AGE AT FIRST BIRTH AND AGE AT FIRST MARRIAGE

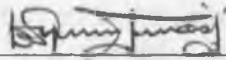A Study of Adolescent Fertillty in Kenya

by

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A THESIS SUBMITTED IN PART FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS
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## DECLARATION

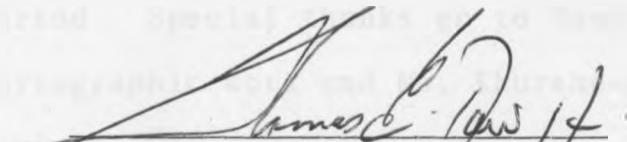This thesis is my original work and has not been presented for a degree in any other university.
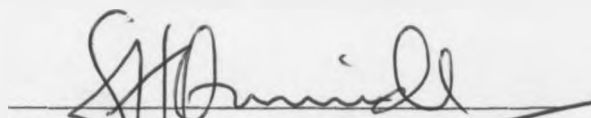
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## ACKNOWLEDGEMENTS

# ABSTRACT

This study was designed to examine the relationship between the event of first birth and first marriage among a sample of adolescent women in Kenya. The study used data from the Kenya Fertility Survey which is a component of the World Fertility Survey. The event of first birth was examined in the context of age at first pregnancy/ birth in relation to age at first marriage. First marriage was examined in its relationship to marital stability, first birth and total fertility.

Chapter one dwelt on adolescent fertility as a population problem which justifies research and analysis in this country. By giving the conceptual framework of the issue, the researcher hoped to bring out the extent and gravity of adolescent fertility in the world. The significance of the study and its limits were also clarified.

In the second chapter, the researcher specified the source of data and its nature. Being a component of W.F.S. data, the K.F.S. data is so comprehensive and detailed that it constitutes a rich data base for social and demographic analysis.

closer together than in other ethnic groups where
the temporal span between first birth and first marriage
is greater. Age at first birth and first marriage
showed interesting differentials in their relation
to total fertility. Total fertility tended to be
higher controlling for first birth than for first
marriage. This signified the fact that total fertility
will be higher the earlier the age at first birth
than the earlier the age at first marriage.

Chi-square was the main statistical measure used
to show the correlation between the variables. Per-
centages and means were used for comparison of various
distributions of phenomena. Graphs and figures were
also used to give pictorial presentation of phenomena
where necessary.

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# CHAPTER 1

## INTRODUCTION

While this work will act as a part fulfillment of
the conditions for award of a Masters Degree in the
University of Nairobi, it will also aim at being a
pioneer study of a major area of population studies,
i.e. adolescent fertility. Although psychologists and
sociologists have studied other aspects of adolescence
before, adolescent fertility has only recently emerged
as a major issue in the field of demography. In Kenya,
particularly, although the level and detail of both
official and academic awareness of population studies
is higher than in many countries in Africa, the adoles-
cent section of the population has largely attracted
slight attention. One main reason why adolescent ferti-
lity has been usually ignored in population studies is
the (Malthusian) assumption that fertility is confined
to marriage - despite the fact that Kenya is experiencing
a rapidly rising age at first marriage. Maintaining
this assumption means excluding the increasing magnitude
of premarital and extra-marital fertility from analysis -
a situation which is clearly unacceptable.

The project reflects a conceptual approach that is basically open ended. It presents an attempt to steer away from the climate of demographic analysis which is still influenced by nominalism. The fact that adolescent fertility has quickly and forcefully shown importance as a component of population studies may be interpreted as a response to a rather powerful trend toward research in the discipline. It was therefore the aim and wish of the research to lay a solid foundation of future research and analysis of this aspect of population studies in Kenya.

## 1:2      A STATEMENT OF THE PROBLEM

Population growth rate in Kenya was estimated at 3% per annum, on the average, during the period previous to the 1962 census. Up to 1969, the rate increased to 3.3% per annum and it is currently estimated at almost 4% per annum (Mosley, 1980).[1] This very high growth rate, allegedly one of the highest in the world, is explained by a high birth rate of about 50 per thousand (K.F.S. 1977/78).[2] Compared with other countries in Africa, Kenya has an exceptionally low death rate of about 14 deaths per 1000 population (Mott, 1979).[3] It is this trend of population growth that has made Kenya become the country in Africa with a population growth potential that is perhaps unprecedented in the world

(Henin, 1979).[4/]

On the international scene, a report by the
Executive Director of the U.N.F.P.A. in 1979, on the
state of world population said that while infertility
continues to be an entrenched global affliction, undesired
teenage pregnancy bids rapidly to continue to be impor-
tant in the foreseeable future (Salas, 1979).[5/] The
report also drew attention of demographers to the fact
that although a lot of work has been done in fertility
in general, an important dimension of the fertility
problem has been given inadequate attention in demo-
graphic analysis. This shows that teenage fertility is
a global problem that neither the developed nor the
developing regions of the world are effectively dealing
with.

Dr. Kinti Giri, a W.H.O. Medical Officer has also
argued that there should be more research on increasing
incidents of teenage premarital pregnancies everywhere
in order to break the barrier of ignorance, fear and
misunderstanding that almost always leads to young
mothers becoming stigmatised and sometimes ends in
suicide (Popline No. 8, Vol. 2, page 8).[6/]

In yet another concern for premarital teenage
fertility, it was argued that more than one in eight
women who give birth each year are teenagers, and child-
bearing among adolescents is emerging as a serious
problem in many countries and has reached alarming
levels in others with major health, socio-economic and
demographic implications for young women, young men,
their offspring, and indeed, the whole society. At the
same time, a view on the situation in Kenya said that
about 40% of the girls who entered high school in Kenya
in 1980 dropped out before graduation, a large proportion
of them because of unwanted premarital pregnancy. Many
of these girls were only 14 or 15 and many of them
abandon their babies or badly neglect them while others
seek dangerous abortions (Kingori, 1974, page 36).[7/]

Demographically, teenage fertility can have far
reaching effects in a society, both directly and in-
directly. Some of the direct effects of early child-
bearing are seen in high total fertility, and generally
youthful population, short periods between generations,
and a short doubling time - which for Kenya is currently
about 18 years only. In light of the above facts, the
urgent need for at least a baseline report on the
demographic effect of teenage fertility on any of these
direct effects can not be over-emphasized.

1:3             <u>CONCEPTUAL FRAMEWORK OF THE ISSUE</u>

Information on the prevalence of the teenage preg-
nancies in the developing areas of the world is extremely
limited, although the scarce information shows that
developing countries characterized with high fertility
and consequently with close spacing of pregnancies, have
higher proportions of first, second and third births
among teenagers than is the case for the developed
countries with low birth rates (Engstrom, 1978, pp. 119).[8/]

Dealing with problems of teenage pregnancies in
developing countries is also a difficult task.  First of
all, developing countries do not constitute a socio-
cultural entity since they are artificially grouped to-
gether because of certain common features such as low
literacy rate, low level of industrialization, low per
capita  income, high fertility levels, high infant and
maternal mortality, etc.  Secondly, lack of resources in
a developing society, for instance, for health and
social services, means also lack of reliable statistics
and studies for analysis of the problem.  Thirdly, a
pregnancy in the mid-teens or even in the early teens
is accepted in many countries as long as it takes place
within  socio-culturally accepted forms of marriage.
A problem arises only when there is a deviation from
the social norms like premarital sex, without parental
or social approval.

However, social, demographic and health consequences
of teenage pregnancy are specific.  For example, the
minimum age of marriage is usually stated by law and
varies considerably between countries and regions.  How-
ever, as far as Kenya is concerned, the Kenya Marriage
Bill, 1978, now under consideration, would bring together
the various enactments on marriage and divorce, making
the minimum age at marriage 18 for females and 20 for
males.  Even if the legal age' is raised but there are no
constructive opportunities for girls, they cannot be
expected to delay their marriage.  If this is to occur,
deliberate policies to provide vocational training,
employment opportunities and more school places are the
types of reforms that must accompany legal changes.

With respect to the relationship between marriage
and fertility, the number of children of a marriage can
clearly be affected by the woman's age at marriage.  The
greatest demographic influence will be in societies where
family planning is not widely practised within marriage
and where there are few out-of-wedlock births.  Thus in
countries with early and near universal marriage (see
Figure 1:1) the potential demographic effect of raising
the minimum age at marriage is greatest.  Delaying
marriage for one or two years probably will not have a
significant effect on fertility.  But, where very early

FIG.II. PREVALENCE OF EARLY MARRIAGE.

Percentage of women age 15-19 ever-married

50% and over
30-49%
10-29%
0-9%

| | | | |
|---|---|---|---|
| 1 GAMBIA | 2 GUINEA BISSAU | 13 SYRIA | 14 ALBANIA |
| 3 GUINEA | 4 SIERRA LEON | 15 AUSTRIA | 16 LUXEMBURG |
| 5 LIBERIA | 6 UPPER VOLTA | 17 IRAQ | |
| 7 GHANA | 8 TOGO | | |
| 9 BENIN | 10 NIGERIA | | |
| 11 UNITED ARAB EMIRATES | 12 LEBANON | | |

SOURCE : POP. REPORTS, SERIES M No. 4, 1979, pp. M 132- M 133.
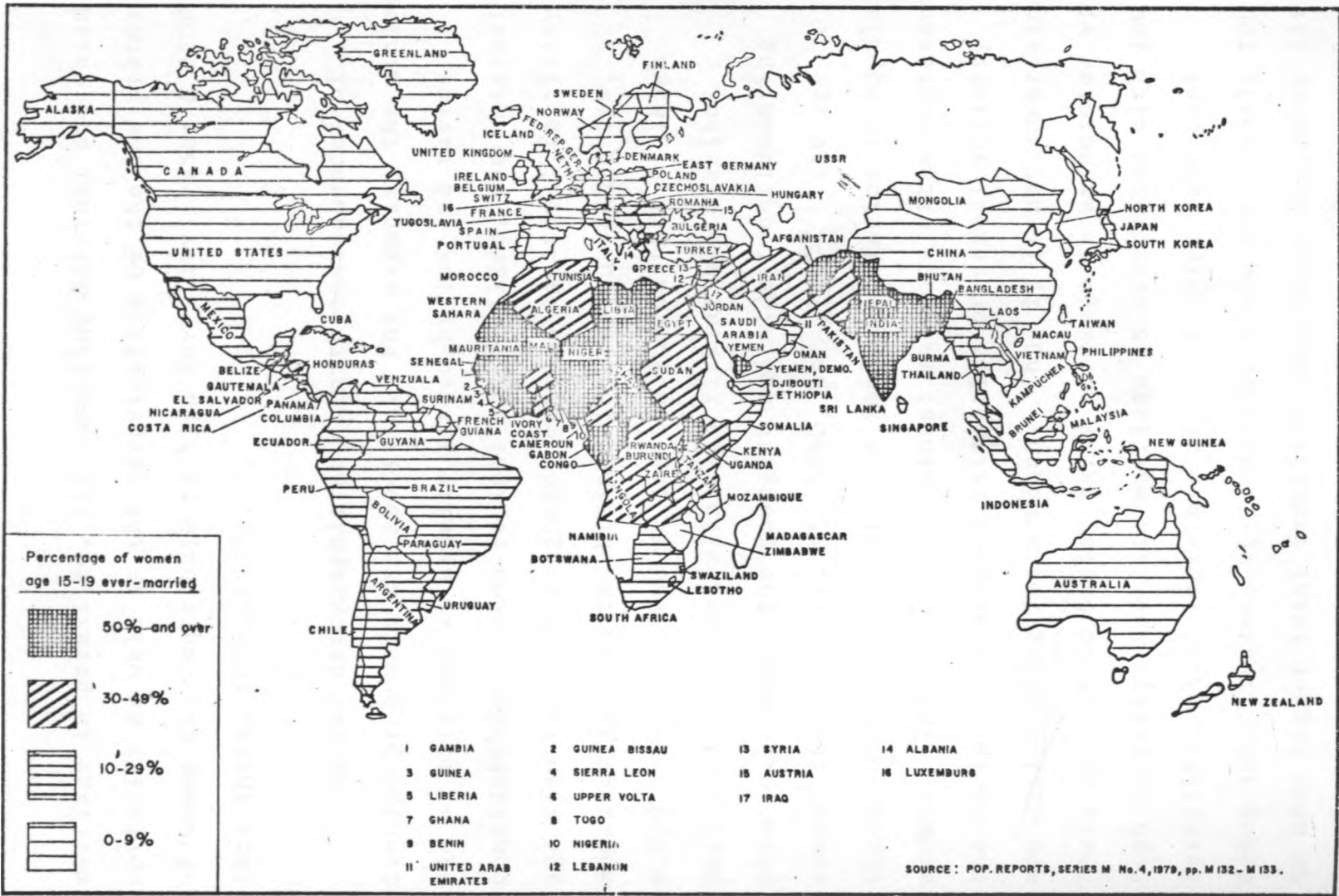
MOST RECENTLY REPORTED PERCENT OF WOMEN 15-19 EVER MARRIED.

marriage is permitted, the resulting maternal and child

mortality as well as the perpetuation of the low status

of women can contribute to high fertility.  (See a PEOPLE

fact sheet, IPPF, 1977).$\underline{9/}$

Social demographic and health consequences of

teenage pregnancy are specific.  For example, the minimum

age at marriage is usually stated by law and varies

considerably between regions and families, and maternal

age also reflects pregnancy outcome and total fertility.

Summarising results obtained for various countries, a

W.H.O. study arrived at the conclusion that "...high

parity was attended with high risk at all ages but

especially among the youngest and oldest childbearing

women" (Federici et. al. 1980, pp. 11).$\underline{10/}$  The age at

which women marry is also an important factor in population

growth.  The reason is obvious: marriage often represents

the socially sanctioned initiation of sexual activity

and childbearing for a woman.  Thus it is not surprising

that, on a world basis, early marriage is associated with

high fertility and late marriage is associated with low

fertility.  Also there are at least three important

demographic reasons why individuals who marry early tend

to have higher total fertility than those who marry late.

If women marry young:- they are likely to have sexual

intercourse frequently throughout their most fecund years,

- they begin child-bearing at an early age and thus
live through a longer period of exposure to conception, and

- they shorten the interval before the next gene-
ration is born and also begins childbearing.  All these
factors mean greater rapid population growth especially
in a country where unwanted premarital teenage fertility is
prevalent.

The countries of sub-Saharan Africa (excluding North
Africa, Southern Africa and the islands off Eastern Africa)
have the highest levels of early childbearing of any region
in the world, averaging more than 50% higher than other
high fertility regions.  Africa has about the same propor-
tion of women married at age group 15-19 as the Indian
sub-continent, but higher total fertility (POP. REPORTS,
M No. 4, pp. M-107).[11]

It is estimated that every year more than 40
million induced abortions occur worldwide, half of them
in defiance of law (FERNANDO, S.T., 1980, pp. 14).[12]

A case in point here is that Kenya shares similar characteristics as Latin America in respect of abortion incidence.  Although each nation's share of the total is not known, the abortion situation in Kenya and circumstances leading to abortion are the same as those in Latin America.  The situation in Latin America has been described as "an area of the world marked by an exceedingly high birth rate, extensive poverty and underdeveloped resources, it is hardly surprising that illegal abortion should be a major - if not the major - method of birth limitation (CALLAHAN, K. in FERNANDO, S.T., op. cit.).$\underline{13}$/

A high number of abortions is the product of a series of factors associated with changing times and customs.  The decision to have fewer children, for example, is more and more common among parents.  Greater tolerance of sexual activity among young unmarried people may contribute to the frequency of unwanted pregnancies, many of which end in abortion.  Other factors, no less important, include extensive migration from the countryside to the city, the widespread entry of women into the labour market, inadequate sex education, and general lack of access to family planning services.

We should also note that in nations where abortion is legal (covering approximately two-thirds of the world's

population) the incidence of abortion has not diminished,
but the number of maternal deaths due to abortion has
declined spectacularly.  But in those countries where
abortion is illegal without exception or available only
under restrictive conditions - including most of Latin
America and, of course, Kenya - the practice of clandestine
abortion has increased dangerously as have the public
health problems associated with it.  In fact, the situ-
ation in Kenya can be summarised as follows:

> "The incidence (occurrence) of abortion, both
> spontaneous and induced is very high in Kenya.
> The complications of abortion and especially
> of unsupervised induced abortion are formidable.
> The incidence of adolescent and unwanted
> pregnancies is also very high."  (MUSILA, S.W.,
> 1980, pp. 3).14/

Problems associated with adolescent sexuality and
fertility have received little attention in developing
countries, since for most cultures, the concept of
adolescence itself is relatively new and unfamiliar.
Even today, there is no intermediate stage between child-
hood and adulthood in many rural areas, but rather a
sudden transition to adult status, sometimes marked by
puberty or initiation rites or by child marriage (POP.
REPORTS, ibid, pp. M-109).15/  Because traditions and
customs vary so widely from one socio-cultural setting
to another, adolescence is difficult to define in a
cross-cultural perspective.  While in some societies,

for example, menarche is in itself taken to signify adulthood, eligibility for marriage, and new responsibilities, in others puberty has been subsumed under, and almost eclipsed by, a more complex process of social maturation. In industrialized societies particularly, as the criteria for intellectual maturity, technical expertise, or business acumen become more demanding, adolescence as the period during which children are prepared for "successful" entry into the adult world is being progressively extended.

In order to take into account all these variations, adolescence is understood in this study as the period in which:

(a) the individual progresses from the point of initial appearance of the secondary sex characteristics to that of sexual maturity;

(b) the individual's psychological processes and patterns of identification develop from those of child to those of an adult;

(c) a transition is made from the state of total socio-economic dependence to one of relative independence.

Such a definition clearly assumes that specific age limits should not be imposed on adolescence and that

adolescence is a social classification that varies both
in its composition and in its implications. The approxi-
mate age range of 10-20 years, however, encompasses many
of the processes outlined above, even though it is at the
same time acknowledged that the degree of variation may
be great between cultures and even within them (W.H.O.,
1975, pp. 10).[16]/

While adolescent fertility has received little
attention from family planners in most developing count-
ries, the proportion of births to youngest women in child-
bearing age compared with other age groups is rising. In
fact, at least three factors suggest that unwanted teenage
pregnancies, whether resulting in live birth, abortions or
deaths will increase. First of all, adolescents in many
areas are sexually mature and capable of reproduction at
increasingly younger ages than their parents were.
Secondly, the age at marriage, whether legal or con-
sensual is rising. Thirdly, urbanization and lifestyles
associated with it produce more opportunities for sexual
relationships and reduce the effectiveness of traditional
social constraints.

