early and their sum total family size to the entire population is enormous to say the least. Also since most of these adolescents become pregnant at a relatively early age when they have not fully developed both physically and psychologically to carry the pregnancy to term, some may be involved in illegal abortion while child mortality and the combination of this is a risk to health.

Based on the above contention, the following recommendations have been suggested for implementation.

Education.

The study has noted that education is vital in determining adolescent fertility as the period a girl spends in school will definitely extend age at marriage which will in turn affect age at birth. The study recommends that education should be made compulsory and affordable to common people since lack of school

fees was identified as one of the reasons for school dropout. The study revealed that most adolescents were ignorant about the safe period. The study recommends that the government should look into family life education irrespective of the controversies and criticisms that have been levelled against it with a view of phasing out the borne of contention and implement the programme as its ideals are much relevant and will help the adolescents get rid of the unwanted pregnancies which shorten their school life.

Also, the Ministry of Education should try to incorporate physiological studies into their curriculum both in secondary and primary schools as such information will make the adolescents be aware of their body workings as far as the safe period is concerned. It is true that such information is disseminated to the adolescent through subjects like Biology, but it has not been accompanied by strong emphasis which will see the break through. It is assumed that by identifying their safe period during their menses, they will be in a position to practice protected and safe sexual intercourse.

In the spirit of advocating education for all in spite of sex discrimination, policies that make it extremely difficult for a school girl who becomes pregnant to complete her education should be reviewed. Girls who become pregnant while schooling should be given a second chance to complete their education.

It is important to note that this policy will start becoming effective following the Machakos Conference early this year and

since it is a good policy, I recommend that it should be given the necessary support from the government, the school administration and the community. Thus to realize its importance, the policy should not be shelved.

Abortion.

Abortion related deaths are a major component of maternal mortality. While abortion rates are believed to be high and rising throughout the general population (Coeytaux, 1988), there are shocking estimates of abortion rates among young unmarried women. Despite the understandable reluctance on the part of women to discuss abortions, many studies find that abortions stem from pregnancies for which paternal recognition is a problem (Nicholas et al., 1986 & 1987).

From this study, information on abortion has been collected using **section J** of the adolescent questionnaire and based on that, it is clear that most adolescents are aware of a range of abortion methods which include, strong tea leaves, an overdose of drugs such as malaria quinine, herbs and surgery. However, despite this knowledge, they were non-committal on the use of any one method they knew.

In view of the above revelations, the study recommends that adolescents should have access to safe, legal and early abortion if we are to prevent unwanted childbirth. Although abortion is a controversial issue in many countries in general and Kenya in

particular, its availability as a backup measure is probably essential for effective control of adolescent fertility at the present time as the truth of the matter is and still remains that unsafe, illegal and dangerous abortions actually takes place almost daily.

Contraceptive use.

Despite the negative attitude that has been mooted in connection with the use of contraceptives in general and the condom in particular, it is time such resentful voices from both the government and the church changed and acknowledge the adverse effects associated with adolescent fertility especially so when they engage in unprotected sexual practices. It will not be advisable for the adolescents to be exposed to such dangerous venereal diseases as Aids, Syphilis and Gonorrhoea in the name of maintaining morality in the society when actually they can be reduced by the use of the condom.

The study therefore recommends that the government should come up with a comprehensive family planning (F.P.) program whereby schools will be required to hire F.P. experts to counsel the students. Such a combined effort from schools and hospitals which currently carry out F.P. education will in the long run sensitise the youth on the use of contraceptives and will go along way minimising adolescent pregnancies with its accompanied health and socio-economic problems. The importance of the condom should be

considered from the fact that adolescents who pursue education are exposed to a longer period of sexuality and therefore its usage will mitigate against unwanted premarital pregnancies.

Adolescent sexuality.

Evidence from some of the policy makers in the district reveals that adolescent girls are under intense sexual pressure from both their fellow adolescent boys and sugar daddies who comprise among others teachers, businessmen and married men. This increases the vulnerability of the adolescents to have premarital pregnancies (for the unmarried) and the said venereal diseases. The study recommends that it is time the government took stiffer penalties such as fines and corporal punishment to deter the activities of the sugar daddies.

