

FEMALE EDUCATIONAL ATTAINMENT, LABOUR FORCE PARTICIPATION AND  
FERTILITY IN KENYA: -

BY

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This project is submitted in fulfilment of a post graduate  
diploma in Population Studies of the University of Nairobi

POPULATION STUDIES AND RESEARCH INSTITUTE  
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**DECLARATION**

This project is my own original work and to the best of my knowledge has not been submitted for a degree/diploma in any other University.

Signature

ODEGE DORCAS WILLIAMS

This project has been submitted for examination with our approval as the University supervisors.

Signature

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Signature\_



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## DEDICATION

This work is dedicated to my parents, my husband Mr. Arthur Juma  
and my children Beth, Gabriel, Bilha and Ester.

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Finally my appreciation goes to Mr. George Kamau, the Director of Culture for allowing me to attend this course.

## **ABSTRACT**

The main objective of this study is to provide the basis for determining the potential demographic effect of female educational attainment and labour force participation on reducing fertility. The data used for the study is derived from KDHS 1989. The study examines the relationship which exists between the independent variables (education and employment) and selected fertility variables.

The methods of analysis used in this study include percentages, cross tabulation and chi-square tests. The study established that there are relationships between employment of women and fertility. It also establishes the relationships that exist between education and fertility.

It is concluded in the study that if women are highly educated they will have the chance to persue job opportunities which exist in the labour market, consequently this may change their fertility behaviour.

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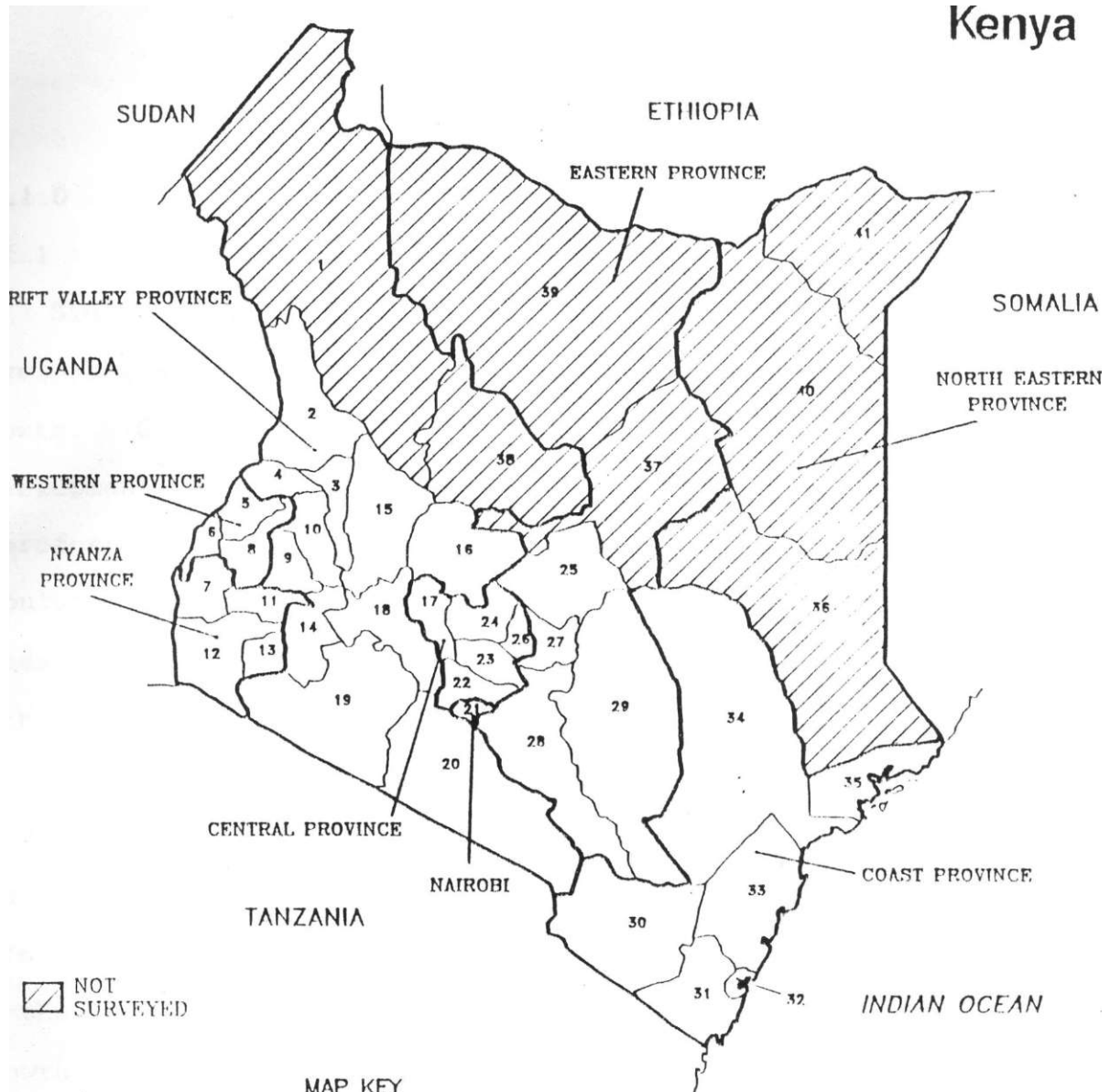
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## ORGANIZATION OF THE STUDY