In view of the above trends, social and biological
consequences of early childbearing will also increase;
for example, increase in risks to the mother's and baby's
health as a result of young age of mother. Helen Chase
has shown that the percentage of babies who are of low

birth weight (under 2500 grams) is much higher for those born to adolescents. This goes along with cognitive development of the child, its social and emotional development and its school achievements (POPULI Vol. 6, No. 4, pp. 25).[17] Secondly, the age of mother is a proven biological determinant of early infant mortality. There is a definite U-shaped relationship between the mother's age and early infant mortality (see F.T. SAI, IPPF, Occ. Essay No. 4, 1977, pp. 23).[18]

## 1:4    SIGNIFICANCE OF THE STUDY

What we have already seen under the conceptual base of this research shows that the need and importance of research on adolescent fertility in Kenya cannot be over-emphasized. In fact, concern with early childbearing in Kenya has been a burning issue for parents in Kenya for a very long time. The abortion issue drew attention as early as 1910 when C.W. Hobley wrote about the Akamba:

> "Abortion is known among this tribe. It is
> sometimes practised by young unmarried girls
> who find themselves pregnant. They drink a
> cupful of hot butter which is said to produce
> the desired effect; a person who does this is
> called Ekuvuna" (Devereux, G., 1976, pp. 176).[19]

'Kuvuna' is for animals. For human beings is 'Kwitika' ivu" or Kumya ivu' or kusyaa hai"

Secondly, the concept of desired family size through family planning cannot be approximated if females are not able to get married before they get pregnant. In a

If you don't know Kikamba, you better cook!! By the way Kuvuna is abortion itself. No such a name for a person who aborts!!

situation where pre-marital conceptions are common, as in Kenya, this kind of family planning is destined to fail.  Thus a study of demographic aspects of teenage fertility would be indispensible before successful family planning programmes and sound population policies could be successfully instituted.

## 1:5   LIMITS OF THE STUDY

(a)   Data for analysis in this study were obtained from the Kenya Fertility Survey, which was the Kenyan component of the World Fertility Survey.  The  World Fertility Survey is the most comprehensive social research ever carried out in the world to-date. According to Salas, the work of the W.F.S. is not complete if the data obtained is not utilized, studied and applied.  This study being an extension of the W.F.S., assumes the limits of the W.F.S. and especially the Kenya Fertility Survey.

(b)   Another limitation of the study is that it is basically concerned with an area that is just starting to gain wide currency all over the world.  A major problem, is, therefore, lack of relevant books and articles dealing with adolescent fertility per se or within the context of African demography.

The researcher was therefore forced to depend on
a meagre resource base.

(c)  Last but not least, the researcher admits that each
of the three factors examined in the study, i.e. age
at menarche, age at first marriage and age at first
birth, warrants further study, even of a higher
status.  Since these are the principal factors on
which adolescent fertility is based, all that has to
be done is to examine their relationships in an
attempt to evaluate the level of adolescent fer-
tility in a given spatio-temporal framework.  To
all the above limits are also added the temporal
and the financial limitations in which the research-
er had to operate.

CHAPTER 2

## 2:1  METHODOLOGY OF DATA COLLECTION AND ANALYSIS

There is increasing awareness about the serious
problems subsequent to adolescent sexuality and child-
bearing, especially for the young teenage mothers.
Teenage motherhood has been recently identified with
lower educational attainment, increased childbearing,
shorter birth intervals, higher divorce rates and
what has been termed as maternal depletion syndrome,
i.e. the more frequent the pregnancies the shorter the
spacing between them the higher will be the nutritional
deficiency.[20/]  Yet only very general information is
available on the marriage patterns of women who bear
children while they are still in their teens.

In fact the status of adolescent fertility in the
developing world can be better categorized by its hetero-
geneity.  Population statistics for teenagers within
these regions while somewhat limited, show wide variations.
Age specific live birth rates for women aged 15-19 vary
from 21.0 per thousand (Cyprus, 1975), to 187.8 per
thousand (Liberia), 1971).  Age specific marriage rates
for teenagers range from 26.4 per thousand (Panama, 1970)
to 86.9 per thousand (Jordan, 1970).  The proportion of

total births occurring to women aged 15-19 varies from 1.6 per cent (Korea, 1970) to 14.1 per cent (Cuba, 1970).[21]

Examination of the consequences of early child-bearing is conceptually difficult. The problem of conceptual inference is particularly complex since the independent effect of an early birth can not always be identified. However, the general rule is high teenage fertility in the developing world.[22] According to a research done in the United States, it was concluded that teenage childbearing is a serious - and growing - social, economic and health problem in all regions and most countries of the world. Very often, the problem is compounded because the births are out-of-wedlock.[23]

## 2:2  DATA AND METHODS

This is the first demographic study of teenage childbearing in Kenya. Although adolescent fertility management has been highlighted as a problem, the demographic component of adolescent fertility has not been previously analyzed in Kenya.[24] Data for analysis of the problem come from the Kenya Fertility Survey, part of the World Fertility Survey conducted in 1977/78. Although the nature of the data collected by the World Fertility Survey imposes some restraints on the types of

analyses that can be conducted meaningfully, the Kenya Fertility Survey was carried out as a component of the National Integrated Sample Survey Programme (NISSP) for 1974-79.[25/]

However, the World Fertility Survey is a major programme of research involving nationwide sample surveys to be carried out in 50 to 60 countries. The survey is designed to generate the descriptive data needed by planners and policy-makers, and also should provide social scientists with considerable leverage for unraveling the complex causal network of human fertility.[26/] In fact, the World Fertility Survey exercise consists of single round cross-sectional surveys which are designed primarily to provide data for single point in time. The methodology used is geared to the production of a rather complete and reliable picture of the current situation, with historical data occupying a secondary role and being produced only through retrospective questioning.[27/]

One of the most important areas (of adolescent fertility) for which the KFS collected information is menarche. We know that menarche marks the beginning of reproductive maturity and this makes the age at menarche very important in adolescent fertility studies. Obviously, age at menarche is bound to vary according to geographical,

socio-economic, ethnic and other determining variables. One whole chapter will be devoted to analysis of this factor.

According to the KFS, of all 6319 ever-married women in the sample, 84% were still married to their first husband, 12% had been divorced or separated and 5% had lost their first husband through death. When classified by the number of years since first marriage, the proportion of first marriages that were still intact fell steadily from 90% for those married in the last 5 years to 79% for those married 25-29 years ago. The KFS found that the major reason for this slight decline in the proportion married was the increased proportion of first marriages terminated by death of the husband. In contrast, the proportion of first marriages which ended in divorce or separation showed no regular increase with the number of years since first marriage, a finding which implies that such dissolutions are (in the words of the first report) concentrated in the early stages of marriage.[28/] One of the aims of this research, thus is to examine the current picture of this implication in light of the independent, intermediate and dependent variables.

## 2:3   METHODS OF ANALYSIS

The simplest kind of analysis which can be done to
WFS data is descriptive analysis, i.e. the information in
the survey is re-arranged or re-classified so as to exhibit,
in a clear and summary form, salient features of demo-
graphic interest.[29/]   However, the analytical focus of
this study will be hinged on the age at marriage in
teenage.   This is because marriage is the only socio-
cultural variable of the three analytical variables.   The
effect of age at first marriage on premarital and marital
fertility and marital stability can never be over-emphasized.

The analyst has, available for  his purpose, a large
variety of measures including period, cohort, age specific
and cumulative fertility rates.   Comparisons with WFS
reports of other countries and regions for which data are
available will be based on these measures.   Trends over
time will be analyzed using changes in the proportion of
women ever-married at ages 10 to 19.   Trends among younger
adolescents will be compared with trends among older
adolescents to assess roughly what proportion of the
level of fertility might be caused by increase in age at
marriage during adolescence.   However, limits in terms
of time and finance would not allow for a complete
exhaustion of all demographic measures of descriptive

analysis that are applicable here.  An attempt will
therefore be made to integrate teenage nuptiality and
fertility on the assumption that they are mutually
operational in a complex process which involves a sequence
of events over time.  This sequence involves puberty,
exposure to intercourse, conception, gestation, progres-
sion from one parity to the next, up to menopause.  To
make this sequence part of a family formation process,
marriage comes in as a chance component.  Therefore, it
is first marriage that constitutes the beginning, and
therefore the most important, part of the process.  Thus
on nuptiality side, analysis will be heavy on first
marriage in terms of age  and status.  On fertility side,
analysis will also hinge on adolescent age and levels of
fertility.

Furthermore, the current demographic interest in the
study of fertility of young people has increased because
of a number of factors:

- The earlier the age at marriage, the higher
  the total fertility.  A Master's Thesis done in
  Indonesia, Fertility Survey (part of the WFS)[30]/
  found that those women who married at age less
  than 15 had 4.0 children ever born and those
  married at age 15 to 19 had 3.3 children ever born,
  while those married at age 20 and over had 2.7

children.

- The proposition that early marriage reduces
  educational attainment may seem so obvious that
  it appears to be one of those matters which
  demographers and sociologists should not waste
  their time investigating.  Yet, little thought on
  the matter is likely to make it much less obvious.
  Although it may be true that those who marry young
  tend to receive less education and obtain lower
  status jobs, it may simply be that both of these
  (early marriage and low levels of attainment) are
  correlates of a common antecedent, lower origin
  status.  In short, the association between age
  at marriage and educational attainment may be
  spurious.[31]

- More teenagers are using contraceptives and even
  more consistently than ever before.  Yet the number
  and rate of premarital adolescent pregnancies
  continue to rise.    Use of contraception is no
  longer demonstrably or even logically confined to
  married couples.  The convention of contraception
  in marriage - which is one of the causes of failure
  in many family planning efforts - is just normative.
  The conventional 5 year groupings of fertility

studies (15-19, 20-24, ....., 45-49) is becoming
increasingly unrepresentative of the "fertile"
span of many populations.  The trend towards
earlier menarche appears to be universal and today
girls everywhere are sexually mature at an earlier
age than previous generations.  In fact the onset
of menarche and menopause and the fecundity level
in-between is directly related to age and nutri-
tional status and is therefore partly a function of
poverty.  Thus the study of fertility is currently
confronted with a situation in which sexual maturity
is taking place earlier, thereby increasing the
period of non-marital fecundity in view of the
increasing age at marriage particularly in develop-
ing countries.

## OUTLINE OF CHAPTERS

The first chapter will constitute a general intro-
duction to the study of adolescent fertility in relation to
the global population problem.  Confining evidence to the
WFS data, the chapter will as well evaluate the suita-
bility of the WFS as a source of data for studying
adolescent fertility world-wide.

While this chapter constitutes chapter two, the third
chapter will deal especially with the biosocial factor of
menarche and reproductive maturity.

Chapter four will deal with patterns and differentials in adolescent age at first marriage and marital stability. Particular attention will be paid to the relationship between age at marriage and status of marriage particularly for young adolescents.

Chapter five will consider the relationship between age at first marriage and age at first birth. This chapter will also consider premarital fertility in adolescence, the level of adolescent age at first birth and total fertility.

In all the chapters, analysis will be using Statistical Packages for Social Science on the K.F.S. data. The main statistical test to be used will be the Chi-square to test for correlation among the variables in the tabulations. Measures of central tendency will also be used for comparison of various factors.

The sixth and last chapter will be introduced by a survey of the facts and factors that explain the latest rise and spread of adolescent fertility in the world - with a special emphasis on Africa. An attempt will then be made to explain the concept known as Adolescent Fertility Management and its relation to the demography of adolescent fertility in Kenya. This will then be followed by a summary of the findings of this Thesis

especially of those related to age at menarche, first
birth and first marriage in Kenya.  Lastly, the researcher
will point at the ethical and policy implications per-
taining to the state of adolescent fertility in Kenya.

## CHAPTER 3

## AGE AT MENARCHE, FIRST BIRTH AND
## FIRST MARRIAGE IN KENYA

### 3:1  THE PHYSIOLOGICAL BASIS OF AGE AT MENARCHE:

The most important basis for studying human growth
is the fact that it is a continuum, and does not start
at birth but at fertilization.  This continuum rarely
moves at a constant speed (Falkner, F. 1978, pp. 5).[32/]
It is on this concept that the beginning of reproductive
maturity in the female must be understood.

For each species of mammal, a characteristic period
elapses between birth and the development of full sexual
function.  In normal girls, first evidence of sexual matu-
ration characteristically appears not at four or forty,
but at about eight or ten to twelve years of age.  At that
age, most healthy girls begin to have physical manifes-
tations of the changes in ovarian function that are
associated with reproductive maturity.  Their breasts
begin to bud, and hair begins to appear in the pubic and
axilliary regions.  Within a year, the first episode of
menstrual bleeding occurs, providing clear evidence that
the ovary is now capable of secreting significant quanti-
ties of steroid hormones.  Sometime thereafter, the brain
begins to emit cyclic neuroendocrine signals at intervals

of approximately 29 days. These cause the pituitary gland
to release the hormones responsible for ovulation, and
the reproductive capability of a woman is thereby estab-
lished. Very little is known at present about why the
process of maturation starts when it does and then proceeds
at its specific pace (Zacharias and Wurtman, 1969, pp. 868).
33/

Of all developmental milestones associated with the
adolescent years, menarche, by all odds, is the most note-
worthy. The onset of the first menstrual period is a
qualitative event of major significance, denoting the
achievement of a functional state which involves, if not
ability to regularly conceive, at least the hypothelamic
control of the ovarian cycle via the pituitary gland
(Johnston, 1974, pp. 159). 34/

Turning now to factors which seem to exert a more
direct effect upon the age at menarche, we note that
genetic variations seem to play a significant, though
probably not a preponderant, role in variations among
adolescent females. The menstrual age of a girl's mother
is positively correlated with that of the girl herself
(Johnston, 1974, pp. 163). 35/ However, Zacharias and
Wurtman earlier on (1969) argued that unless data for
both mothers and daughters are obtained prospectively,
comparison of their menarcheral ages would be complicated
by the fact that the data for the two generations are not

really comparable. Either the data for the daughters
are prospective, whereas those for the mothers are retro-
spective, or, if both sets are retrospective, the daughter's
accounts of the recent events of menarche are likely to be
more accurate than the mother's recollections of the much
more distant event (Zacharias & Wurtman, 1969, pp. 872).[36/]

A study in Santiago, Chile, showed that menarche has
a correlation with familial background. The number of
foreign grandparents showed a clear association with the
age of menarche. The gradient observed is remarkable
especially as girls with greater foreign ancenstry show
their age to be intermediate between that of girls with
four Chilean grandparents, and that of girls from the
countries from which the grandparents came originally.
Furthermore, the study also suggested that the difference
in age at menarche between girls with and without shovel-
shaped teeth may be explained by ethnic stratification.
That is to say, girls with higher amounts of Amerindian
genes may also exhibit a later age at menarche (Rona
and Pereira, 1974, pp. 39).[37/]

However, Falkner argues that there are clearly
racial differences in adolescent body composition and
there is a need to exercise caution in assuming that data
gathered largely in the Western hemisphere are applicable

to other populations.  There is a need for studies in
so far as unstudied populations, particularly in the
areas of under and over-nutrition. The black adolescent
seems to have a higher proportion of body fat than the
adolescent caucasian who has a higher proportion than the
oriental.  Caution is, therefore, necessary here too
because of the racially different rates of maturation
(Falkner, F., 1978, pp. 9).$\underline{38}$/

On the other hand, researchers of the impact of
nutrition on reproductive endocrinology suggest that the
decreasing age at menarche over the past century in
Western Europe and the U.S.A. may have been due to many
factors such as improved public health measures, better
general health and fewer chronic debilitating diseases,
improved nutrition and an overall increase in the physical
size of the population, although it is difficult to assign
weighted values to their relative importance (Brasel, J.N.,
1978, pp. 30).$\underline{39}$/  Thus the sensitivity of menarcheal age
to nutritional differences, as well as to disease, suggest
that the improvement of environmental quality may be the
most powerful factor in the secular trend in the age at
menarche (Johnston, 1974, pp. 168).$\underline{40}$/

3:2   AGE AT MENARCHE IN THE TROPICS

Many authors argue that the consumption of protein
in most parts of the tropical regions in South East Asia,
Central and South America and Africa is generally in-
adequate both in quantity and quality. Tanner (1965)
discussing the influence of better nutrition on the trend
towards earlier maturity concluded that menarche seems
likely to be due to an influence which starts early in
life.   The best guess must be that better infant feeding
and particularly giving infants more protein early in life
is more responsible than any other aspect of nutrition
(Bojlen & Bentzon, 1968, pp. 76-77).$\underline{^{41/}}$   It must be
realized that nutrition in the tropics is not uniform
within the same country, but may vary from one district to
another and from one region to another in consequence of
difference in economy, tribe, religion, food, taboos,
ignorance, etc.   In many instances, therefore, it is
impossible to make valid generalizations (Bojlen and
Bentzon, 1968, pp. 79).$\underline{^{42/}}$

At least one fact is clear, that the secular trend
hypothesis of age at menarche has not been ascertained in
Africa particularly.  Comparison of ages at menarche for
countries in Africa with Western European and U.S.A. should
therefore take note of the fact that if the hypothesis of
secular decline in age at menarche is to be eventually

worldwide, then it is yet to be experienced in Africa. This is also applicable to other regions of the world where the secular trend has not been noted. Table 3:1 below shows the median age at menarche for several populations in the world.

TABLE 3:1  MEDIAN AGE AT MENARCHE IN SEVERAL POPULATIONS

| Population or Location | Median Age in Years |
|---|---|
| 1.  Cuba: | |
|       Negro | 12.4 |
|       White | 12.4 |
|       Mulatto | 12.6 |
| 2.  Hongkong (wealthy Chinese) | 12.5 |
| 3.  Florence, Italy | 12.5 |
| 4.  Wroclaw, Poland | 12.6 |
| 5.  Budapest, Hungary | 12.8 |
| 6.  California, U.S.A. | 12.8 |
| 7.  Colombo, Ceylon | 12.8 |
| 8.  Moscow, U.S.S.R. | 13.0 |
| 9.  Tel Aviv, Israel | 13.0 |
| 10.  London, U.K. | 13.1 |
| 11.  Assam, India (city dwellers) | 13.2 |
| 12.  Burma, (city dwellers) | 13.2 |
| 13.  Uganda, (wealthy Kampala) | 13.4 |
| 14.  Oslo, Norway | 13.5 |
| 15.  France | 13.5 |
| 16.  Nigeria, (wealthy Ibo) | 14.1 |
| 17.  U.S.S.R., (rural Buriats) | 15.0 |
| 18.  South Africa (Transkei Bantu) | 15.0 |
| 19.  Rwanda: | |
|       Tutsi | 16.5 |
|       Hutu | 17.1 |
| 20.  New Guinea (Bundi) | 18.8 |

Source:  Human Biology  Vol. 46, No. 1, Feb. 1974, pp. 164.