Legal.

Considering the fact that adolescent fertility is a threat to any country's population growth, it will be advisable to enact laws that have a direct effect on it. The laws should be implemented and administered appropriately and should touch on the following.

A: Free, affordable and compulsory education to both boys and girls. This will ensure that adolescents from poor families are not side-lined as (38.3%) indicated during the interview that they dropped out of school due to lack of school fees.

B: Minimum age of marriage for both the boys and the girls should be enacted. In view of the problems associated with adolescent childbearing, the study recommends that the minimum age of marriage which is currently 18 for boys and 16 for girls as per the marriage bill of 1978, should now be 18 and 22 for girls and boys respectively.

Adolescent programs.

In view of the urgent need to assist the adolescents who form the future of a country, the study recommends that organisations such as Family planning association of Kenya (F.P.A.K.) and International planned parenthood federation (I.P.P.F.) who have shown interest on adolescent reproduction should develop programs that provide pregnant adolescents with prenatal, delivery and postpartum care to improve pregnancy outcome. They should also provide counselling services, child care training and opportunities for continuing education. Besides, parents to the victims should receive counselling on proper treatment of their adolescent mothers so that any problems they may encounter, they will be better placed to report back to these organisations for assistance.

5.4.2. Recommendations for further Research.

Research should be conducted targeting specifically on the contribution of fertility to adolescent dropping out of school. This will consequently be used to generate theories that will explain the relationship between fertility and education.

Since the effectiveness of family life education in curbing adolescent fertility has received resentment from both the government and the church, research should be directed towards the points of disagreement with a view of coming up with a workable programme that will address adolescent pregnancies.

Adolescent fertility being a social problem with socio-economic implications, research should be directed towards traditional cultural practices and taboos that mitigated against adolescent fertility with a view to implement a few which can be accommodated during this era of modernisation and urbanisation. Top among them should be parental teachings, guidance and counselling to be directed towards the adolescents.

A comprehensive research should be carried out on the current role of the district policy maker's efforts to root out the adolescent pregnancies. Since they interact more with the adolescents especially the education officers, programs aimed at addressing the problem and which should incorporate the youths should be looked into.

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APPENDIX I

INDIVIDUAL QUESTIONNAIRE (PERSONS AGED 15-24 YEARS)

A IDENTIFICATION INFORMATION

- A.1. Division.....
- A.2. Location.....
- A.3. Sub-location.....
- A.4. Nassep ii cluster number.....
- A.5. Household number.....
- A.6. Rural = 1 Town = 2

B BACKGROUND INFORMATION OF ADOLESCENTS

- B.1. Age (In completed years)
- B.2. Sex: Male = 1 Female = 2
- B.3. Religion
 - 1. Protestant 2. Catholic
 - 3. Muslim 4. Others (*specify*).....
- B.4. Marital status
 - 1. Currently married 2. Single
 - 3. Divorced 4. Widowed 5. Separated
- B.5. Have you ever got married? 1. Yes 2. No
- B.6. At what age did you first marry?
- B.7. Have you ever given birth? 1. Yes 2. No
- B.8. If yes, at what age did you give birth to your first child?
..... (give age in completed years)
- B.9. Occupation
 - 1. Student 2. Peasant 3. Currently Working for wage or salary

B.10. State your highest education standard /form completed.

.....

B.11.If not schooling at what level did you leave school?

- 1. Primary 2. Secondary 3. University

B.12. Why did you leave school?

.....

.....

C HOME BACKGROUND

C.1. Is your father alive? 1. Yes 2. No

C.2. Is your mother alive? 1. Yes 2. No

C.3. What is the marital status of your parents?

(biological parent referred here)

- 1. Currently married 2. Single parents

- 3. Divorced 4. Widowed 5. Separated

C.4. How many wives does your father have?

- 1. One 2. More than one

C.5. What is the occupation of your mother?

- 1. Businesswoman 2.Farmer 3.Currently employed

C.6. What is the occupation of your father?