This project, is presented in five chapters. Chapter one covers the presentation of the background information, problem statement, objectives of the study, the justification, scope and limitation of the study.

Chapter two covers the presentation of literature review, the theoretical framework, hypotheses and definition of variables. Chapter three covers the source and quality of data used and the methodology used to analyse the data. Chapter four covers the presentation of the results. Chapter five covers the conclusions and recommendations.

# Kenya



 NOT SURVEYED

## MAP KEY

21 NAIROBI

### CENTRAL PROVINCE

- 22 Klaribu
- 26 Kitinyoga
- 23 Muranga
- 17 Nyandarua
- 24 Nyeri

### COAST PROVINCE

- 33 Waini
- 31 Kwakwaka
- 35 Lamu
- 32 Mombasa
- 30 Taita
- 34 Tana River

### EASTERN PROVINCE

- 27 Embu
- 37 Isiolo
- 29 Kitui
- 28 Machakos
- 39 Marsabit
- 25 Meru

### NORTH-EASTERN PROVINCE

- 36 Garissa
- 41 Mandera
- 40 Wajir

### NYANZA PROVINCE

- 13 Kisumu
- 11 Kisumu
- 7 Siaya
- 12 South Nyanza

### RIFT VALLEY PROVINCE

- 15 Baringo
- 3 Elgeyo-Marakwet
- 70 Kericho
- 14 Kiambu
- 16 Laikipia
- 10 Nakuru
- 9 Narok
- 19 North Rift
- 4 Trans Nzoia
- 1 Turkana
- 10 Uasin Gishu
- 2 West Rift

### WESTERN PROVINCE

- 5 Bondo
- 6 Dadaab
- 8 Kwana



## CHAPTER ONE

### 1..1.0 GENERAL, INTRODUCTION

#### 1.1.1 Background Information

Since world war II many countries particularly in the developing world, have been experiencing high rates of population growth. Such high growth rates retard both social and economic development. Many countries are now aware of this and have, therefore, adopted policies aimed at slowing their rates of population growth. A number of researches have also been conducted to find out ways and means of reducing fertility rates with a view to reducing rapidly growing population.

Like many developing countries Kenya's rate of population growth is very high. In fact, it is recorded to be nearly 4 per cent per annum, according to 1979 population census, which is among the highest in the world (Mosley 1980). However, Kenya has in the recent years experienced a drastic fall in population growth. It is recorded in the world population data of 1993 as 3.7 per cent. This rate is still one of the highest according to world records.

Earlier censuses and demographic surveys reveal that the population growth rate has been high since early 1960"s. The rapid population growth of Kenya is due to steadily increasing fertility combined with rapidly declining mortality. The fertility rate gradually increased from a crude birth rate of 50 live births per thousand population in 1962 to 53 births per

thousand population in 1979, whereas total fertility rate, that is, average number of children a woman would have during reproductive life span, increased from 6.8 children per woman in 1962 to 8.2 children per woman in 1977-78 (Henin 1984). It is good news from the most recent world population data (1993) that, these rates have tended to decline in recent years as follows:- The total fertility rate, according to world population data, 1993 is 6.5 children per woman, while crude birth rate has declined to 45 live births per thousand population. Even a more recent information from KDHS 1993 indicates that TFR has dropped to 5.4 children per woman. These rates are still high according to world records. As a result Kenya has one of the highest dependency ratios in the world with more than one person outside the labour force age group for each person within it.