A close look at Table 3:1 would reveal the fact that the
cities represent North and South America, Continental Asia,
Middle East and Western Europe.  Countries represent East,
South and West Africa, Latin America, Continental Asia
and Western Europe.  Throughout the world, only Australia
is not clearly represented although New Guinea is in
Australasia.  The geographical distribution of the
countries is notable. Cuba and New Guinea are both trop-
ical countries although Cuba lies farther north of the
Equator than New Guinea.  The Negro/white of Cuba and
the Bundi of New Guinea represent the lowest and the
highest medians, respectively.  Cities tend to show the
least variation, ranging from the wealthy Chinese in Hong
Kong to the wealthy Ibo in Nigeria.  The rural Buriats of
U.S.S.R. and the Transkei Bantu of South Africa have equal
medians - an indication of their equality in socio-economic
development?

The median age at menarche for Kenya is about 15.
This is the same value as of the Transkei Bantu in  South
Africa and the rural Buriats of U.S.S.R.  A notable
comparison is the wealthy part of Kampala in Uganda which
has the median age of 13.4 years, indicating that higher
socio-economic position tends to speed up the maturity
rate.  However, we are not quite sure why different cities
and countries in the table have different median ages

at menarche.

Therefore, to agree with Johnston, the eliciting of
environmental controls of and associations with the age
of menarche is exceedingly complex. Part of the complexity
rests with the wide variety of extrinsic phenomena which
are associated with accelerated or delayed ages at
menarche. Part is also due to the frequent inability to
identify the relevant environmental factor from a statis-
tically significant correlation. The investigator must
continually ask himself whether the association represents
the activity of yet another element involved. In some cases,
the answer is clear; in others, it is not. (Johnston,
1974, pp. 164).[43/]

## 3.3 BACKGROUND VARIABLES: AN INTRODUCTION

Differentials in fertility and other aspects of
reproductive behaviour can be derived from the World
Fertility Survey core questionnaire for a number of
variables defining social and geographic strata. Some of
these should be given priority because they are widely
used in fertility research and because they refer to
strata generally considered so important that they are
likely to be standard in census and other statistical
work. The following variables are among those which all
countries were asked to include on a priority basis in
tabulations for the country report:

       - wife's education

       - region of residence

       - type of place of residence; a rural urban
         classification

       - any type of the following pertinent to the
         country:

          (a)  ethnic group
          (b)  religion
          (c)  race
          (d)  language

The background variables in this study were selec-
ted to conform to those variables likely to appear in
reports of all countries that participated in W.F.S.
The amount of detail in cross-tabulations that is possible
or useful, will depend on sample size bases in sub-
categories as well as on the gross relationship between
the variables indicated in initial tabulations. (W.F.S.
1975, pp. 3-4).[44]/

The main findings of the KFS were presented not only
for the sample as a whole but also for different categories
of women defined in terms of region of residence, type of
place of residence, education, religion, and ethnic group.
For obvious reasons, two variables: i.e. husband's occu-
pation and pattern of work were excluded from the study.
In KFS tabulations, these variables were tabulated for
ever-married women only, while this study, on the other
hand, is not confined to ever-married adolescents.  In

addition, the methods used to categorize the variables
could not be logically used in adolescent fertility
analysis. For example, it would be illogical to expect an
adolescent woman, irrespective of her marital status, to
be found in the category of professional workers. Further-
more, the pattern of work and husband's occupation cannot
be expected to have any causal connection with the age
of menarche of a woman. Thus for the sake of international
comparability, social and geographic coverage, the five
background variables used in this study are considered
adequate. For a summary description of each of the
variables, one is referred to the KFS report, op. cit.

At least one background variable, i.e. level of
education was recoded in order to facilitate understanding
of developmental, marital and reproductive behaviour of
young women in the framework of basic educational cate-
gories. Thus education was reclassified into four basic
categories, instead of five:

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        O    Years - no education
       1-7     "    - primary education
       8-11    "    - secondary education
    above 11   "    - higher education.
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Other background variables remained the same as were used
in the KFS report.

Association between background variables can be
expected since individuals possessing a particular charac-
teristic are often also more likely to possess certain

other characteristics.  For example, women with husbands
in non-professional occupations, or women in rural areas
tend to be less educated.  There are three main objectives
in making explicit the association between the background
variables used in this study.  First, it promotes a more
critical understanding of the study by guarding against
interpretation of differentials by one variable as if
they were unrelated to the differentials by another
variable.

The second point is methodological. With cross-
sectional survey data, and only a small number of expla-
natory variables, it is generally not possible to solve
questions of a causal nature, particularly with baseline
survey analysis.  Thirdly, the researcher here is mainly
interested in the level and differentials of adolescent
fertility as it obtains in a given spatio-temporal
framework.

## 3:4  THE ANALYTICAL FRAMEWORK

One is especially likely to confuse developmental
consequences with spurious relationships in dealing with
background variables, such as age, sex and ethnic group,
which serve as imperfect indicators of the variables.
Because of the measurement errors involved, if we control

for the background factor, we do not expect the corre-
lation to vanish even if the relationship is completely
spurious. The correlation will merely be reduced in size.
Thus the procedure of controlling for background or demo-
graphic variables is particularly vulnerable in this
respect. Often factors such as geographical region, sex,
education, ethnic group, religion are only very crude
indicators of more important "experience" variables. For
that reason, one should avoid complex indicators that are
related in unknown ways to a given underlying variable.
The investigator should be alert to possible misinter-
pretations owing to the complexity of the causal situation
(Blalock, H.M., 1961, pp. 164).[45/]

As was stated in the WFS Basic Documentation, the
simplest kind of analysis which can be undertaken on the
WFS data is descriptive; that is to say, the information
in the survey is rearranged, or reclassified so as to
exhibit, in a clear and summary form, salient features of
demographic interest. A great deal of material required
in this context may be produced from cross-tabulations -
similar to the tabulations produced for Country Report No.
1, where the general object would be to describe (rather
than account for) patterns of behaviour. Most of our
analytical efforts will be spent on critical examination

of tabulations where groups we are comparing are categories of two variables. Proportions and percentages will allow us to make comparisons between groups if the groups are of different size.

As part of our critical examination of cross-tabulations, we shall also be interested in the relationship in the population from which the sample was drawn. Does the relationship observed in the sample indicate a relationship in the population, or is it a product of random sampling fluctuations? To see how inconsistent our table is with the independent assumption, we shall calculate a summary measure (Chi-square or $X^2$) of how much our sample results deviate from independence. Remember that independence exists if all the percentage distributions are the same. We know that with a small value of $X^2$, we may not reject the null hypothesis that the two sets of characteristics are independent of each other. However, if some or many of the differences are large, then the value of $X^2$ will also be large. The larger the $X^2$ value, the more likely it is that the two groups differ with respect to the classifications (Siegel, S., 1956, pp. 106).[46]/

We saw earlier that proportions or percentages exist only to allow us to make comparisons between groups even

when the groups are of different size. However, comparing
distributions with many categories can be very cumbersome.
If the variables are nominal or ordinal, all we can do to
simplify things is to combine categories, a practice that
sacrifices detail for simplicity. In fact if we are
interested in knowing which group tends to exceed the
other with respect to a specific characteristic, percentage
distributions do not provide a clear answer. In order to
compare the two groups fairly, we have to allow for the
different number of cases involved. These numbers are
called means or averages. A mean is a number that des-
cribes a group. It therefore allows us to compare groups
on the basis of the amount of a characteristic possessed
by the group relative to their size. We expect to use
averages here for comparison purposes especially in
relation to levels and differentials of the variables which
we shall handle in the analysis. Graphs and maps will
also be used to illustrate particular points.

## 3:5   AGE AT MENARCHE IN THE CONTEXT OF BACKGROUND VARIABLES

One would not expect a basic demographic research to
be much interested in the event of menarche because of at
least two reasons. First, menarche is mainly a physio-
logical concept and therefore is ordinarily outside the
interest of demography as a social science. Secondly,

fertility ( a concept within the domain of demography)
is a repeatable event in the growth cycle for a woman.
However, the only reason why demography should be
interested in menarche is because menarche involves
fertility.

It should be mentioned here that this research is
set to examine the level of adolescent fertility.  The
global problem of adolescent fertility includes other
phenomena such as adolescent sexuality, contraception,
sterility, etc., - all irrespective of adolescent marital
careers.  If we were to include marriage, then we should
be aware that in some societies, child-marriage is still
practised.  The increasing prevalence of adolescent
fertility throughout the world has therefore effected a
new dimension to research responsibilities of population
studies - a dimension that is strictly biosocial.

Any study that sets to examine the relationship
between age at first birth and age at first marriage in
adolescence automatically includes menarche by implication.
It is clear that first marriage can occur irrespective of
age at menarche but first birth can only occur after the
event of menarche.  Menarche therefore falls somewhat
along the sequence of marriage and birth - whichever is
the latter.  What is paramount in adolescent fertility is

that since first birth has to come after menarche, age
at menarche is important in a study with age at first birth.

We saw earlier that menarche is an event that is
difficult to study and determine on a retrospective basis
because of inaccurate recall on the part of older women.
In fact data on menarche that is fully gathered on a
retrospective basis would be unfit to constitute a research
base although one could argue that not all women would
be unable to remember their menarchial ages correctly.
One is therefore likely to work with what would be the
average age of menarche for such women with full awareness
that the ages reported by younger women are more accurate
than those reported by the older women.  Since we are
aware that data of the K.F.S. was collected on a retro-
spective basis, we shall therefore keep in mind that as
far as age at menarche is concerned, "age misreporting
could have biased the results and the matter must remain
unresolved" (K.F.S. Vol. 1, 1978, pp. 171).[47/]  We shall
keep this warning in mind throughout our treatment of
data on menarche.

Secondly, the problem posed by the retrospective
nature of data on menarche to this particular study is
not new. The weaknesses inherent in data collected retro-
spectively are clearly known to researchers.  What is

important is the sequence of events under study and the
relationship - causal or otherwise - between one event and
the other or others. Herold Dorn clarifies the issue by
emphasizing that "the most general basis for belief in the
cause and effect relationship of events is the observation
that they are sequentially related in time. The first
event is thought to be the cause of the second. The belief
is reinforced if the particular sequence of events is
frequently observed. Until relatively recent times, this
method of reasoning was the principal basis of man's
belief in the causal connection of events. Indeed, even
today, this method is widely used. It would be exceedingly
difficult to find a person who has not acted on beliefs
established in this manner" (Dorn, H.G., 1953, pp. 672).[48/]

Furthermore, Johnston also rightly argued that apart
from direct hormonal influences, the regulation and control
of age at menarche in adolescent girls seems to be based on
"everything". He goes further to ask: "What meaning ought
we to ascribe to these diverse associations with other
parameters of development? However we may choose to
interpret them, it should be noted that cause-and-effect
relationship is erroneous" (Johnston, 1974, pp. 164).[49/]

We had seen earlier that on a global scale, age at
menarche is not uniform. The geographical variations in

age at menarche observed all over the world are attribut-
able to various factors such as socio-economic status,
climate, racial and genetic differentials, in fact
"everything". This leads us to the contention that there
must be a correlation between age at menarche and back-
ground variables such as the ones in this study. This
contention is preceded by the argument that if each back-
ground variable does not affect menarche, in its own way,
then the distribution of age at menarche would be the same
for all the background variables. Using the statistical
methods mentioned earlier, we now turn to examine the
reported age at menarche and also the relation between
age at menarche with the background variables and other
variables in the study.

## THE REPORTED AGE AT MENARCHE

Strictly speaking, this section is interested in
establishing the overall significance of menarche as a
variable on the topic under study, i.e. age at first birth
in relation to age at first marriage. In doing this, we
have to establish the distribution of age at menarche for
all women to establish a baseline distribution which
suggests the dimension or the magnitude of the demographic
impact implied by the relationships between age at menarche,
age at first birth and age at first marriage. In light of

this, the established level of age at menarche can then
be drawn in the light of the relationship already
established.

According to the K.F.S. first report, the majority
of women reported menarche between ages of 13 and 15, and
mean age was 14.4 years.  Among teenage girls in the
sample, the percentage who had not yet attained menarche
fell from 34% for 15 years olds, to 17, 10 and 3% for ages
16, 17 and 18 respectively.  This suggested a rather
early puberty.  However, the data are subject to recall
lapse and should be interpreted cautiously.

In the light of K.F.S. findings, we decided to look
at the percentage distribution of women by current age
and age at menarche.  For current age, we took the con-
ventional five-year age groups, 15-19, 20-24, ..... 45-49.
Current age less than 15 was not collected by K.F.S. and
though important for age at menarche, could not be shown.
Women currently aged above 49 were assumed to have
attained menopause and also were worse off in remembering
their ages at menarche and were also excluded.  Menarche
at ages above 19 was excluded because it included an
insignificant percentage of women.  Table 3:2 below shows
the percentage distribution of women by current age and
age at menarche.

TABLE 3:2   PERCENTAGE DISTRIBUTION OF WOMEN BY
            CURRENT AGE AND AGE AT MENARCHE

| Age at Menarche | CURRENT AGE | | | | | | |
|---|---|---|---|---|---|---|---|
| | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 |
| 10 | 0.6 | 1.5 | 1.4 | 1.8 | 2.4 | 2.3 | 1.9 |
| 11 | 1.8 | 1.6 | 1.5 | 0.7 | 2.2 | 1.1 | 1.1 |
| 12 | 9.6 | 10.1 | 10.6 | 9.2 | 9.5 | 10.2 | 8.0 |
| 13 | 16.3 | 13.4 | 14.0 | 13.0 | 16.3 | 13.0 | 11.9 |
| 14 | 32.1 | 25.2 | 21.4 | 22.0 | 22.1 | 24.9 | 25.1 |
| 15 | 27.1 | 25.4 | 27.9 | 31.7 | 25.6 | 28.8 | 29.8 |
| 16 | 9.7 | 12.9 | 13.9 | 12.4 | 11.8 | 10.5 | 11.6 |
| 17 | 2.4 | 6.3 | 4.4 | 5.1 | 5.4 | 5.5 | 6.1 |
| 18 | 0.3 | 2.8 | 3.7 | 3.3 | 3.6 | 3.3 | 4.1 |
| 19 | 0.2 | 0.9 | 1.2 | 0.7 | 1.0 | 0.3 | 0.3 |
| TOTAL | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| N | 1568 | 1295 | 1175 | 731 | 578 | 361 | 362 |

It should be nqted that for women whose current age
is 15-19, there are a few who have not yet reached menarche.
We have assumed that these girls are too  few to affect
the pattern of distribution exhibited.  According to Table
3:2, then, the K.F.S. observation that the majority of
women reported menarche between ages 13 and 15 and that the
mean age was 14.4 is confirmed.  The mean age at menarche
according to Table 3:2 was 13.36 years.  The difference
between 14.4 and 13.36 could be attributed to the fact
that the KFS average excluded teenage girls, while our
average included girls currently aged 15-19.  Since these
teenage women were in a position to report their ages at

menarche more accurately, the effect of their mean age
at menarche on lowering the KFS mean age is plausible.

The only way to show that this mean age at menarche
for all women is an indicator of any trend is to calculate
the mean for each age group and then examine how these
means deviate from the overall mean. This is shown in
Table 3:3 below.

TABLE 3:3   THE DISTRIBUTION OF MEAN AGE AT
            MENARCHE BY CURRENT AGE

| CURRENT AGE | MEAN AGE | CURRENT AGE | MEAN AGE |
|---|---|---|---|
| 15-19 ① | 14.15 | 35-39 | 14.33 |
| 20-24 ② | 14.44 | 40-44 | 14.37 |
| 25-29 ③ | 14.45 | 45-49 | 14.51 |
| 30-34 ④ | 14.46 | | |

Generally, the mean ages seem to be more-or-less
equal although a closer look would show some trend. First
of all, it is important to note that the youngest women,
aged 15-19 tend to have the lowest mean age at menarche,
while the oldest women seem to have the highest mean.
Secondly, one could note that at least for the first four
age groups, the mean age tends to show a rise as the
women get older. These two observations tend to point to
a relationship between the age at menarche and the age of
women.

3:7   AGE AT MENARCHE BY REGION OF RESIDENCE

The existence of an association between a place of residence and age at menarche has been speculated in most of the literature on socio-economic factors that affect age at menarche.  However, proof has not been found of the effect of a geographical location on the age at menarche. Attributes of geographical locations such as altitude and sunshine have sometimes been mentioned as factors likely to affect reproductive maturity.  It was necessary to cross-classify the age at menarche by the geographical regions of residence in order to see the effect of each region on the age at menarche.  Since we had established the average age for the whole nation as about 14 years, we regrouped the age at menarche distribution for comparison with the national average.  We shall therefore assume that ages 10, 11 and 12 indicate early menarche; ages 13, 14 and 15 indicate average menarche; ages 16, 17, 18 and 19 late menarche.  Table 3:4 below shows the distribution of women by age at menarche and region of residence.

Table 3:4 shows that Nairobi is the earliest in reproductive maturity with a mean age of 14.6 and with 13.3% of her females maturing early.  If nutrition, general health standards and socio-economic status play a part in early maturation, then one would expect Nairobi

as a region to have the lowest age at menarche.

TABLE 3:4   PERCENTAGE DISTRIBUTION OF WOMEN BY AGE
            AT MENARCHE AND REGION OF RESIDENCE

| Age at Menarche | REGION OF RESIDENCE | | | | | | |
|---|---|---|---|---|---|---|---|
| | Nairobi | Central | Coast | Nyanza | Rift | Western | Eastern |
| 10-12 | N =  93 | 138 | 64 | 164 | 123 | 109 | 90 |
| | % =13.3 | 11.1 | 9.9 | 10.1 | 8.2 | 10.9 | 6.6 |
| 13-15 | N = 403 | 656 | 233 | 959 | 711 | 582 | 562 |
| | % =57.6 | 53.0 | 36.0 | 59.3 | 47.2 | 58.0 | 41.0 |
| 16-19 | N = 204 | 444 | 351 | 495 | 672 | 312 | 716 |
| | % =29.1 | 35.9 | 54.1 | 30.6 | 44.6 | 31.1 | 52.3 |
| TOTAL | N = 700 | 1238 | 648 | 1618 | 1506 | 1003 | 1368 |
| | % = 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Mean Age | 14.6 | 14.9 | 15.6 | 14.8 | 15.3 | 14.8 | 15.6 |
| $X^2 = 304.302$ df = 12   Ho rejected at $\alpha = 0.01$ | | | | | | | |

Most regions fall on the average with small devia-
tions.  However, mention needs to be made of the Coast
and Eastern which show significant signs of late menarche.
These two regions are followed by Rift Valley, with
slightly less than 50% of her females on average age at
menarche.  One would wonder why Rift Valley would be
among late comers to maturity but one also needs to be
reminded that Rift Valley is a region of great ethnic and
ecological contrasts.  The ecological similarity characte-
rizing much of the Rift Valley, Eastern and Coast Regions
would help to explain their high ages at menarche.