- 1. Businessman 2. Farmer 3.Currently employed

C.7. What is the highest level of education of your father?

- 1. None 2. Primary 3. Secondary 4 university

C.8. What is the highest level of education of your mother?

- 1.None 2. Primary 3.Secondary 4.University

D SEXUAL EXPERIENCE

- D.1.State the age at which you first experienced menstrual cycle?
(Males exempted).
- D.2. Do you have a friend of the opposite sex?
1. Yes 2. No
- D.3. If no have you had such a friend before?
1. Yes 2. No
- D.4. Why did you have such a friend?
.....
- D.5. At what age did you have your first sexual intercourse?
.....
- D.6. How frequently do you have such sexual contact with your friends?
1. Once a week 2. Thrice a week 3. Once a month
4. Once in three months 5. None

E KNOWLEDGE OF REPRODUCTION AND SEXUALLY TRANSMITTED DISEASES

- E.1. When is a girl who is currently menstruating most likely to get pregnant?
1. During the periods 2. Immediately after periods
3. Half way between the end of the period and beginning of the next 4. Don't know 5. Others (specify).....
- E.2. If a girl engages in sex before she starts having her first periods can she become pregnant?.
1.Yes 2. No 3. I don't know

E.3. Have you ever been treated for what medical personnel told you was sexually transmitted diseases (STD) or venereal disease (VD)? 1.Yes 2. No

E.4. List below the sexually transmitted diseases that you know?
.....
.....

E.5. Have you ever suffered from what you yourself thought was STD or VD? 1. Yes 2. No

E.6. Do you know about AIDS? 1. Yes 2. No

E.7. How is AIDS spread?

- 1. Sexual intercourse 2. Mother to child
- 3. Shaving razors 4. Injections
- 5. Transfusion with infected blood 6. Do not know
- 7. Circumcision and tattoos
- 8. Other (specify)

E.8. What can one do to avoid getting AIDS, Syphilis or Gonorrhoea?

- 1. Avoid talking to him/her 2. Avoid touching him/her
- 3. Avoid sexual intercourse

F CONTRACEPTIVE KNOWLEDGE AND USE

F.1. Do you know of any method of preventing pregnancy?

- 1. Yes 2. No (If No, skip to F.8)

F.2. If yes mention the methods you know?

.....
.....

F.3. How did you first know of the contraceptive methods you have mentioned?

.....

F.4. Have you ever used any of the methods for preventing pregnancy? 1. Yes 2. No (If No, skip to F.8)

F.5. Which method or methods did you use?

.....

F.6. Explain briefly how the method/methods is/are used?

.....

F.7. Where did you obtain the contraceptive you used?

.....

F.8. Which contraceptive methods are available to you?

1.....6. None

2.....

3.....

4.....

5.....

F.9. If none, why?

1. Distance 2. Lack of information and knowledge

3. Lack of distribution centres

4. Others (*specify*)

F.10. If never used, do you have any plans to use contraceptives to prevent pregnancy in future?

1. Yes 2. No

F.11. Have you/or your friend ever used a condom?

- 1. Yes
- 2. No

F.12. Did she/he use it to prevent

- 1. Pregnancy
- 2. Aids
- 3. Both
- 4. None

F.13. Has your use of a condom increased because of information and knowledge about aids?

- 1. Yes
- 2. No

F.14 In future do you intend to use any of the contraceptive methods to prevent pregnancy?

- 1. Yes
- 2. No

F.15 In your opinion do you think adolescents should have access to contraceptives to prevent pregnancy?

- 1. Yes
- 2. No

F.16. If no, give reasons why?

- 1. They will be prostitutes
- 2. They will take advantage and play sex as they want
- 3. They should not play sex, but be perfect in marriage
- 4. They will be promiscuous

F.17. Which particular contraceptives do you think they should be given?.....

G INFORMATION, EDUCATION AND COMMUNICATION (IEC)

G.1. Do you know of a place you can obtain a method of family planning?

- 1. Yes
- 2. No (If No, skip to G.5)

G.2. Which place is it?