Basically this study is aimed at examining female educational attainment and labour force participation as economic determinants of fertility. There are several reasons for believing that economic analysis may have a particularly important role in the study of fertility. One reason is that many surveys indicate that people in both developed and developing countries think of child bearing as having major economic consequences for their families. There is also evidence that economic consequences exert a considerable influence on the couple's reproductive decisions.

Thus in terms of subjective self assessments of individuals making fertility decisions, the trade offs between children and

other personal objectives of material nature - that is, economic calculations - are of considerable importance. A study on value of children by Fawcett (1974) showed that a significant proportion of parents from all the countries covered reported that the cost of having children, or the conflict between child rearing and other objectives are seen as factors discouraging having children. Parents also reported that children can play a positive economic role for the family in terms of work contributions or old age security and other parental objectives. Thus desired fertility is a balance between the costs and benefits of having children.

Studies have revealed that people adjust their fertility to the large goals in their lives. Coal (1972), observed that such behaviour was a precondition of demographic transition; people had to have distinct ideas about the number of children they wanted, and needed to feel that they had some measure of control, before fertility could begin to decrease.

Most developing countries, including Kenya, are out to curb their population problems. They are, therefore, interested in knowing those factors which have depressing effects on fertility. Researchers have found that one way of reducing a nation's birth rate is to increase its female labour force participation rate. This is because the nature of the relationship between participation of women in the labour force and fertility is in most cases significant. Female labour force participation has been found to be associated with lower fertility through such

factors as role incompartmentability, delayed marriage, increased education, reduction of preferred family size and increased contraceptive use.

### **1.1.2 Characteristics of Kenyan economy and labour force.**

Kenya's economy is predominantly agricultural. In 1977 the agricultural sector accounted for K£ 621 Million or 38 per cent of the GDP. Small holders provided for more than of this total agricultural production and approximately % of marketed production.

In terms of economic performance, Kenya has unquestionably been a high growth economy. In real terms GDP has grown at about 6.8 per cent per year since independence in 1963 (Anker and Knowles, 1983).

Kenyan labourforce has been estimated at well over 4.5 million people. Of this total number, about 903,000 were actively engaged in monetary (wage) sector, almost 104,000 were employed in the informal sector in urban areas and 57,000 were self employed or unpaid family workers. The rest of the workers were deployed on various activities in the subsistence sectors of the economy. (Integrated Rural Survey, 1976-77).

Women, however, are very poorly represented in wage labour employment. They have had consistently low rates of participation in the modern sector and account for a slightly higher proportion of unpaid family and self employed workers in the sector. Of the unpaid family workers enumerated in the



labourforce survey of the modern sector in 1975, 31% were females, most of whom were engaged in agricultural and forestry sector. Women also constituted 22 percent of the self employed workers in the modern sector, most of whom were operating enterprises related to the wholesale and retail trade, restaurants, and hotels (Central Bureau of Statistics, 1978 p.43). Women's low rates of participation in the modern sector result from a number of factors. Their primary obligation is to farm the family holdings to produce food for family consumption, and this widespread involvement in farming reduces the numbers available for other forms of economic activities. Women's involvement in farming reduces the numbers available for other forms of economic activities. Women's lower rates of literacy and educational attainment also have placed them at a disadvantage in seeking employment.

According to Kenya Fertility Survey (KFS) 1977-1978, the vast majority of Kenyan women engage in productive work, but predominantly in the agricultural sector. In the KFS "work" was defined to include only wage or salaried employment because it was considered that other forms of employment would not be related to fertility. Thus only a quarter of the ever married women were included in the category of those who had ever worked. From the survey 11 per cent is formed by women who worked before marriage but not since marriage. A Total of 7 percent were currently working and, of these 3 per cent had also worked before marriage and 4 per cent had not worked.

There are striking differences in educational level and urban/rural residence between women with differing patterns of work. Those with current wage employment are much more likely to live in urban areas than other women. The proportions with less than 5 years of education falls from 78 per cent for the majority who have never worked, to 68 per cent for those working only before or only after marriage, to 54 percent for those who worked before and after but not now and the group currently working but not before marriage and finally to 22 percent for those currently working who also were employed before marriage. This implies that education and place of residence are important factors in the effect of employment on fertility.