Further support for the fact that region influences reproductive maturity would be found from the fact that Nyanza and Western Provinces have almost equal proportion for each menarcheal group and also have equal average age at menarche. Given that Nyanza and Western have similar climatic and ecological bases, the proportions and averages that emerge between them are plausible.

### 3:8 URBAN RURAL DIFFERENTIALS IN REPRODUCTIVE MATURITY

When analyzing data on regional differentials of age at menarche, we held one assumption that women who were covered in the various regions had stayed there from birth. Women who were born in Nyanza and had not moved away from Nyanza to, say, Coast Province, can be assumed as having only been affected by the ecological and socio-economic base of Nyanza.

On the other hand, we are aware of the great degree of rural urban migration in Kenya, as in other developing countries. We are also aware of the fact that there are some women who might have spent all their lives in either urban or rural areas as at the time of interview. Further we also need to note that although some small towns - which may not have an independent cultural

identity, qualify to be classified as towns, it was
necessary to isolate Nairobi and Mombasa from other
towns and see what differentials emerge.  Thus taking
Nairobi/Mombasa as metropolitan, other towns as urban,
Table 3:5 below shows their differentials by age at
menarche and their means.

TABLE 3:5   PERCENTAGE DISTRIBUTION OF WOMEN BY AGE AT
MENARCHE AND TYPE OF PLACE OF RESIDENCE

| AGE AT MENARCHE | TYPE   OF   PLACE   OF   RESIDENCE | | |
|---|---|---|---|
|  | RURAL | URBAN | NBI/MSA |
| 10-12 | N =  591<br>% =  9.1 | 65<br>10.0 | 127<br>13.2 |
| 13-15 | N = 3196<br>% = 49.2 | 393<br>60.7 | 528<br>55.1 |
| 16-19 | N = 2706<br>% = 41.7 | 190<br>29.3 | 304<br>31.7 |
| TOTAL | N = 6493<br>% =  100 | 648<br>100 | 959<br>100 |
| MEAN AGE | 15.19 | 14.73 | 14.71 |
| $x^2$ = 73.642   df = 4   Ho rejected at $\alpha$ = 0.01 | | | |

First of all the reader should note that age at
menarche did not differ significantly between urban and
Nairobi/Mombasa.  The significance of this lack of dif-
ference should be seen in light of the fact that a higher
socio-economic status should help further reduce the age
at menarche, at least theoretically.  Empirically, though,

one needs to make sure that the women classified as metro-
politan have spent all their lives in the metropolitan
areas.  One would also have a reason to suspect that
mixing Nairobi and Mombasa would also either raise or
lower the mean for the metropolitan category because of
the differentials that were inherent in Nairobi or
Mombasa alone.

Rural place of residence showed an expected
behaviour in having the smallest percentage among the
early maturers.  One would also expect the rural mean age
at menarche to be higher than that of urban metropolitan.
It can therefore be said that a rural place of residence
is likely to result in a higher mean age at menarche.

## 3:9  AGE AT MENARCHE BY LEVEL OF EDUCATION

Before we have a look at the table showing the
distribution of women by age at menarche and level of
education, we  would need to note that on a theoretical
basis, one would expect more uneducated women in rural
areas and more highly educated in urban or metropolitan
areas.  Thus the percentage distribution of women by
education would more or less be similar to that of type
of place of residence because education is theoretically
a function of type of place of residence.  That means that

the intensity of education in terms of facility and density is higher in urban than in rural areas. Table 3:6 below shows the distribution of women by menarche and education.

TABLE 3:6  PERCENTAGE DISTRIBUTION OF WOMEN BY AGE
            AT MENARCHE AND LEVEL OF EDUCATION

| Age at Menarche | LEVEL OF EDUCATION | | | |
|---|---|---|---|---|
| | NO EDUCATION | PRIMARY | SECONDARY | HIGHER |
| 10-12 | N = 322<br>% = 9.4 | 373<br>10.3 | 58<br>8.1 | 30<br>9.5 |
| 13-15 | N = 1435<br>% = 41.8 | 2012<br>55.4 | 467<br>65.2 | 203<br>64.0 |
| 16-19 | N = 1677<br>% = 48.8 | 1248<br>34.3 | 191<br>26.7 | 84<br>26.5 |
| TOTAL | N = 3434<br>% = 100 | 3633<br>100 | 716<br>100 | 317<br>100 |
| MEAN AGE | 15.4 | 14.9 | 14.7 | 14.6 |
| | $X^2$ = 256.567  df = 6  Ho rejected at $\alpha$= 0.01 | | | |

The mean ages at menarche underline the contention that women with no education, who are likely to be found in the rural areas, have the highest age of menarche, followed by primary, secondary and higher educational levels, in that order. On this basis we find that women who have the highest educational level also have the lowest mean age at menarche. One reason is that women with higher education are more likely to be living in

urban/metropolitan areas and are also more likely to
be in a higher socio-economic status. It is also worth
noting that the difference in the mean age between
women with higher and secondary education is smaller than
that between secondary and primary education, and the
lower the education level, the greater the differential
in the mean age at menarche. This is why women with no
education have a higher differential than women with
some education - although within the educational dif-
ferentials are comparatively smaller.

If we look at the percentage distribution of women
by level of education and age at menarche, what strikes
us is that a greater percentage of women with primary
education have lower age at menarche than other education
categories. What is more surprising is that women with
no education and those with higher education tend to have
equal percentage on low menarche category. That would
tend to defuse the argument that there is some correlation
between level of education and rate of reproductive
maturity. However, we could argue further that one would
not expect a high correlation between age at menarche
and education level but one would expect a high correlation
between age at menarche and socio-economic status. The
effect of socio-economic status would then work on the
reverse to affect the rate of maturity. A plausible
hypothesis would then be that females brought up in

families of high socio-economic status are likely to have higher education and also likely to be better nourished. The significance of education in connection with maturity lies on its effect on socio-economic status and vice versa. On this basis we would note, as Table 3:6 shows, that the highest percentage of women with late age at menarche have no education as would be expected. Also it would be expected that the higher the level of education, the smaller the percentage of women with late age at menarche.

### 3:10  AGE AT MENARCHE BY RELIGION

The fact that a woman belongs to this or that religion at the time of survey may not have a connection with her age at menarche. First of all, a woman may change from one religion to another, say if she marries a man belonging to a different religion. Secondly, age at menarche is an event which is closely related to the health - thus growth - of a woman and may therefore have a remote connection with the background of the family in which the woman grew. Thus religiosity may be assumed to be connected with the socio-economic status the greater the religiosity. Thirdly, one may also say that women belonging to a particular religion may be of a higher socio-economic status and thus likely to lead a kind of life which is conducive to rapid maturation.

However, it is difficult to say which religion is the
particular one. Being a Catholic or Protestant or what-
ever has no a priori connection with human growth and
maturity. It is true that observing the rules of one's
religion may have some connection with one's character,
politeness, and such other abstract notions. However,
is this not what is meant by religiosity? Could one be
right to argue that one who belongs to a certain religion
and is not religious is significantly different - in
terms of health and growth - from his religious counter-
part? The significance of this variable (religious
background) on the direction of menarche is distinctly
remote. However, religion is a popular background variable
in social research. If we discuss the distribution of
women for this variable (age at menarche) and other
variables in the study, i.e. age at first birth and first
marriage, we may be able to speculate on the prevailing
pattern. Table 3:7 below gives us the distribution of
women by age at menarche and religion.

Table 3:7 presents us with a very interesting
pattern. First of all, why should Catholics and Protes-
tants have more or less equal percentages for all age
groups and also equal means? Are the women who belong
to these denominations the same in religiosity? Is it

really true that age at menarche for a Catholic is

equal to that for a Protestant?

TABLE 3:7  PERCENTAGE DISTRIBUTION OF WOMEN BY
          AGE AT MENARCHE AND RELIGION

| Age at Menarche | R E L I G I O N | | | |
|---|---|---|---|---|
| | CATHOLIC | PROTESTANT | MUSLIM | NO/OTHER |
| 10-12 | N = 282<br>% = 9.5 | 431<br>9.9 | 46<br>12.7 | 24<br>5.8 |
| 13-15 | N = 1571<br>% = 53.2 | 2304<br>52.8 | 140<br>38.8 | 98<br>23.5 |
| 16-19 | N = 1101<br>% = 37.3 | 1627<br>37.3 | 175<br>48.5 | 295<br>70.7 |
| TOTAL | N = 2954<br>% = 100 | 4362<br>100 | 361<br>100 | 417<br>100 |
| MEAN AGE | 15.0 | 15.0 | 15.3 | 16.3 |
| $x^2$ = 206.856, df = 6  Ho rejected at $\alpha$ = 0.01 | | | | |

Although answering these questions would be outside
the sphere of interest of this research, the researcher is
of the opinion that in order to improve the conceptual
base of social research, such questions need to be
answered satisfactorily.  Because the researcher does
not see a significant difference between Catholic and
Protestant, they are hereby considered jointly as
Catholic/Protestant for comparison with Muslim and no/other
religions.

This trichotomy in itself presents a very interest-
ing pattern.  A greater percentage of Muslims mature
earlier than the Catholic/Protestant or no/other religion.
Those with no/other religion are also having the smallest
percentage among the early maturing group.  More signi-
ficant, however, is the fact that those women with no/
other religion are most likely to mature late.  70.7% of
the women in this category are among those who have late
age at menarche.  Their mean age is also distinctly high,
16.3 years.  This pattern is followed by Muslim women
with mean of 15.3 and Catholic/Protestant with mean of 15.

The researcher now assumes that by implication,
low age at menarche is characteristic of a high socio-
economic status - which includes nutrition and good health
throughout one's life before survey.  The significance of
this assumption is to allow the researcher to argue that
women with no/other religion have a lower socio-economic
status, are largely illiterate, tend to live in rural
areas and tend to mature later than others.  Muslim women
are somehow midway between Catholic/Protestant and those
with no/other religion.


3:11  AGE AT MENARCHE BY ETHNIC GROUP

Here is another variable which constitutes another

difficulty to analysis. An ethnic group or tribe is a
difficult concept to understand. The Oxford Advanced
Learner's Dictionary of Current English defines tribe as
"racial group, especially one united by language and
custom, living as a community under one or more chiefs".
If tribes mean racial groups then the variable called
ethnic group should be taken to mean race or racial group.
We should note that it could have been more convenient
to analyze differentials in menarche by the main racial
groups present in Kenya since we can assume that the
racial groups live under different socio-economic
categories. Research already cited in this work has also
shown that racial differences in reproductive maturity
have been observed in other parts of the world.

However, we shall analyze this variable as it is
making a simplifying assumption that differentials exist
in the tribes because they are coded as ethnic (thus
racial) groups. Table 3.8 below shows the distribution
of women by ethnic group and age at menarche.

TABLE 3:8   PERCENTAGE DISTRIBUTION OF WOMEN BY
ETHNIC GROUP AND AGE AT MENARCHE

| Age at Menarche | ETHNIC GROUP | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Kikuyu | Luo | Luhya | Kamba | Kisii | Meru | Mijikenda | Kalenjin |
| 10-12 | N= 216 | 163 | 140 | 68 | 37 | 45 | 34 | 46 |
| | %=12.6 | 14.0 | 13.2 | 10.0 | 11.8 | 11.6 | 21.1 | 13.4 |
| 13-15 | N=1143 | 879 | 703 | 387 | 229 | 264 | 103 | 246 |
| | %=66.7 | 75.4 | 66.1 | 57.0 | 72.9 | 68.0 | 64.0 | 71.5 |
| 16-19 | N= 355 | 124 | 221 | 224 | 48 | 79 | 24 | 52 |
| | %=20.7 | 10.6 | 20.7 | 33.0 | 15.3 | 20.4 | 14.9 | 15.1 |
| TOTAL | N=1714 | 1166 | 1064 | 679 | 314 | 388 | 161 | 344 |
| | %= 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| MEAN AGE | 14.4 | 14.0 | 14.3 | 14.9 | 14.2 | 14.4 | 13.9 | 14.1 |
| | $X^2$ = 160.746   df = 14   Ho rejected at $\alpha$ = 0.01 | | | | | | | |

A plausible assumption here should be that Luo are
to Nyanza as Kikuyu are to Central Region - Mijikenda are
to Coast as Luhya are to Western; Kalenjin are to Rift
Valley as Kamba are to Eastern.  But one would ask, then
Kisii are to what and who are to Nairobi, and say, Masai
are to what?

However, since - as far as K.F.S. is concerned,
these ethnic groups are representative of the whole country,
we could assume that their differentials in age at menarche
gives a picture of the entire ethnic distribution in
Kenya.  Clearly there is reason to associate the ethnic
groups with their regions of birth and childhood residence.

Nevertheless, we see clear differentials among the different ethnic groups. The mean age at menarche varies from 13.9 years among the Mijikenda women to 14.9 among the Kamba women. The Luo, Kalenjin and Kisii also tend to have early menarche followed by the Luhya, Kikuyu and Meru groups, in that order.

The geographical distribution of these ethnic groups and the socio-economic endowments of these regions are known. However, it may be incorrect to infer that tnere is a causal connection with reproductive maturity although an association cannot be ruled out. The impact of urbanization and education among the different ethnic groups may also be another attributable factor since we know that Kenya is one of the countries with differentials in rural-urban standards of living that are greatest in tropical Africa. We can only say that this is an area that is ripe for bio-social research in order to discern the factors that cause differentials in ethnic age at menarche.

### 3:12   A SUMMARY OF AGE AT MENARCHE BY BACKGROUND VARIABLES

The apparent fact that research in social sciences may often require the simultaneous lifting of several restrictive assumptions points up the difficult path that lies ahead.  But the situation is by no means hopeless. We may, however, have to pay a high premium for the inability to experiment, for the large number of variables with which we must deal and for our crude measurement techniques.  Nevertheless, cross-tabulation gives an array of individuals who possess at least two characteristics simultaneously.  What is important (academically) is that each cell in a cross-tabulation is unique.  The percentage distribution of these individual cells gives the weight with which the population studied possesses these characteristics.  The distribution of these weights which in this study is called early, average and late, relative to the national average - can be shown to be associated with the background variable as revealed by tabulations.  The mean value of the variables under study offer easy comparison across the background variables. An independent statistical test - Chi-square - measures the degree of correlation between the distribution of adolescent women by the background variables.

Although no causal connection is assumed, but not
denied, we are now able to show how the three categories
of age at menarche, i.e. early, average and late menarche
are associated with the background variables in this
study.  Early menarche is clearly associated with Nairobi
region, Nairobi/Mombasa as place of residence, with
primary education, with Muslim religion and with
Mijikenda tribe - according to evidence from percentage
distributions.  The internal consistency of this expla-
nation is generally acceptable.  The Mijikenda are likely
to be found in Mombasa and also are predominantly Muslim.
Nairobi as a region is clearly associated with Nairobi/
Mombasa as a place of residence.

The next evidence we would use is the mean ages of
menarche.  The questions one would ask are: Which
variables are associated with the highest, average or
lowest means?  Those women who have the highest mean ages
are associated with the Eastern/Coast region, rural place
of residence, no education, no religion and Kamba tribe.
Most regions fall on the average, except Nairobi and
Eastern/Coast.  Urban residence and some education also
seem to be related to average age at menarche.  Catholic/
Protestant religions are also average as well as most
ethnic groups.

### 3:13  THE RELATIONSHIP BETWEEN MENARCHE AND FIRST MARRIAGE

Again, the eliciting of environmental controls of
and associations with the age at menarche is exceedingly
complex.  Part of the complexity rests with the wide
variety of extrinsic phenomena associated with accelerated
or delayed ages at menarche.  Part is also due to the
frequent inability to identify the relevant environ-
mental factor from the statistically significant cor-
relation.  The investigator must continually ask himself
whether the association represents the activity of yet
another variable, or whether there is any cause and effect
element involved.  In some cases, the answer is clear,
in others, it is not.  To further probe on the nature
of interplay between age at menarche and adolescent
fertility, two other variables considered central to
this study are also presented in cross tabulations.  These
are the age at first marriage and age at first birth.
Table 3:9 below presents the first one.

Before we take an analytical look at data presented
in Table 3:9, we should remind ourselves that two age
groups are worth noting.  First, marriage at age 9 is
really child marriage and would not be representative of
the Kenyan scene although the legal age for Muslim
marriage is 9 years.  Secondly, such early marriage may

also happen before reproductive maturity and therefore
have a disturbing relationship with adolescent fertility.
Further, first marriage by age 20 to 24, although not
adolescent marriage by definition, is included for the
sake of comparison with adolescent marriages.  Age 16
which is the legal age of marriage in Kenya is taken
to represent the average age at marriage - on a de jure
basis.  In the next chapter we shall establish the mean
age at marriage based on the data.

TABLE 3:9    AGE AT MENARCHE BY AGE AT FIRST MARRIAGE

| Age at Menarche | AGE AT FIRST MARRIAGE | | | |
|---|---|---|---|---|
| | 9-14 | 15-17 | 18-19 | 20-24 |
| 10-12 | N = 217<br>% = 19.0 | 222<br>9.7 | 93<br>6.7 | 96<br>7.8 |
| 13-15 | N = 545<br>% = 47.7 | 1208<br>52.5 | 673<br>48.6 | 514<br>42.0 |
| 16-19 | N = 381<br>% = 33.3 | 870<br>37.8 | 618<br>44.7 | 616<br>50.2 |
| TOTAL | N = 1143<br>% = 100 | 2300<br>100 | 1384<br>100 | 1226<br>100 |
| MEAN AGE | 14.6 | 15.0 | 15.4 | 15.5 |
| | $X^2$ = 178.267    df = 6    Ho rejected at $\alpha$=0.01 | | | |

3:9

Table shows that with evidence from both percentage
distributions and mean ages, early menarche is definitely
related to early marriage and average menarche with late

marriage. Thus the earlier the age at menarche the earlier the age at marriage and the later the age at menarche, the later the age at marriage. Thus there is a positive correlation between age at menarche and age at marriage. On a *de* facto basis, therefore, one can argue that having age at marriage at 16 is irrelevant to the real marriage situation. An issue in adolescent fertility study is whether policy makers will consider the age at maturity in legal reforms that pertain to age at first marriage. The fact for Kenya is that a very rapid population growth, which implies a youthful population, will have to worsen the relationship between the age at maturity and the official age at marriage further.