1. Government hospital
2. Government health centres
3. Government dispensary
4. F.P.A.K health centre/clinic
5. Mission/church hospital/clinic
6. Other non-governmental services
7. Private hospital/clinic
8. Mobile clinic
9. Community based distribution/community health worker
10. Shop
11. Friends/relatives
12. Others (*specify*).....

G.3. How long does it take to travel from your home to that place?.....hours.....minutes.

G.4. How do you go there?.....

G.5. How did you first hear about family planning?

1. Radio
2. Television
3. Health worker
4. Poster
5. Friend
6. Newspaper
7. Community based distribution
8. Others (*Specify*).....

G.6. From which place or person did you get most information?

1. Radio
2. Television
3. Newspaper
4. Poster
5. Friends
6. Health worker/clinic
7. Community based distribution
8. Others (*Specify*).....

G.7. In the last six months have you heard a radio programme about family planing? 1. Yes 2. No

G.8. If yes, which programme have you heard? (*Don't read codes to respondents*) 1. Mwenda pole 2. Panga uzazi 3. Maisha y a jamii yako 4. Jifunze na uendeleo 5. Maisha bora

- 6. Afya yako
- 7. Daktari akushauri
- 8. Kuelewa ni kuzungumza
- 9. Others (*specify*).....

G.9. Do you think that information about family planning should be available to young people? 1. Yes 2. No

- 3. Does not know
- 4. Others (*Specify*).....

G.10. In some communities there is a man or woman who is trained to talk to families in that area about family planning. Sometimes they visit each house and talk about family planning and give out supplies. Other times they have supplies in their own houses. Is there any man or woman like that in your area?

- 1. Yes
- 2. No
- 3. Does not know

G.11. How many times has this person visited your home in the last six months? (*Give number of visits*).....

H BENEFITS AND VALUE OF CHILDREN

H.1. What do you feel is the ideal number of children to have? (*give exact number*).....

H.2. What is the exact number of children you want to have ?
.....

H.3. Which are some of the benefits of children which people tend to mention?
.....
.....

H.4. Do you agree that these are the benefits? 1. Yes 2. No

H.5. Are there benefits greater or smaller for you than they were for your parents ?.....

H.6. Do you see any possible disadvantage of having children?

1. Yes 2. No (If No, Do not proceed to H.7 & H.8)

H.7. What are these disadvantages?

.....
.....

H.8. So are these disadvantages larger or smaller than they were for the parents generation?

.....

J PREGNANCY AND ABORTION (FEMALES ONLY)

J.1. Have you ever been pregnant? 1. Yes 2. No

J.2. If yes, what happened to the pregnancy?

1. Aborted 2. Carried to the end of term

3. Currently pregnant

J.3. Do you know about abortion?

1. Yes 2. No

J.4. If yes, which methods of abortion do you know?

.....
.....

J.5. Have you ever used any of the abortion methods mentioned above? 1. Yes 2. No

J.6. If yes which method did you use?

.....

APPENDIX II

QUALITATIVE QUESTIONNAIRE

FOCUS GROUP DISCUSSION

This shall be carried out under the following banner topical guidelines

A COMMUNITY ATTITUDE TOWARD ADOLESCENT FERTILITY

- A.1. What problems face youths today?
- A.2. Do you regard pre-marital children as being part and parcel of the society?
- A.3. How do you regard adolescents who have had out of wedlock children?
- A.4. Does adolescent pregnancy break any societal norm?
If so, which one?
- A.5. Do you approve of adolescent pregnancy in the society?
- A.6. Was adolescent pregnancy experienced during old days?

B THE VALUE OF CHILDREN IN THE COMMUNITY

- B.1. What are the benefits of children in the community?
- B.2. Do these benefits still remain the same as they were during the older days?
- B.3. Are the benefits accredited to boys the same as those to girls?
- B.4. If they are different where do they differ?
- B.5. Do children pose any problems to the society ? If so which ones?

C. ATTITUDES TOWARD CONTRACEPTIVES USE BY ADOLESCENT

- C.1. Do you think contraceptives should be given to the adolescents?
- C.2. In case you do not approve, what are the grounds for this argument?