#### **1.2.0 Problem Statement:**

Studies already carried out in Kenya have indicated that fertility levels are high and there exist quite a variation in fertility among different populations. Osiemo (1986), Onguti, (1987); Omagwa, (1985), and Mwabobia, (1982) established that fertility can be as high as 8.6 and 9.1 as it is in Western Province and Bungoma. They also established that fertility varies with the level of education, place of residence and religion.

A few studies have been carried out to try and explain the above mentioned variations in fertility among the population in kenya. Kalule-Sabiti, (1984), established that the indices of

proportions married reduces and of contraception increases as level of education increases. This means that non marriage and contraception are common among educated women.

Even though studies have been done on the above variables, many researches have tended to ignore the fact that female labour force participation and educational attainment also have an impact on fertility through such variables like delayed marriage, and high contraception.

Female labour force participation in Kenya is still very low, which has resulted in high fertility. This is attributed to low educational attainment among women which implies low age at marriage, low contraceptive use, high infant and child mortality due to poor nutrition and hygienic conditions and, strong traditional attachment.

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Low female educational attainment that prevails may lead to low economic status which is likely to lead to desire to have many children who in turn provide labour for subsistence production.

Participation of women in labourforce (wage) may lead to change of residence, or working outside the home which may lead to decision to have fewer children due to role incomparitability.

### **1.3.0 Objectives of the Study:-**

#### **1.3.1 General Objective:-**

To provide the basis for determining the potential demographic effect of female educational attainment and labour

force participation on reducing fertility.

### **1.3.2 Specific Objectives:-**

- (i) To determine if low level of education leads to low participation in paid labour force.
- (ii) To examine the effect of female labour force participation and education on children ever born.
- iii) To establish the relationship between female educational attainment, labour force participation and contraception.
- (iv) To determine the effect of labour force participation and education on breast feeding.
- (v) To establish the relationship between female labour force participation and desired family size.

### **1.4.0 Justification of the Study:-**

The question of a relationship between female employment and fertility is of considerable importance for both sociologists and economic planners.

Rapid population growth rate poses a great threat to the Kenyan economy. Thus studies are being carried out to find out ways and means of reducing the population growth rate by

depressing fertility rates. <sub>r</sub>

This study will help determine the extent to which education influences labourforce participation and hence if this has some effect or significant effect on fertility levels. It will help planners in justifying the importance of educating and employing as many women as possible as one of the remedies for reducing population growth rate for better development strategies in future. Empirical studies which have been conducted attempt to document both the direction and strength of the relationship between women's work and fertility. These studies contribute to the more general understanding of the determinants of fertility in developing countries and may also be useful for policy makers in shedding light on the potential implications of women's increased labourforce participation.

This study will also open up new areas of research for interested future researchers.

#### **1.5.0 Scope and limitation**

##### **1.5.1 Scope:-**

Kenya, located in East Africa, consists of eight administrative units called provinces and over forty one lower units called districts.

This study uses on data from Kenya Demographic and Health Survey, (KDHS) 1989 which covered thirteen districts namely; Kilifi, Machakos, Meru, Nyeri, Muranga, Kirinyanga, Kericho, Uasin Gishu, South Nyanza, Kisii, Siaya, Kakamega and Bungoma, in

which a total of 10,000 households were interviewed. About 450 rural households were selected in each of these districts, just over 1000 households in other districts, and about 3000 households in urban areas.

#### **1.5.2 Limitation:-**

This study could have been more reliable and more comprehensive had it covered all the districts in Kenya. This has been made impossible because of limited time and funds available for such a study and therefore, we have to rely on Kenya Demographic and Health Survey, 1989 data.

Another limitation is that KDHS did not consider women who were engaged in other types of work like, agricultural production, self help, home keeping as employed. We will, therefore, have to rely on information found from women who are currently engaged on paid or wage employment for this study.

Further research needs to be done using primary data in order to come up with comprehensive results on this important issue.