An important relationship which is to be seen here is that between age at menarche and age at first birth. This will be taken up in chapter five which is fully devoted to analysis of age at first birth. Analysis of menarche must stop here as we turn to analyse another important variable in the study, i.e. age at first marriage.

## CHAPTER 4

ADOLESCENT AGE AT FIRST MARRIAGE AND MARITAL STABILITY

A summary of the conceptual base and the analytical findings of the previous chapter is necessary before we look into the next area of our analysis. One of the factors attributable to the present pattern of world development is the lowering of the age at menarche. Indeed, it can be argued that the more developed nations have a lower age at menarche (on the average) than the less developed nations - compare the median ages for France and New Guinea (for example) in Table 3:1.

Even within a single nation, differentials in age at menarche exist and can be taken to indicate which particular society - or group of people in the society - are of higher socio-economic status. Regional differentials also underline the inequalities existing in such regions. Thus with further socio-economic development and urbanization, additional declines in the age of menarche in Kenya are to be anticipated. In adolescent fertility studies, it is particularly difficult, although challenging, to show how three basic variables interact. First of all, we know that at different times in life, a woman will experience the events - which can come in

any of the following ways:-

      (a) menarche $\longrightarrow$ marriage $\longrightarrow$ birth,

      (b) marriage $\longrightarrow$ menarche $\longrightarrow$ birth,

      (c) menarche $\longrightarrow$ birth $\longrightarrow$ marriage.

In Kenya, we know that most women experience these three events. However, it is necessary here to note that while menarche is a purely physiological variable, birth is a bio-social variable and marriage is a socio-cultural variable. Menarche responds only in one direction to socio-economic development, i.e. it can only occur at increasingly earlier ages. On the other hand, birth is subject to certain restraints imposed by both biological and sociological dimensions. We know that reproductive efficiency is a function of age, while conception, without contraception, is a function of sexuality which in turn is also a socio-cultural variable. Marriage per se is a debatable factor in adolescent childbearing. Its importance depends on its relationship with exposure and the risk of conception (birth). If there is no exposure (and no births) in marriage, marriage is not important. What is important here is reproductive maturity and sexual behaviour. Marriage is an intervening variable. However, as long as marriage is universal (as in Kenya), then it is important to include marriage in adolescent

fertility analysis. This is because once marriage comes into a woman's life cycle, then her reproductive history is bound to change radically. We also know that although menarche can be assumed to be universal, marriage and birth can behave very differently, despite the fact that they are also universal in Kenya. A few women would turn celibate and experience neither birth nor marriage in their life time; some may experience birth but no marriage. In fact more and more women are falling in the second category as age at first marriage continues to rise. For some women, a birth before marriage means no marriage at all. This is why the relationship between first marriage and first birth becomes a very important issue in adolescent fertility - in fact so important as to merit further examination before analysis of the K.F.S. data on the topic of this thesis.

## 4:2   ADOLESCENT MARRIAGE ANALYSIS: A SUMMARY

Malthus' proposal to curb population growth by delaying marriage and sexuality - a concept known as providential restraint - must have seemed to many, including Malthus himself, to carry the risk of increased levels of illegitimate fertility. With a large proportion of unmarried women among those in the prime reproductive ages, sexual desires might override social and legal

conventions, resulting in rising numbers of out-of-wedlock offspring (Malthus, T.R., ed. pp. 15-139).[50/] Conventional demographic assumption that fertility is confined to marriage has been unable to include the rising rate of premarital fertility which is being increasingly experienced in the world today.

It is mentioned here again that the present global concern for adolescent fertility carries with it a radical departure from the traditional concerns of demography where theory ordinarily rests on a macroscopic level of populations and societies and where research has ordinarily involved analyses of data collected by governmental agencies. The most successful probes have been in sociological areas of differential fertility where classifications presumably reflect sub-cultural systems delineated by religious, educational, occupational, residential and other dimensions. Further, analysis of these classifications have traditionally rested on the conventional five year age groupings. In adolescent fertility analysis, the so-called micro-level is probably implied in an attempt to explain single year rather than group variations in adolescent fertility. Where macro and micro levels part, however, is rather arbitrary and, in any case, is probably not a fruitful subject of

concern.  The question ultimately is one of scientific
efficiency and strategy (Westoff, Potter and Sagi, 1963,
pp. 237).<u>51/</u>

In conventional analysis of nuptiality, the
following assumptions have been assumed constant:

(a)  that there is a convention governing the risk
     of marriage at any cohort that prevents first
     marriage in the cohort before a minimum age
     defined by religion, law and custom,

(b)  that a fraction of the cohort is not in the
     marriage pool because of such forces as the
     relative numbers of men and women when members
     of the cohort marry, restrictions on marriage,
     including provisions for dowry and traditions
     of celibacy,

(c)  that the portion of the cohort in the marriage
     pool experiences a risk of marriage that rises
     from zero to the conventionally defined minimum
     age to a maximum risk that is maintained until
     the last marriage occurs to the cohort,

(d)  lastly, and most importantly, that the age
     pattern of marital fertility <u>above age 20</u>
     follows a strongly typical pattern, called

natural fertility in populations in which deliberate birth control is not practised. The problem here is stated clearly that adolescent marital fertility is often strongly influenced by the frequency of premarital conceptions leading to marriage (Coale, 1971, pp. 193).52/

Analysis of adolescent marriage patterns cannot be isolated from adolescent pregnancy because adolescent marriages are usually precipitated by premarital conceptions or births. This is also why conventional analysis of nuptiality cannot be wholly applied to adolescent fertility analysis. In order to satisfy the needs of the issues highlighted above, this chapter's analysis will be based on specific sections and requirements. First of all, we shall test the hypothesis that early marriage encourages marital instability. The earlier the age at first marriage the higher the rate of marital instability. We are therefore set to investigate the relationship between age at first marriage and marital stability.

In order to determine the level of adolescent nuptiality, it will be necessary to discuss a table which presents data on current age by age at first marriage. This will tell us where a greater percentage of women fall.

Because first marriage is in itself a dependent variable, we shall want to see how it varies with the background variables, at least briefly.

Having examined the level of marriage, we shall turn to discuss the relationship between age at marriage and marital stability. This section is the focus of this chapter mainly because it is the one that is concerned with age as a factor in adolescent marital careers. The section will be divided into two parts. One part will discuss the relation between age at marriage and at least two aspects of marital stability. The other part will discuss the marital careers of women by their current ages.

## 4:3   AGE AT FIRST MARRIAGE IN ADOLESCENCE

In this section, we are interested in showing what proportion of women (who are currently aged between 25-49) had first married in either early adolescence or late adolescence, i.e. 10-14 and 15-19 and after adolescence, respectively. This is presented in Table 4:1 below.

TABLE 4:1   <u>AGE AT FIRST MARRIAGE BY CURRENT AGE</u>

| Age at first Marriage | C U R R E N T   A G E | | | | |
|---|---|---|---|---|---|
| | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 |
| 10-14 | N= 231<br>%=16.2 | 197<br>20.3 | 197<br>22.4 | 118<br>20.3 | 96<br>16.4 |
| 15-19 | N= 802<br>%=56.3 | 561<br>57.8 | 470<br>53.3 | 321<br>55.3 | 304<br>52.1 |
| 20-24 | N= 356<br>%=25.0 | 179<br>18.4 | 180<br>20.4 | 118<br>20.3 | 152<br>26.0 |
| 25-29 | N=  35<br>%= 2.5 | 33<br>3.4 | 34<br>3.9 | 23<br>4.0 | 32<br>5.5 |
| TOTAL | N=1424<br>%= 100 | 970<br>100 | 881<br>100 | 580<br>100 | 584<br>100 |

In analyzing a table like 4:1 above, one would try
to answer such questions as: Do most women marry in adoles-
cence?  Is there any trend of age at marriage over time?
Let us, first of all, note that we assumed that the propor-
tion of women who marry at those ages less than 10 is
negligibly small.  On the other hand, while the proportion
marrying at ages above 19 should not be considered small,
this group is not adolescent and is therefore not within
the interest of this thesis.

By trying to examine the age between 25 and 49, we
wanted to see which age group of women married relatively
later or earlier than other age groups.  Although the
percentage distribution of women who married early

(i.e. aged 10-14) do not differ very much, we should note that the smallest percentages are in the youngest and the oldest age groups, with the mid age group (35-39) having the highest percentage (22.4%).

We can also look at the table only to see which age group had a higher proportion of adolescent marriage than the others, or which group had late marriage, i.e. between ages 20-29. Women aged 30-34 had the highest percentage of adolescent marriages (78.1%), while the oldest women (aged 45-49) had the lowest percentage of adolescent marriages (68.5%). The distribution of high and low proportions of adolescent marriages showed a pattern which tended to oscillate over time.

Having seen the pattern of marriage for women by current ages, we now turn to take a brief look at the pattern of first marriage by background variables. We divided age at first marriage in adolescence into three groups, 10-14, 15-16 and 17-19. In order to make this section brief, we shall present the tables for all the five variables together and then make a comparative analysis of emerging differentials of age at first marriage by the background variables.

TABLE 4:2   AGE AT FIRST MARRIAGE BY REGION OF RESIDENCE

| Age at first Marriage | REGION   OF   RESIDENCE | | | | | | |
|---|---|---|---|---|---|---|---|
| | Nairobi | Central | Coast | Nyanza | Rift V. | Western | Eastern |
| 10-14 | N=   83<br>%= 24.3 | 86<br>14.3 | 159<br>32.4 | 320<br>28.6 | 196<br>20.9 | 144<br>21.3 | 151<br>23.4 |
| 15-16 | N=   95<br>%=27.7 | 148<br>24.6 | 167<br>34.0 | 375<br>33.5 | 304<br>32.4 | 231<br>34.1 | 179<br>27.8 |
| 17-19 | N= 165<br>%=48.1 | 368<br>61.1 | 165<br>33.6 | 425<br>37.9 | 437<br>46.6 | 302<br>44.6 | 315<br>48.8 |
| TOTAL | N= 343<br>%= 100 | 602<br>100 | 491<br>100 | 1120<br>100 | 937<br>100 | 677<br>100 | 645<br>100 |
| MEAN AGE | 15.9 | 16.5 | 15.2 | 15.5 | 15.9 | 15.9 | 15.9 |
| | $X^2$ = 136.046  df = 12   Ho rejected at $\alpha$ = 0.01 | | | | | | |

TABLE 4:3   AGE AT FIRST MARRIAGE BY TYPE OF PLACE
OF RESIDENCE

| Age at First Marriage | TYPE   OF   PLACE   OF   RESIDENCE | | |
|---|---|---|---|
| | RURAL | URBAN | NBI/MSA |
| 10-14 | N = 921<br>% =23.3 | 85<br>24.4 | 137<br>25.8 |
| 15-16 | N =1231<br>% =31.2 | 112<br>32.1 | 160<br>30.2 |
| 17-19 | N =1796<br>% =45.5 | 152<br>43.5 | 233<br>44.0 |
| TOTAL | N =3948<br>% = 100 | 349<br>100 | 530<br>100 |
| MEAN AGE | 15.8 | 15.7 | 15.7 |
| | $X^2$ = 1.916    df = 4  Ho not rejected at $\alpha$=0.01 because $X^2$ < 13.277 | | |

TABLE 4:4   <u>AGE AT FIRST MARRIAGE BY EDUCATION LEVEL</u>

| Age at First Marriage | LEVEL OF EDUCATION | | | |
|---|---|---|---|---|
| | No Education | Primary | Secondary | Higher |
| 10-14 | N = 778<br>% =30.2 | 353<br>17.8 | 9<br>4.2 | 1<br>2.5 |
| 15-16 | N = 817<br>% =31.7 | 625<br>31.4 | 54<br>25.0 | 5<br>12.5 |
| 17-19 | N = 983<br>% =38.1 | 1010<br>50.8 | 153<br>70.8 | 34<br>85.0 |
| TOTAL | N =2578<br>% = .100 | 1988<br>100 | 216<br>100 | 40<br>100 |
| MEAN AGE | 15.4 | 16.2 | 17.1 | 17.5 |
| | $X^2$ = 211.264   df = 6   Ho rejected at $\alpha$=0.01 | | | |

TABLE 4:5   <u>AGE AT FIRST MARRIAGE BY RELIGIOUS BACKGROUND</u>

| Age at First Marriage | R E L I G I O N | | | |
|---|---|---|---|---|
| | Catholic | Protestant | Muslim | No/Other |
| 10-14 | N = 416<br>% =24.0 | 535<br>21.4 | 93<br>33.2 | 98<br>32.3 |
| 15-16 | N = 523<br>% =30.1 | 789<br>31.5 | 93<br>33.2 | 97<br>32.0 |
| 17-19 | N = 798<br>% =45.9 | 1179<br>47.1 | 94<br>33.6 | 108<br>35.7 |
| TOTAL | N =1737<br>% = 100 | 2503<br>100 | 280<br>100 | 303<br>100 |
| MEAN AGE | 15.8 | 15.9 | 15.2 | 15.3 |
| | $X^2$ = 44.371   df = 6   Ho rejected at $\alpha$ = 0.01 | | | |

TABLE 4:6   AGE AT FIRST MARRIAGE BY ETHNIC GROUP

| Age at First Marriage | E T H N I C   G R O U P | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Kikuyu | Luo | Luhya | Kamba | Kisii | Meru | Mijikenda | Kalenjin |
| 10-14 | N = 161 | 311 | 175 | 118 | 58 | 60 | 116 | 77 |
| | % =15.4 | 31.6 | 21.4 | 23.9 | 20.1 | 23.0 | 36.4 | 20.9 |
| 15-16 | N = 274 | 339 | 276 | 152 | 82 | 69 | 100 | 118 |
| | % =26.3 | 34.5 | 33.8 | 30.8 | 28.5 | 26.4 | 31.3 | 32.0 |
| 17-19 | N = 608 | 333 | 366 | 224 | 148 | 132 | 103 | 174 |
| | % =58.3 | 33.9 | 44.8 | 45.3 | 51.4 | 50.6 | 32.3 | 47.1 |
| TOTAL | N =1043 | 983 | 817 | 494 | 288 | 261 | 319 | 369 |
| | % = 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| MEAN AGE | 16.4 | 15.2 | 15.9 | 15.8 | 16.1 | 16.0 | 15.0 | 16.0 |
| | $X^2$ = 182.284 df = 14   Ho rejected at $\alpha$ = 0.01 | | | | | | | |

We did cross-tabulations of age at first marriage
(for those women marrying during adolescence) by background
variables for two specific reasons.  First, to see how
early or late adolescent marriage varies by background
factors, some of which, for example, education are
expectedly related to age at first marriage. Secondly,
we wanted to see whether the pattern exhibited in our
tabulations of menarche by background variables is
repeated here.  If this comes out clearly, then one could
argue that menarche and first marriage are closely
related especially among those ethnic groups that normally
practise early marriage.  In fact we have found that
early adolescent marriage (among women married in
adolescence) is predominantly in the Coast Province,

among the Mijikenda and Muslim women, and among women
with no education - Tables 4:6, 4:5 and 4:4, respectively.
Most other ethnic groups fall into average ages at first
marriage, although at different degrees.  Among the big
ethnic groups, the Luos tend to show characteristics of
early marriage, also seen in Nyanza region.  Late mar-
riage is evident in Central Province and among Kikuyu.
The Kisii, Meru and Kamba women come second to Kikuyu as
those characteristic of late marriage.

On the relationship between level of education and
age at first marriage, Table 4:4 tells us that most
women who marry young in adolescence have either no
education or just primary education.  These categories of
women hardly reach secondary or higher education.  On
this basis, one would then argue that making facilities
for secondary and higher education available and cheaper
would increase the proportion of adolescent women that
would seek these levels of education - with a resulting
increase in age at first marriage.

The fact that menarche is a physiological variable
and marriage is a socio-cultural variable means (theore-
tically, at least) that they are not necessarily connected.
On the one hand, a definite relationship can be seen
between the two variables through their relationship with

the background variables. If we look at the two extremes
of marriage and menarche as exhibited by the ethnic groups,
a pattern emerges that is important for the philosophical
foundation of this research. The Mijikenda exhibit a low
age at menarche and a low age at adolescent marriage.
Second to Mijikenda are the Luos who seem to experience
both low age at menarche and adolescent marriage. The
Kamba and Meru are characterized with high ages of both
events. For these ethnic groups, menarche and first
marriage tend to follow each other closely. One ethnic
group, however, exhibits a pattern that is important to
the study of adolescent fertility in general. The Kikuyu
women exhibit a low average age at menarche and a very
high age at first marriage. The demographic implications
of this relationship are examined later in the paper.

For those ethnic groups that exhibit early menarche
followed by early marriage or late menarche followed by
late marriage, we can argue that at the centre of their
marital careers is their ages at menarche. If marriage
follows menarche closely, then one could also argue that
birth also follows marriage closely. Thus the marital
and fertility behaviour of, say, the Mijikenda, Luo, Kamba
and Meru women are focused on their ages at menarche.
However, for marriage to have a demographically meaningful

relationship, it has to be long enough to allow a woman to realize all her (natural or wanted) fertility potential. Therefore, having discussed the level and background differentials of age at marriage, we now turn to examine another crucial section of this chapter, i.e. adolescent marital stability.

## 4:4   AGE AT FIRST MARRIAGE AND MARITAL STABILITY

It was necessary to discuss the level and background aspect of first marriage because of the fact that those who experience marital instability - by age at first marriage also differ in terms of their ethnic, religious, educational and other background factors.  Secondly, one could also argue that, theoretically, low age at first marriage should be related to marital instability espe- cially in connection with current socio-economic develop- ment in less developed societies.  Except for those societies that still practise child marriage, very early adolescent marriage is rather unlikely since it is likely to interfere with the individual's aspirations for more education, paid employment, etc.  Therefore, such a marriage can only take place if it is precipitated by a premarital conception or birth.