D. COMMUNITY ATTITUDE TOWARD ABORTION AS A METHOD OF REGULATING FERTILITY

- D.1. Do you regard abortion as a method of regulating adolescent fertility? If so why?
- D.2. Are there any shortcomings of abortion as a method of regulating adolescent pregnancy?
- D.3. Is the community in agreement with the method?
- D.4. Was abortion used during the old days in regulating fertility?

E PROGRAMME RECOMMENDATIONS FROM THE YOUTHS AND THE COMMUNITY

- E.1. Adolescent fertility is so evident these days. Can you suggest ways of alleviating the menace?
- E.2. What is your view on the government's policy of expelling adolescents who have become pregnant from school?

APPENDIX III

PARENT'S QUESTIONNAIRE.

A: IDENTIFICATION INFORMATION.

- A.1. Division.
- A.2. Location.
- A.3. Sub-location.
- A.4. Nassep cluster number.
- A.5. Household number.

B: BACKGROUND INFORMATION

- B.1. Age.
- B.2. Sex.Male=1 Female=2
- B.3. Religion
 - 1. Protestant 2. Catholic 3. Muslim 4. Others(specify)
- B.4. Marital status.
 - 1. Currently married 2. Divorced 3. Widowed 4. Separated
 - 5. Single parent. 6. Others(specify).
- B.5. Have you ever attended school? 1. Yes 2. No
- B.6. What is highest level of school you attended
 - 1. None 2. Primary 3. Secondary 4. University
- B.7. What is the highest standard/form you completed at that level? Standard/Form
- B.8. What is the highest certificate you obtained?
 - 1. No certificate 2. CEE(std. four) 3. CPE (std) 4. KAPE
 - 5. KCPE 6. KJSE (Form 2) 7. O-level KCSE 8. A-level
 - 9. university degree 10. Others(specify).

C: INFORMATION ON ADOLESCENT FROM THE PARENTS

C.1. How many children do you have aged 15-24?

C.2. How many of them are living with you in this household?..... .

C.3. How many of these are girls?.

C.4. How many of these are boys?

C.5. Is any of the girls pregnant now? 1. Yes 2. No

C.6. Is there any of them who has had a child before marriage?
1. Yes 2. No

C.7. If yes, how many?.

C.8. Is any of your sons aged 15-24 married? 1. Yes 2. No

C.9. Has any of them impregnated a girl before marriage?
1. Yes 2. No

C.10. If yes, how many sons have done so?

C.11. What are the social and economic consequences of out of wedlock pregnancies on:
1. The Parents 2. The adolescent 3. The community?

C.12. How can these problems be solved?
.....
.....

C.13. Do you think adolescents should be given information about family planning? 1. Yes 2. No

C.14. Why?.....
.....
.....

C.15. Do you think young people should have free access to
contraceptives? 1. Yes 2. No

C.16. Why?.....
.....
.....

C.17. Do you think the value and benefit of children has changed
today? 1. Yes 2. No

C.18. Why?.....
.....
.....

C.19. Do you approve pre-marital pregnancies?
1.Yes 2. No

C.20. Why?.....
.....
.....

APPENDIX IV.

QUESTIONNAIRE GUIDELINE FOR POLICY AND PROGRAMME

IMPLEMENTERS.

A. IDENTIFICATION INFORMATION

- A.1. Name.....
- A.2. Sex.....
- A.3. Occupation.....
- A.4. Name of organisation/school.....

B. ADOLESCENT PROBLEMS

- B.1. What are the problems that face the youth today?
.....
.....
.....
- B.2. Do you think that adolescent pregnancies is one of the problems? 1. Yes 2. No
- B.3. If it is, what is its magnitude in the district / schools/
school/division/location /area?
.....
.....
- B.4. Whom do you think is responsible for this problem in our society today?
1.Boys 2.Girls 3.Parents
4.Others(name them).....

B.5. Why are the persons you have chosen is /are responsible?

.....
.....

B.6.What do you think should be done to solve this problem?

.....
.....
.....

B.6.What is being done now.....

.....
.....
.....