Marital instability is a concept that is difficult

to define precisely and to analyze properly. Analysis
of family breakdown, according to Gibson, must include
recognition of the magistrate's matrimonial jurisdiction.
Divorce by no means represents a total amount of family
instability. Families can break up and their members be
dispersed; husbands may desert their wives and children,
wives take their babies and go home to Mum - or families
may continue to live together in acrimony, fear, hatred
and distress, without the formal acknowledgement or break-
down in the shape of a divorce decree. There is no sure
way of knowing the extent to which this happens or whether
such situations are more or less frequent in one social
status or another (Gibson, C., 1971, pp. 122).[53]

Secondly, several researchers report an association
between marital disruptions and childless marriages. The
early literature on marital disruptions argued that
childlessness increased the possibility of divorce in
part because children were thought to be a form of
insurance against family disintegration. Mohanan[54]
shows that the association is largely spurious due to
failure to control for the short duration of both child-
less marriages and marriages which end in divorce. In
a later article, Chester[55] corroborates this point by
noting that the highest probability of marriage

dissolution is during the first year of marriage. Thus
the major determinants of divorce do not include childles-
sness, and the fact that disrupted marriages are less
exposed to childbearing than are women who have been
continuously married. This results in the expectation
that marital disruptions also lead to increases in
childlessness. It is therefore clear that it is
difficult to analyze problems related to marriage because
the boundaries separating marital dissatisfaction,
instability, disruption and divorce are not clear. The
only thing we shall do is to try to show whether age at
first marriage has a relationship with marital duration,
of, say, five years, and status of first marriage, at
the time of survey. This is because we need to know
whether women who married at different adolescent ages
were likely to have been in married state five years
previous to the survey.

To probe deeper into the relationship between age
at marriage and marital stability, we shall also examine
the marital careers of younger women with their current
ages specified. The researcher wants to make a point
clear in this case that it is hardly possible to control
for duration of marriage. In analyzing the marital
careers of adolescent women, one needs to realize that

such women will not have been in married state for an appreciably long period of time. Working in the context of a short marital duration, a researcher can assume that women cannot divorce more than once. That means that any woman's marital status could not have been experienced by the same woman more than once in the duration of, say, five years prior to the survey. Why? Because it would be unrealistic to expect a woman to marry, divorce and remarry and possibly divorce again in such a short period of time. Thus controlling for marital duration while analyzing marital status is difficult because the different marital statuses is determined by different circumstances. Because of our inability to control for adolescent marital instability with retrospectively collected data, Table 4:7 below will show only the relationship between adolescent age at first marriage and the status of first marriage.

TABLE 4:7   AGE AT FIRST MARRIAGE BY STATUS OF
            FIRST MARRIAGE

| Age at First Marriage | STATUS OF FIRST MARRIAGE | | |
|---|---|---|---|
| | Married | Widowed | Separated/Divorced |
| 10-14 | N = 873<br>% =21.8 | 74<br>32.6 | 196<br>32.8 |
| 15-16 | N =1242<br>% =31.1 | 72<br>31.7 | 189<br>31.7 |
| 17-19 | N =1884<br>% =47.1 | 81<br>35.7 | 212<br>35.5 |
| TOTAL | N =3999<br>% = 100. | 227<br>100 | 597<br>100 |

What is clear from Table 4:7 is that both early
and late adolescent marriages are characterized with
high proportion of marital instability.  This is because
the percentages experiencing widowhood and divorce are
almost equal for both marital statuses, although those
with late adolescent first marriage have higher propor-
tions experiencing divorce/separation and widowhood.

Table 4:7 tells us something about the relationship
between age at first marriage and the status of first
marriage for all women in the survey who were married in
their teenage.  The percentage distribution exhibited
in the table suggests that as women live longer in
marriage, the rate of widowhood and divorce tend to
affect them equally.  This means that the smallest
percentage of women left in a married state are those
who had the earliest age at first marriage.  The inter-
pretation should however, take note of the fact that a
status of marriage, like widowhood, for a woman currently
aged 50 years old may have a very remote  relationship
with the fact that the same woman was married when she
was 12 years old, for example.  It should also be noted
that we are mainly interested in marital instability as
such and not in any particular aspect of it.

We further examined the concept of adolescent marital stability by analysing a table which presented 4 different kinds of information pertaining to the marital experience of those women who were currently aged 15-19 at the time of interview. This is presented in table 4:8 below.

TABLE 4:8   INFORMATION ON STATUS OF FIRST MARRIAGE OF WOMEN CURRENTLY AGED 15-19 YEARS

| Marriage Information | | CURRENT AGE | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 15 | | 16 | | 17 | | 18 | | 19 | |
| EVER MARRIED? | | N | % | N | % | N | % | N | % | N | % |
| | Yes | 29 | 7 | 54 | 18 | 87 | 25 | 162 | 39 | 195 | 54 |
| | No | 373 | 93 | 241 | 82 | 268 | 75 | 256 | 61 | 167 | 46 |
| | TOTAL | 402 | 100 | 295 | 100 | 355 | 100 | 418 | 100 | 362 | 100 |
| AGE AT FIRST MARRIAGE | 10-14 | 15 | 51.7 | 18 | 33.3 | 17 | 19.5 | 25 | 15.4 | 31 | 15.9 |
| | 15-16 | 14 | 48.3 | 36 | 66.7 | 49 | 56.3 | 68 | 42.0 | 61 | 31.3 |
| | 17-19 | 0 | 0 | 0 | 0 | 21 | 24.2 | 69 | 42.6 | 103 | 52.8 |
| | TOTAL | 29 | 100 | 54 | 100 | 87 | 100 | 162 | 100 | 195 | 100 |
| FIRST MARRIAGE DISSOLVED? | Yes | 2 | 6.9 | 6 | 11.1 | 5 | 5.8 | 15 | 9.3 | 19 | 9.7 |
| | No | 27 | 93.1 | 48 | 88.9 | 82 | 94.2 | 147 | 90.7 | 176 | 90.3 |
| | TOTAL | 29 | 100 | 54 | 100 | 87 | 100 | 162 | 100 | 195 | 100 |
| STATUS OF FIRST MARRIAGE | Married | 27 | 93.1 | 48 | 88.9 | 82 | 94.2 | 147 | 90.7 | 176 | 90.3 |
| | Widowed | 0 | 0 | 0 | 0 | 1 | 1.2 | 3 | 1.8 | 0 | 0 |
| | Div/Sep | 2 | 6.9 | 6 | 11.1 | 4 | 4.6 | 12 | 7.5 | 19 | 9.7 |
| | TOTAL | 29 | 100 | 54 | 100 | 87 | 100 | 162 | 100 | 195 | 100 |

The first part of table 4:8 shows that the percentage distribution of first marriage rates increased steadily until age 19 where more than 50% of the women had been first married. 7% of women who were aged 15 had already been first married - an indication of the prevalence of early marriage in Kenya.

By age at first marriage, the table shows that there was a notable prevalence of early marriage among those women

who were currently aged 15 and 16 years. Women who were
currently aged 17-19 years also showed a remarkable percentage
increase in marriage rate for each age.

Information on whether first marriage was dissolved
showed that the higher percentage of dissolved first marriages
was from women currently aged 16 years (11.1%). This was
followed by women currently aged 19 years (9.7%), 18 years
(9.3%) and 15 years (5.9%).

On the kind of marital status that the young women
were experiencing at the time of survey, it was noted that
widowhood was of minimal proportion. However, divorce and
separation claimed significant percentages of women at all
the ages (15-19). Women currently aged 16 years again
showed the highest prevalence of divorce/separation in terms
of percentages. This was again followed by women aged 19
years (9.7%), 18 years (7.5%) and 15 years (6.9%). On the
basis of the percentage distribution of adolescent women
by status of first marriage and by whether first marriage
is dissolved, we can see that the most common type of
marital instability in adolescence is divorce/separation.
Since circumstances that lead to divorce or separation are
difficult to isolate and analyse, we only agree with Chester
that most early marriages are likely to be unhappy and thus
unstable.

# CHAPTER 5

## 5:1 ADOLESCENT AGE AT FIRST BIRTH, FIRST MARRIAGE AND TOTAL FERTILITY

This chapter starts with our earlier warning that childbearing has two components which are difficult to disentangle, i.e. quantity and timing. Any level of total fertility can be achieved by a variety of timing patterns, ranging from having all children closely spaced at early ages of childbearing to having them spaced throughout childbearing ages - both patterns being subject to constraints imposed by both natural and artificial factors. Age is a dominant factor and hence a good specification of the pattern of natural fertility in populations in which women begin childbearing together, i.e. more or less at the same ages. For populations in which childbearing occurs predominantly within marriage, duration of marriage is a more direct specification than age, for detecting patterns of control (Page, 1977, pp. 85).[56]/

Because the tempo of fertility affects both cohort and period rates, it merits careful scrutiny. N. Ryder notes that a shift from an earlier to a later pattern of reproduction distorts period fertility downward, whereas

a shift from later to an earlier pattern of repro-
duction distorts period fertility upward (N. Ryder, 1976,
pp. 231).57/ The increasing incidence of premarital
conceptions is one factor which has contributed to a
decrease in the length of time between marriage and
first birth, a more rapid tempo of fertility and a
general shift to early childbearing.

Secondly, differences in the length of lactation
and post partum amenorrhea among the members of various
marriage cohorts may also influence the number of
children born by specified durations of marriage. The
longer women spend lactating and amenorrheic, the less
opportunity there is for conception to occur.

Another factor which may have contributed to the
changes in the tempo of fertility is adolescent sterility.
As Louis Henry notes: ..... This phenomenon is not true
sterility, but rather, reduced fecundability (Henry L.,
1965, pp. 333).58/ The low fecundability of adolescents
is usually attributed to a high proportion of annovulatory
cycles. The low age at marriage among members of the
earliest cohorts suggests that their early years of
marriage took place when many were experiencing reduced
fecundability because of their closeness to menarche.

Some of the increase in the tempo of fertility is,
thus, caused by higher fecundability in the early years
of marriage among members of the more recent marriage
cohorts.

Moreover, it is generally accepted that adolescent
fertility is characterized by high rates of foetal
wastage which would reduce the tempo of fertility during
the early years of marriage among members of the more
recent marriage cohorts -when most of the women in the
early marriage cohorts were still adolescents.  The
impact of prolonged breast-feeding, adolescent sterility,
and pregnancy wastage is probably magnified by the
nutritional status of the women in the early stages of
motherhood.

Prolonged separation of husbands and wives after
marriage because of migration may, in part, account for
the very low tempo of childbearing among the women in
the earliest marriage cohorts, especially for women in
rural areas.  High mortality and frequency of widowhood
associated with wars and famines contribute to slow rates
of child-bearing in particular regions and during parti-
cular periods.  Indeed, in some areas of less developed
countries, famines and wars have become more regular and

frequent. Another factor which may play a role in
distorting our results is misreporting of the data of
marriage by older respondents or a long delay between
the date of formal marriage and the beginning of regular
sexual relations.

## 5:2   THE LEVEL OF FERTILITY IN ADOLESCENCE

Alleging a rise in the level of adolescent fertility
may be undermined by the fact that the "rise" may be
partly due to better methods of data collection and
partly due to a genuine rise in fertility. However, it
is true that Kenya has been covered by a number of
demographic enquiries in recent years and there have
been available fairly reliable demographic data (Henin,
R., 1981, pp. 1-2).[59/] However, data on current fertility
(coming from evidence from 1962-1978) indicates a rising
trend in the level of fertility. In particular a rise
in the level of adolescent fertility over the years has
been more pronounced compared to other age groups. This
is shown in Table 5:1 below.

TABLE 5:1    REPORTED CURRENT AGE SPECIFIC FERTILITY RATES
             1962-1978 CURRENT RATES

| Age Group | 1962 CENSUS | 1969 CENSUS | 1977 N.D.S. | 1978 K.F.S. |
|-----------|-------------|-------------|-------------|-------------|
| 15-19 | 0.0833 | 0.1112 | 0.1346 | 0.1782 |
| 20-24 | 0.2068 | 0.2844 | 0.3649 | 0.3615 |
| 25-29 | 0.2232 | 0.2897 | 0.3609 | 0.3661 |
| 30-34 | 0.2028 | 0.2530 | 0.3157 | 0.2930 |
| 35-39 | 0.1629 | 0.2004 | 0.2311 | 0.2210 |
| 40-44 | 0.1086 | 0.1212 | 0.1327 | 0.1376 |
| 45-49 | 0.0609 | 0.0604 | 0.0564 | 0.0566 |
| TOTAL | 1.0485 | 1.3203 | 1.5963 | 1.6140 |
| TOTAL(X5) | 5.2425 | 6.6015 | 7.9815 | 8.0700 |

Source:   Henin, op. cit., pp. 2.

Also figure 5:1 shows the behaviour of the age specific
fertility rates in a graphical form.   Note the increase in
the level of adolescent fertility over the period 1962 - 1978.

5:3   THE BACKGROUND FACTOR IN ADOLESCENT FERTILITY

In the first section of this chapter, we saw some of
the general conditions which also play a part in the deter-
mination of initial fertility in a society.   We shall now
consider fertility differentials by background variables,
having established the level of adolescent fertility.

Fig 5.1. PERCENTAGE DISTRIBUTION OF REPORTED AGE SPECIFIC FERTILITY RATES BY FIVE YEAR AGE GROUPS. (1962 - 1978).
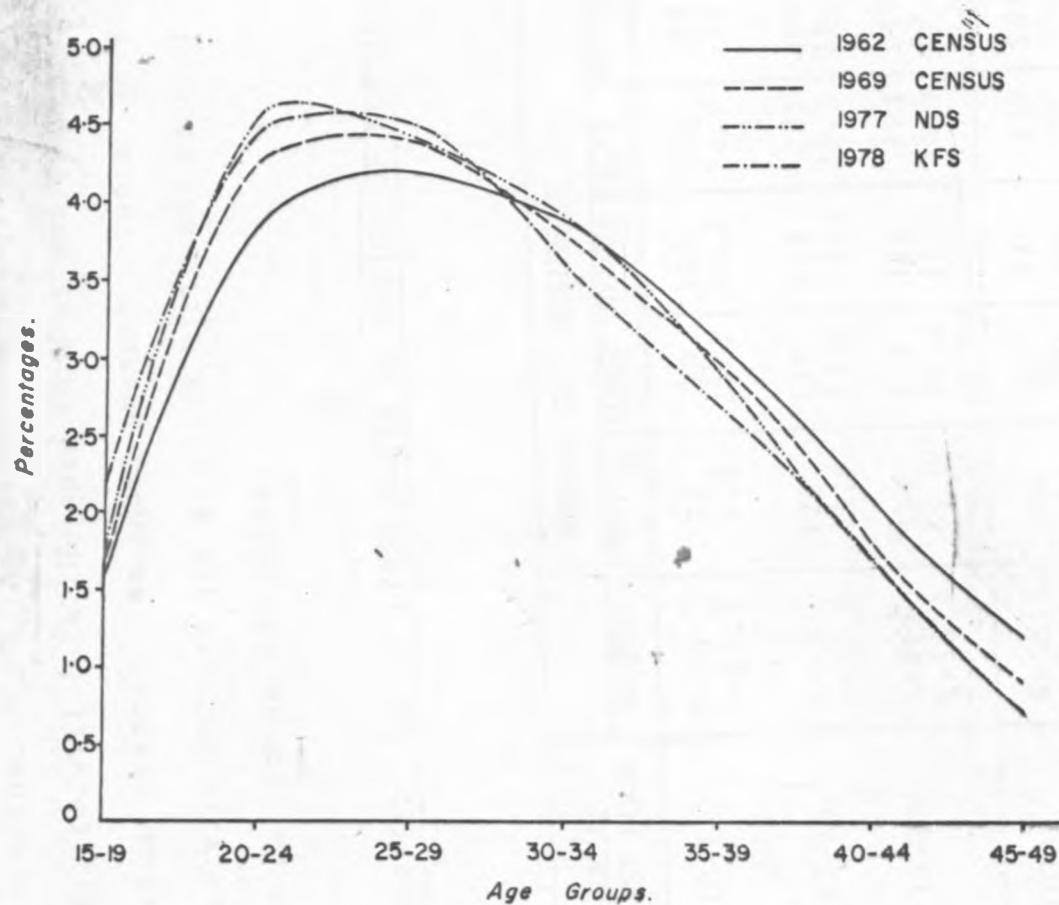
Our examination of the background factor of adolescent fertility will take the same form as was adopted in the previous chapter. We shall present 5 tables showing the connection between age at first birth and each of the five background variables.

TABLE 5:2   AGE AT FIRST BIRTH BY REGION OF RESIDENCE

| AGE AT FIRST BIRTH | REGION OF RESIDENCE | | | | | | |
|---|---|---|---|---|---|---|---|
| | NAIROBI | CENTRAL | COAST | NYANZA | RIFT | WESTERN | EASTERN |
| 10-14 | N=56 %=15.5 | 53 9.4 | 79 21.4 | 133 14.4 | 125 14.9 | 67 11.5 | 94 14.9 |
| 15-16 | N=93 %=25.8 | 122 21.6 | 118 32.0 | 312 33.7 | 221 26.3 | 169 29.0 | 167 26.5 |
| 17-19 | N=212 %=58.7 | 389 69.0 | 172 46.6 | 481 51.9 | 493 58.8 | 347 59.5 | 369 58.6 |
| TOTAL | N=361 %=100 | 564 100 | 369 100 | 926 100 | 839 100 | 583 100 | 630 100 |
| MEAN AGE OF FIRST BIRTH | 16.4 | 17.2 | 16.2 | 16.6 | 16.5 | 16.6 | 16.4 |
| $x^2$ = 76.578  df = 12.   Ho rejected at $\alpha$= 0.01 | | | | | | | |

TABLE 5:3   AGE AT FIRST BIRTH BY TYPE OF
            PLACE OF RESIDENCE

| Age at First Birth | TYPE OF PLACE OF RESIDENCE | | |
|---|---|---|---|
| | RURAL | URBAN | NBI/MSA |
| 10-14 | N = 485<br>% =14.1 | 42<br>12.2 | 82<br>17.0 |
| 15-16 | N = 963<br>% =28.0 | 104<br>30.3 | 138<br>28.6 |
| 17-19 | N =1988<br>% =57.9 | 197<br>57.4 | 263<br>54.4 |
| TOTAL | N =3436<br>% = 100 | 343<br>100 | 483<br>100 |
| MEAN AGE | 16.5 | 16.5 | 16.3 |
| | $X^2$ = 4.907   df = 4   Ho rejected at $\alpha$ = 0.01 | | |

TABLE 5:4   AGE AT FIRST BIRTH BY EDUCATION

| Age at First Birth | E D U C A T I O N | | | |
|---|---|---|---|---|
| | No Education | Primary | Secondary | Higher |
| 10-14 | N = 393<br>% =18.7 | 195<br>10.5 | 19<br>7.8 | 2<br>3.7 |
| 15-16 | N = 625<br>% =29.8 | 518<br>27.8 | 49<br>20.1 | 13<br>24.1 |
| 17-19 | N =1082<br>% =51.5 | 1151<br>61.7 | 176<br>72.1 | 39<br>72.2 |
| TOTAL | N =2100<br>% = 100 | 1864<br>100 | 244<br>100 | 54<br>100 |
| MEAN AGE | 16.1 | 16.7 | 17.0 | 17.2 |
| | $X^2$ = 97.479   df = 6   Ho rejected at $\alpha$=0.01 | | | |

TABLE 5:5  <u>AGE AT FIRST BIRTH BY RELIGION</u>

| Age at First Birth | RELIGION | | | |
|---|---|---|---|---|
| | Catholic | Protestant | Muslim | No/Other |
| 10-14 | N = 217<br>% =14.0 | 297<br>13.2 | 44<br>19.8 | 4<br>25.0 |
| 15-16 | N = 433<br>% =27.9 | 626<br>27.9 | 74<br>33.3 | 5<br>31.3 |
| 17-19 | N = 904<br>% =58.2 | 1323<br>58.9 | 104<br>46.9 | 7<br>43.7 |
| TOTAL | N =1554<br>% = 100 | 2246<br>100 | 222<br>100 | 16<br>100 |
| MEAN AGE | 16.5 | 16.5 | 16.0 | 15.7 |
| | Distribution unfit for Chi-Square Test | | | |

TABLE 5:6  <u>AGE AT FIRST BIRTH BY ETHNIC GROUP</u>

| Age at First Birth | ETHNIC GROUP | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Kikuyu | Luo | Luhya | Kamba | Kisii | Meru | Mijikenda | Kalenjin |
| 10-14 | N= 113<br>%=11.2 | 134<br>16.7 | 83<br>11.6 | 62<br>13.0 | 27<br>11.3 | 52<br>19.3 | 48<br>21.2 | 53<br>16.4 |
| 15-16 | N= 224<br>%=22.4 | 276<br>34.3 | 202<br>28.3 | 119<br>24.9 | 70<br>29.3 | 89<br>33.1 | 87<br>38.5 | 87<br>26.8 |
| 17-19 | N= 670<br>%=66.5 | 394<br>49.0 | 430<br>60.1 | 297<br>62.1 | 142<br>59.4 | 128<br>47.6 | 91<br>40.3 | 184<br>56.8 |
| TOTAL | N=1007<br>%= 100 | 804<br>100 | 715<br>100 | 478<br>100 | 239<br>100 | 269<br>100 | 226<br>100 | 324<br>100 |
| MEAN AGE | 16.8 | 16.1 | 16.6 | 16.6 | 16.6 | 16.0 | 15.8 | 16.4 |
| | $x^2$ = 109.114 df = 14  Ho rejected at $\alpha$ = 0.01 | | | | | | | |

Looking at the five tables above, we see that first birth patterns by background variables show similar characteristics as first marriage patterns by background variables. By region of residence, the Coast has the lowest age at first birth and also the lowest age at first marriage. Women with no education tend to show a high prevalence of both early marriage and early birth; while women with Muslim and no/other religion also tend to show a similar pattern. It should also be noted that differentials in first birth and first marriage by education are more pronounced than by other background variables although both first birth and first marriage generally show similar trend by background variables.

## 5:4  THE TIMING OF FIRST BIRTH IN ADOLESCENCE

Having seen the level and trend of first birth in adolescence, we now want to look at the timing of first births in relation to first marriage. First of all, we shall examine the relation between age at first birth by age at first marriage.  Secondly, we shall examine the first birth interval of young women - currently aged 15-19.  These are presented in the tables below.

TABLE 5:7   <u>AGE AT FIRST BIRTH BY AGE AT FIRST MARRIAGE</u>

| Age at First Birth | AGE AT FIRST MARRIAGE | | | | | |
|---|---|---|---|---|---|---|
| | 10-14 | 15 | 16 | 17 | 18 | 19 |
| 10-14 | N = 413<br>% =41.7 | 53<br>8.9 | 27<br>4.1 | 19<br>3.0 | 24<br>4.5 | 13<br>4.7 |
| 15 | N = 239<br>% =24.1 | 106<br>17.9 | 41<br>6.2 | 22<br>3.5 | 17<br>3.2 | 8<br>2.9 |
| 16 | N = 158<br>% =15.9 | 230<br>38.8 | 142<br>21.6 | 59<br>9.3 | 33<br>6.2 | 18<br>6.5 |
| 17 | N = 77<br>% = 7.8 | 140<br>23.6 | 282<br>42.9 | 166<br>26.1 | 64<br>12.0 | 52<br>18.7 |
| 18 | N = 62<br>% = 6.3 | 35<br>5.9 | 115<br>17.5 | 262<br>41.2 | 164<br>30.7 | 52<br>18.7 |
| 19 | N = 42<br>% = 4.2 | 29<br>4.9 | 51<br>7.8 | 108<br>17.0 | 233<br>42.5 | 135<br>48.6 |
| TOTAL | N = 991<br>% = 100 | 593<br>100 | 658<br>100 | 636<br>100 | 535<br>100 | 278<br>100 |
| $X^2$ = 2365.433    df = 25   Ho rejected at α=0.01 | | | | | | |
| % PREMARITAL | - | 8.9 | 10.3 | 15.8 | 25.9 | 51.5 |
| MARITAL | - | 73.2 | 68.2 | 58.2 | 43.5 | - |
| SAME YEAR | - | 17.9 | 21.6 | 26.1 | 30.7 | 48.6 |
| TOTAL % | - | 100 | 100 | 100 | 100 | 100 |

We avoided calculating the proportion marital and premarital for age group 10-14 because the effect of grouping would give false results.  Assuming that a birth that occurs one year after marriage is maritally conceived, Table 5:7 shows that the higher the age at first marriage, the greater the proportion of premarital births or pregnancies involved.  Notice that while marriage at age

15 involves only 8.9% of premarital births, marriage at age 19 involves more than 50% of premarital births.  In other words, more than half of women marrying at age 19 had a premarital birth.  In view of the fact that age at first marriage is increasing and more and more women are remaining single after age 19, one would obviously expect a higher rate of premarital births in the future, except if contraception is effectively used.

In some cases, both events occur in the same year and it is difficult to tell which one comes first.  If a birth occurs in December and marriage occurs in January of the same year, then pregnancy is clearly marital.  However, in most cases, the same year events are likely to involve premarital conceptions, at least.

Table 5:8 below gives a clearer picture of pre-marital pregnancy in adolescence.  Because it is present-ing information for currently adolescent women it gives a more accurate picture of the timing of first births among Kenyan adolescent women.  The table reveals the following information:

> (a)   that premarital birth incidence increases
>        sharply with every single year of increase
>        in age;
>
> (b)   that premarital conception incidence also

increases but tends to fluctuate over the single years of age;

(c)    that early marital conception tends to behave in the same manner as premarital conception.

TABLE 5:8   CURRENT AGE BY FIRST BIRTH INTERVAL

| First Birth Interval | CURRENT AGE | | | | |
|---|---|---|---|---|---|
| | 15 | 16 | 17 | 18 | 19 |
| Premarital Birth | N = 1<br>% = 7.6 | 2<br>5.9 | 8<br>12.3 | 21<br>16.2 | 38<br>24.4 |
| Premarital Conception | N = 2<br>% =15.4 | 11<br>32.3 | 9<br>13.8 | 35<br>26.9 | 34<br>21.8 |
| Early Marital Conception | N = 5<br>% =38.5 | 8<br>23.5 | 16<br>24.6 | 31<br>23.8 | 39<br>25.0 |
| Marital Conception After 1 Year | N = 5<br>% =38.5 | 9<br>26.5 | 23<br>35.4 | 30<br>23.1 | 35<br>22.4 |
| Marital Conception After 2 Years | N = 0<br>% = 0 | 4<br>11.8 | 9<br>13.8 | 13<br>10.0 | 10<br>6.4 |
| TOTAL CONCEPTION | N = 13<br>% = 100 | 34<br>100 | 65<br>100 | 130<br>100 | 156<br>100 |

N.B.    1.    Premarital birth denotes a birth which definitely occured before marriage.

2.    Premarital conception denotes a birth which occurred within 7 months of marriage.

3.    Early marital conception denotes a birth which occurred between the 8th and the 11th month of marriage.

4.  Marital conception after 1 year denotes a
    birth which occured between the 12th and
    23rd month of marriage.

5.  Marital conception after 2 years denotes
    a birth which occured after two years (or
    more) of marriage.

---

The fact that there is no marital conception after
two years of marriage at age 15 may either mean that 15
year olds tend to have precipitate marriages or that they
simply don't use contraception of any kind.  We have
therefore shown an association between adolescent age
at first marriage and age at first birth - which was, in
fact, the topic of this research. We have also seen a
connection between the two variables.  However, Kenya
is not alone in this situation.  World Fertility Survey
reports from other regions of the world indicate that
there are interesting variations in the timing of
fertility with respect to the date of marriage, both
across countries, within regions and between regions.
According to W.F.S. the percentage of premarital con-
ceptions of first births varies essentially from zero
in Bangladesh, Nepal and Pakistan to well over 20% in
some Latin American countries (POPULI Vol. 6, No. 4,
1979, pp. 28).[60/]

## 5:5 THE EFFECT OF FIRST BIRTH AND FIRST MARRIAGE ON TOTAL FERTILITY

Having discussed all the essential aspects of our topic, we now have the task of showing how each affects total fertility in Kenya. The questions we want to answer are: (a) Given current age and age at first birth, what is the level of total fertility?

(b) Given current age and age at first marriage, what is the level of total fertility?

(c) Do the levels of fertility differ for these two conditions?

In order to answer these questions, we selected a group of women who met at least the three conditions, i.e. their current age (20-49), age at first birth and children ever born for each current age (grouped). We then found the number of women of a given age group by their age at first birth, their percentage and a summary figure indicating their level of fertility. This information is presented in Table 5:10 below

TABLE 5:9   AVERAGE CHILDREN EVER BORN BY CURRENT
AGE AND AGE AT FIRST BIRTH

| Current Age | | AGE AT FIRST BIRTH | | | |
|---|---|---|---|---|---|
| | | 10-14 | 15-16 | 17-19 | ROW TOTAL |
| <20 | (a) (b) (c) | 69 11.2% 1.99 | 197 16.4% 1.44 | 231 9.8% 1.10 | 497 11.7% 1.36 |
| 20-24 | (a) (b) (c) | 99 16.0% 3.61 | 224 18.7% 2.89 | 580 24.5% 2.19 | 903 21.3% 2.52 |
| 25-29 | (a) (b) (c) | 135 21.9% 5.65 | 237 19.8% 4.71 | 593 25.0% 4.23 | 965 22.8% 4.55 |
| 30-34 | (a) (b) (c) | 112 18.1% 7.13 | 199 16.6% 6.59 | 362 15.3% 5.83 | 673 15.9% 6.27 |
| 35-39 | (a) (b) (c) | 112 18.1% 7.89 | 157 13.1% 7.85 | 306 12.9% 7.43 | 575 13.6% 7.64 |
| 40-44 | (a) (b) (c) | 49 7.9% 8.58 | 120 10.0% 8.93 | 106 4.5% 8.62 | 331 7.8% 8.73 |
| 45-49 | (a) (b) (c) | 41 6.7% 8.33 | 64 5.3% 8.92 | 188 7.9% 8.84 | 293 6.9% 8.79 |
| TOTAL | (a) (b) | 617 100 | 1198 100 | 2366 100 | 4237 100 |

TABLE 5.10   AVERAGE CHILDREN EVER BORN BY CUR-
             RENT AGE AND AGE AT FIRST MARRIAGE

| Current Age | AGE AT FIRST MARRIAGE | | | |
|---|---|---|---|---|
| | 10-14 | 15-16 | 17-19 | ROW TOTAL |
| <20 | (a) 87<br>(b) 7.9%<br>(c) 1.83 | 151<br>10.7%<br>1.50 | 106<br>5.2%<br>1.12 | 346<br>7.6%<br>1.46 |
| 20-24 | (a) 173<br>(b) 15.6%<br>(c) 3.11 | 281<br>20.0%<br>2.62 | 412<br>20.4%<br>2.15 | 867<br>19.1%<br>2.49 |
| 25-29 | (a) 233<br>(b) 21.0%<br>(c) 4.92 | 309<br>21.8%<br>4.41 | 474<br>23.5%<br>4.09 | 1018<br>22.4%<br>4.38 |
| 30-34 | (a) 203<br>(b) 18.3%<br>(c) 6.45 | 229<br>16.2%<br>6.06 | 334<br>16.5%<br>5.75 | 767<br>16.9%<br>6.03 |
| 35-39 | (a) 195<br>(b) 17.6%<br>(c) 7.61 | 198<br>14.0%<br>7.19 | 294<br>14.6%<br>7.15 | 687<br>15.1%<br>7.29 |
| 40-44 | (a) 122<br>(b) 11.0%<br>(c) 8.78 | 137<br>9.7%<br>8.39 | 188<br>9.3%<br>7.71 | 437<br>9.6%<br>8.20 |
| 45-49 | (a) 95<br>(b) 8.6%<br>(c) 8.26 | 109<br>7.7%<br>8.83 | 213<br>10.5%<br>8.30 | 418<br>9.2%<br>8.43 |
| TOTAL | (a) 1108<br>(b) 100 | 1414<br>100 | 2021<br>100 | 4540<br>100 |

Fig.5:2. AVERAGE CHILDREN EVER BORN BY CURRENT AGE AND AGE AT FIRST BIRTH
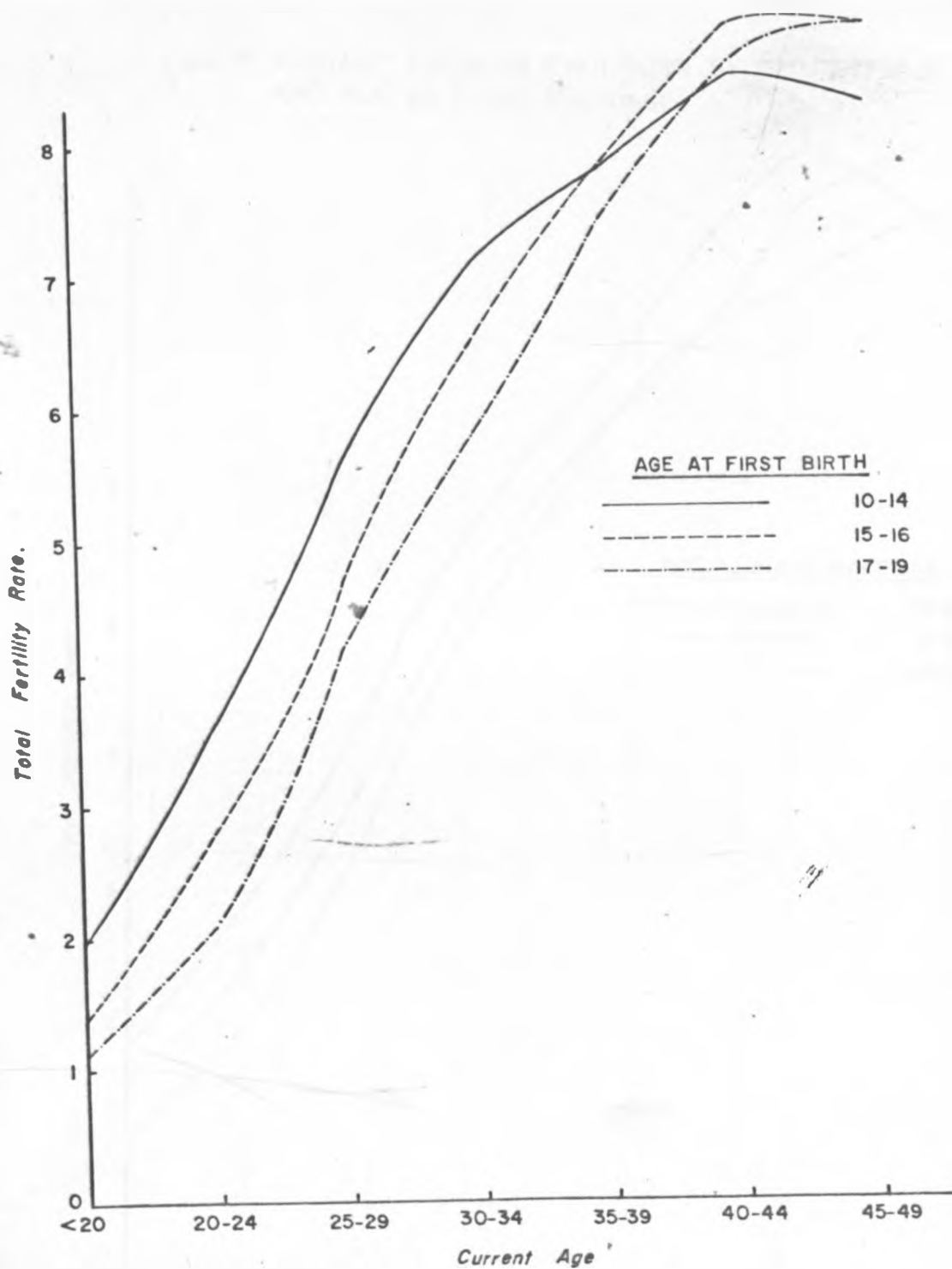
Fig.5:3. AVERAGE CHILDREN EVER BORN BY CURRENT AGE AND AGE AT FIRST MARRIAGE.
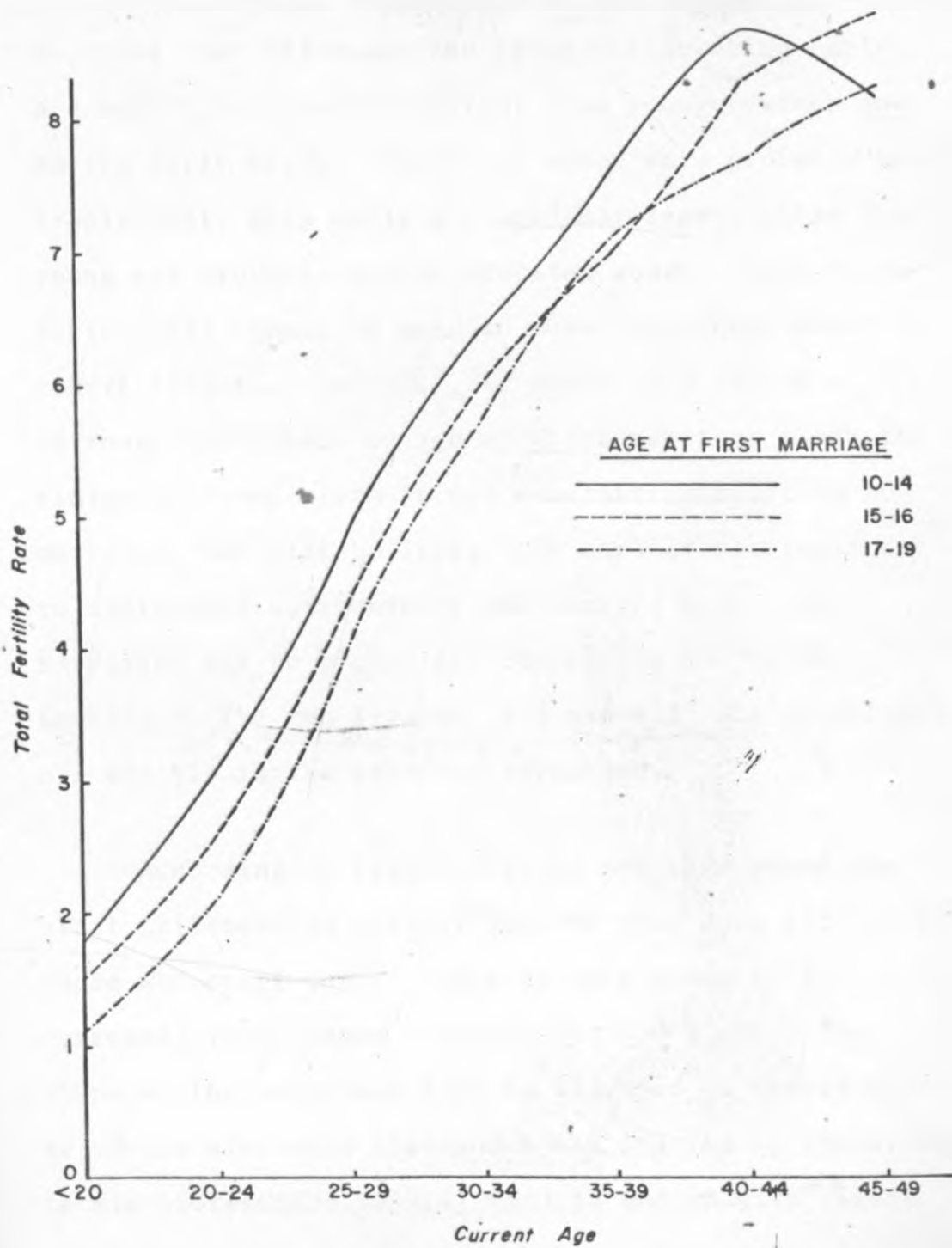
When looking at the figures and tables, it should be noted that old women who began childbearing early are most likely very different from younger women now having early birth. The older women were probably more traditional, with early arranged marriages, while the young are probably modern educated women. Thus these period data cannot be used to make inferences about cohort effects. Secondly, we would also expect a narrower difference by age at first marriage since the timing of first birth is not constant in relation to marriage, but will be later with earlier marriages due to adolescent subfecundity and earlier with later marriages due to premarital conception and birth. Looking at the two figures, 5:2 and 5:3, the differences are exactly in the expected direction.

According to Figure 5:2, we see that women who start childbearing earlier seem to slow down earlier than those who start later. This is more definite for currently young women although for older women the shape of the curve may also be affected by memory lapse. We should also note that women who started childbearing in mid-adolescence (15-16) tend to end up with higher total fertility - a finding that is significant in family planning spheres and adolescent fertility

management programmes.

Turning to fertility by age at marriage, we see a pattern that is consistent with lower fertility at every age related to age at marriage. It also seems that birth spacing is about the same for all groups and the cumulated number of births is a function of the number of years in a reproductive union. Notice that highest fertility also tends to be attained by women who marry in mid-adolescence (15-16 years - Fig. 5:3). However, analysis must be concluded that during adolescence, it is the timing of first birth - rather than that of first marriage - which tends to result in higher level of fertility by age 20.

## CHAPTER 6

## SUMMARY, CONCLUSION AND POLICY IMPLICATIONS

### 6:1   INTRODUCTION

A hundred years ago, adolescent pregnancies were
probably rare, both for biological and social reasons.
Over the last century, factors such as improved nutrition
in infancy and childhood have led to a lowering of the
age at menarche and society has also become more permis-
sive.  Sexuality and the opportunity to use it may now
be acquired years in advance of the intellectual maturity
needed to handle the problems that arise from it.  A
new dimension of the population problem is rapidly un-
folding before us - a dimension that is being enormously
widened by our youthful age structure.

On a global scale, however, adolescent fertility
presents us with a mixed picture.  In Europe, for example,
fertility rates of teenage women in Bulgaria varies from
0.73% for younger teenagers (aged 10-14), to 74.2%
for older teenagers (aged 15-19) on the one hand, while
in Switzerland the rates vary from 0.02% to 17.4% for
younger and older teenagers, respectively.  Also on high
scale among European countries are Hungary, Rumania and

Greece in descending order, while other countries that experience low teenage fertility are Finland and France in ascending order of incidence, (Deschamps and Valantin, 1978, pp. 102).[61/] In the U.S.A., it is confirmed that more teenagers are using contraceptives and using them more consistently than ever before. Yet the number and rate of premarital adolescent pregnancies continues to rise (Zelnik, M. and Kantner, J.F., 1980, pp. 230-237).[62/] According to evidence emerging from the W.F.S., Latin America's incidence of adolescent fertility and its attendant problems is also emerging rapidly to be one of the world's highest.

The status of adolescent fertility in the developing countries, particularly in Africa, can better be categorised by its heterogeneity than by its commonalities. Population statistics for teenagers within these regions, while somewhat limited show wide variation. Typical for most of the developing countries is a high percentage of births in the teenage groups, ranging from 10% to over 20% of the total number of live births. Exceptions are Tunisia, Hong Kong, Singapore and Taiwan, all in the process of transition to industrialization or with strongly supported family planning programmes (Engstrom, L., 1978, pp. 118).[63/]

Factors that account for variations in teenage fertility in Africa are many and inherently different. First of all, in Moslem countries which cover most of North Africa, we find a particularly high incidence of early teenage marriages because religious beliefs strongly favour early marriage. Among Moslems, marriage is considered a religious duty and celibacy is regarded as a sin. In such societies, therefore, premarital fertility is minimal and perception of adolescent fertility as a socio-cultural problem is almost nil. Secondly, in tropical Africa, we see a great diversity of cultural, economic, religious, social and political differences. Thus while the political and socio-economic situation in countries such as Ghana, Nigeria and Kenya have lately permitted official recognition of a population problem, especially of high fertility, in much of Southern Africa, these conditions yet obscure consideration of the problem of fertility. Thirdly, lack of data on tropical Africa also militates against effective evaluation and comparison of national and regional fertility levels and differentials. Fourthly, differences in language used in publishing official data in English and French speaking Africa does not allow for a common springboard for inter-regional fertility

studies.  These factors, operating in a rapidly chang-
ing societal framework inhibit studies of such subtle
aspects of fertility such as adolescent fertility.

In general then, when we try to focus on adoles-
cent fertility in particular, we find ourselves faced
with a multi-dimensional problem.  Most of the argu-
ments for and against adolescent fertility originate
from the level of perception of the problem in any
society.  When we look at facts pertaining to adoles-
cent fertility, we should try to determine whether it
is an epidemic problem.  It may be more helpful to
measure teenage fertility - that is, live births -
than pregnancy for a number of reasons.  In the first
place, there is the problem of obtaining accurate
statistics on pregnancies, which may result in spon-
taneous or induced abortions, stillbirths, or live
births.  Secondly, delivery and early motherhood may
constitute the greatest problem to teenagers, their
families, and society.

If we want to establish the nature of the current
adolescent fertility situation, age specific fertility
rates are the most important measures.  Abrupt increases
in these rates could be seen as constituting an epidemic.

Another way of looking at the nature of teenage fertility
is the proportion of all live births accounted for by
teenagers. If this proportion rises or falls over a
period, then the issue can be given correct emphasis.
On the other hand, trends in age specific rates of first
births to teenagers will help in judging the impact of
efforts to prevent first pregnancies.

In some societies or countries, adolescent fer-
tility is largely perceived as a problem of premarital
pregnancies or births among teenage women. The social
consequences of abortions, school drop-outs, child
neglect, etc., are cited as problems brought by adoles-
cent fertility in those societies. This view of the
problem has largely emerged from or is largely identified
with the Western European type of socio-economic develop-
ment. In such societies, there is a close relationship
between age at first marriage and age at first birth -
with all the social and demographic consequences
attendant to the relationship.

Another distinct area of concern for adolescent
fertility is the prevailing circumstances concerning age
at marriage. We know that differentials exist in age
at marriage in rural and urban areas of the developing
countries, and also by socio-economic groups. This is

mainly because while marriage ages were falling in many parts of the world, they were rising in cities of the developing world as urbanization and forces of modernization gradually set in. The age at marriage, especially in those countries known as child marriage - according to Bogue's classification - is therefore a definite aspect of adolescent fertility study.

## 6:2   ADOLESCENT FERTILITY MANAGEMENT

It is true that adolescent fertility has been perceived as a problem in some countries and regions of the world, but not in all. The identification and isolation of the problem has surfaced more in North America, Western Europe, Latin America and some parts of sub-Saharan Africa. In other countries like Japan, for example, the forces of modernization - without abortion - have confined childbearing to marriage and the problem of premarital fertility is small.

Considering the various ways in which the problem of premarital fertility in adolescence has been tackled in various countries, we find that in those countries where a greater proportion of premarital pregnancy occurs among the young women, it has largely been considered an aspect of youth and the social problems that go with

youth and adolescence, such as alcoholism, drug abuse, etc. The fact, however, is that in the so called free enterprise societies, early and premarital parenthood largely occurs among the less priviledged members of the society. The poverty situation in which these people live - a situation which entails low income, poor nutrition, high morbidity and mortality rates, general apathy and fatalism, etc. - attract attention and sympathy. (At this point, the reader should note that about 98% of Kenyans live in rural poor conditions and also that Nairobi is one of the Third World cities with the greatest dimensions of slum conditions in the world). This problem, is, therefore, bound to attract attention of politicians and charitable institutions such as the Church. In this context, teenage parenthood has got a strong connection with poverty - which entails the in-ability to obtain a medically supervised abortion among the poor in a free enterprise situation like in Kenya.

At the international level, institutions such as the International Planned Parenthood Federation (IPPF) and the World Health Organization (WHO) have led the way in tackling the problem of teenage fertility. In Kenya particularly, we have the various Churches, the National Christian Council, the Family Planning

Association, school authorities and local organizations,
trying to tackle this problem in various, unco-ordinated
ways.  These institutions view adolescent fertility as
an aspect of the general adolescent  behaviour which
should be dealt with in the same way as other teenage
behaviours mentioned above.  From this school of thought
has emerged the term popularly known to Adolescent
Fertility Management. "This is a relatively newly coined
term which is used to describe collectively a series of
deliberate efforts and actions aimed at assisting
adolescents to become aware of, understand, and regulate
their fertility" (Kalaule, 1980, pp. 2),[64/]  - Emphases
are the author's.

In Kenya, this approach is particularly flourish-
ing because of the unfortunate fact that only those
individuals and institutions that care about human suf-
fering have voiced concern for the problem of adolescent
fertility in Kenya.  The FPAK and the NCCK have both led
the way in this direction by organizing seminars, work-
shops and publications, with the help of the world bodies
in order to broadcast the problem of adolescent
fertility in Kenya.  Unfortunately, their efforts are
devoid of the fact that adolescent fertility is not only

a social and economic, but also a demographic problem
in Kenya.   Levels and trends in adolescent age specific
fertility rates and the proportion of all births attri-
butable to teenagers would require examination in order
to demonstrate the gravity of adolescent fertility as
a population problem in Kenya.   Efforts designed to
deal with adolescent fertility in Kenya also need to
answer such questions as:   Is teenage parenthood
actually increasing or is it only among the unmarried
due to the rising age at marriage?   The fact, there-
fore, is that since such questions can only be competent-
ly answered by demographers, the need for demographic
and professional attention to adolescent fertility in
Kenya cannot be over emphasized.

## 6:3   OUR FINDINGS

Some of the reasons why adolescent fertility should
be given a definite professional and academic attention
are as follows:   First of all, we know that with conti-
nued economic development, the age at menarche is bound
to lower further.   We had also seen earlier that all
countries in the world can be grouped according to their
average ages at menarche.   The fact that less developed
countries tend to have a higher average age at menarche

means that a fuller potential of adolescent repro-
ductive capability is yet to be realized in such
countries. Within any society or country, differentials
also exist that largely reflect socio-economic, cultural
and nutritional standards of different classes of
people. The first kind of differential which emerged
clearly with the Kenyan data was one of urban-rural place
of residence, in terms of percentage points and averages.
We found that 11.6% of women in urban areas had early
menarche (10-12 years), while 9% of women in rural areas
had early menarche. On the other hand, the mean age
of menarche for urban adolescents was 14.72 years
while that of rural adolescents was 15.19 years. With
continued urbanization and rural-urban migration, this
differential is bound to widen further. We also found,
in chapter three that apart from rural urban differentials,
reproductive maturity also varied with ethnic groupings,
educational categories, regional settings and religious
differences. All these variables can be viewed as
different levels of socio-economic aggregations.

Another issue that is central to adolescent
fertility and was examined in this thesis is the
relationship between age at first marriage and age at
first birth. We found that in Kenya, although there are

variations, largely based on ethnic grounds, early age at menarche is also associated with early age at first birth and first marriage. The association emerged more clearly among some ethnic groups, such as the Luos, than among others. The Kikuyu ethnic group, on the other hand, showed interesting variations. Having a low age at menarche, they showed a strikingly high age at first marriage (16.4 years).

While the generally high age at first marriage was noted among the Kikuyus, Kambas and Meru ethnic groups, a low age at first birth was found to characterize almost all ethnic groups. This signified the fact that increasingly more young women in Kenya are facing the risk of long exposure to premarital parenthood.

The stability of marriages involving young women is always theoretically suspect, mainly because young people are not yet physically and mentally mature. In the context of adolescent fertility study, the maturity of brides is a relative issue since we know that a girl aged, say, 14 is physically and mentally inferior to a girl aged 19, although both are adolescent. However, the kind of marital instability that tended to show out in our analysis was divorce/separation. Although we

found that the percentage distribution of women divorced/
separated was high for both current age and age at first
marriage, we also took note of the difficulty surrounding
the definition of divorce and separation as aspects of
marital instability.

Early exposure to parenthood is also known,
especially among demographers, to be a contributing
factor to total fertility.  It is a known fact that
parenthood can occur irrespective of marital status so
long as the woman is reproductively mature.  What is
important to demographers is the age at which parenthood
first occurs, particularly in a non-contracepting popu-
lation.  This was the reason why when we controlled
age at first birth, we observed higher total fertility
than when we controlled for age at first marriage.  This
underlines the significance of timing of first birth as
a major contributing factor to the high birth rate
observed in Kenya.

6:4  ETHICAL ISSUES AND POLICY IMPLICATIONS OF THE STUDY

Note should be taken of the fact that until this
research was carried out, there had not been any demo-
graphic research done on adolescent fertility in Kenya.

Only anectodal data were available on school girl drop
outs due to pregnancies and abortions.  At the inter-
national conference held by IPPF in Nairobi in 1980,
no data were available to give light on the demographic
magnitude of adolescent fertility in Kenya.  However,
the researcher was aware of the publications of teenage
sexuality/pregnancies in Kenya especially the KAP
studies of Mugo Gachuhi (Gachuhi, J.M., 1974 and 1975).[65]/

Because teenagers constitute a category of people
that are still growing both mentally and physically, they
should not be treated as adults.  In a country where the
incidence and potential for teenage parenthood is bound
to increase such as Kenya, any study or programme de-
signed  to deal with it should take note of relevant
ethical and policy implications.  First of all, actions
pertaining to adolescent fertility should be based on
the concept of personal responsible parenthood.  Needless
suffering for both adolescent parents and their children
is unacceptable to any civilized society.  Secondly, we
know that in the life cycle, the transition to parenthood
is a crucially important step for every individual,
family or community.  Allowance should therefore be made
for this step to be taken voluntarily and personally.
Since there is no inherent connection between parenthood

and education, educational opportunities, meaningful
and economically productive work and dignified social
roles should be available to all teenage women irrespec-
tive of their parity status.  Denying a teenage woman
formal educational opportunities because of pregnancy
or birth as is practiced in Kenya is ethically un-
acceptable and only adds to the already high teenage
total fertility.  Thirdly, sexual decisions must be
made on the basis of knowledge, maturity and respect
for the other partner. Older men should respect the
opinions of young women in relation to sex and all
adolescents who refuse sexual relations or decide to
postpone it should be given full support.

The demographic aspects of early fertility should
also be an issue central to the population policy in
Kenya.  High total fertility, short birth intervals and
effects of other intermediate variables like post-partum
amenorhea and breast-feeding among adolescents should
be studied in detail.  Furthermore, the U-shaped
relationship between parental age, pregnancy outcome
and child development should be given attention in
adolescent fertility measures. This area also includes
the significance of birth weight in relation to maternal
age.

When we turn to the social significance of early fertility, we should note the connection between teenage marriage and their marital stability. The mental and physical immaturity of teenagers and also the fact that most teenage marriages are not properly planned tend to result in increased levels of marital instability. Efforts should therefore be made at teenage counselling on the importance of marital harmony and marital continuity.

Lastly, to avoid epidemic proportions of unwanted teenage pregnancies, policies should be issued that concern family planning to adolescents. In fact, the health and well-being of adolescents (and of society) require that those who choose to be sexually active should have a free and full access to contraceptive information and services. It is impractical and morally unacceptable to rely on unwanted pregnancy as a deterent to adolescent (or any) sexual relationships. The availability of contraceptive education/services should not be construed as promotion of adolescent sexual activity. In order to be effective, however, information must be presented to young people before they become sexually active.

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