## CHAPTER TWO

### 2.1.0 Literature Review and Conceptual Framework

#### 2.1.1 Literature review:-

**Economists** and Social Scientist engaged in demographic research in the area of female labourforce participation, educational attainment and fertility have largely discussed fertility trends as related to the relative young age of the population, religion, socio economic factors and urbanisation and Industrialisation, at either individual or community levels. In industrialised societies, a strong negative relationship between female employment and fertility has been established for urban non cottage industries (Collver and Langlois, 1962; Jaffe, 1969). A similar negative association has been found to be either weak or absent in economically developing countries (Weller, 1970).

This difference in trends has been primarily explained by the very nature and setting of female employment in these societies. Thus existing research have shown that if women are employed, they work primarily at or near home, in agriculture, home handicrafts, cottage industries or domestic service. In these cases, they are likely to have a fertility level that is very similar to that of non working women as their type of activities have been found to be compatible with child rearing obligations (Jaffe and Asumi, 1960; Stycos, 1965; Blumberge, 1976).

Consequently, it has been assumed that it is only when the

proportion of women employed outside the home in white collar non **manual** occupations increases and the proportion of women engaged **in** agriculture, home handicraft and domestic services decreases, that a significant negative relationship between female employment and fertility can occur (Collver and Langlois, 1962; Weller, 1968).

### **2.1.2: Women employment and fertility in Developed countries**

Looking at the developed countries we find that one of the more consistent relationships found between demographic phenomena in United States, for example, has been the negative association between non familial female employment and fertility (Kupinsky, 1977). However, while such relationship exists in the United States, at some stage of the family life cycle, for certain sub-groups of women, there is no agreement as to the causal or to the direction of causality; that is whether female work causes low fertility, whether low fertility causes women to enter labourforce or whether they are mutually caused by some antecedent causal phenomerifL

In order to gain some insight into the status of female labourforce participation and fertility in the U.S., a short review of historical trends is useful. On the aggregate level, the labourforce participation rate of women in the United states has increased drastically since the turn of the century. In 1900, slightly over 20 per cent of the total females aged 14 and



above in the labour force were married (U.S. Bureau of the census, 1958). By 1975 the participation rate for female aged 16 and above had reached 46 per cent, but the percentage who were married with husbands present was almost 58 per cent of the female labour (U.S. Bureau of the Census, 1976).

Even more dramatic increase has been the employment among women with at least one child under 3 years of age. This group has more than doubled its participation rate in the labour force between 1960 and 1975.

This dramatic increase in labourforce participation among women reflects a drastic change in the United States. Historically women have been concentrated in a limited number of occupations (Oppenheimer, 1973) that were stereotypically characterised as female jobs (Josenius and Shortlidge, 1975).

Women who were employed in stereotypically male occupations were more likely to report smaller expected and ideal family size (Clerkson et al, 1971, shortlidge and Kohen, 1975). Those concentrated in predominantly female and low status occupations were found to be likely to have larger families because such occupations were thought to be compatible with child bearing.

Hass (1974) found that for some low status jobs one can also provide personal care for the young children while on the job, particularly where one is employed at home or in a service occupation such as street vender. Conversely, the white collar worker usually requires more training, is more likely to be viewed as an important worker whose employers are not likely to

grant maternity leave (Weller, 1968) and generally finds it difficult to interrupt her job to bear children.

Dixon (1975); Hass (1972); Kupinsky, (1971) found that the extent to which motivation for working is related to fertility is considered by a number of researchers. The general conclusion is that those who work for other than financial reasons tend to have lower fertility than those who work because of financial reasons.

Presser (1971) points out that those women who work because of economic necessities are not motivated to control their fertility unless they are employed in attractive, well paying positions.

Mason and Hodgen (1976) reported that women who define themselves as careerists had shorter first parity intervals in order to establish their work credentials and begin their careers «s auoii pwstfiuiy siiwtiF uuiitiiriti married witneut, Being interrupted by a pregnancy. Women who work for economic reasons, had a later first parity particularly if their husband's income was low.

Perrucci (1970), in his study of female science and engineering graduates, found that careerists were more likely to be unmarried, childless and bear their first child later in their work careers, than those who did not define themselves as careerists.

A number of researches have also been done in Europe on the related subjects. Hardly any other concept in demography has received as much attention as the "demographic transition", an

essential part of which is observed secular decline in fertility during the last 100 years in Western Europe. As women are increasingly employed outside the home in industrialised societies, the relationship between fertility and women's employment has become the focus of considerable scholarly interest.

Stolte-Heiskamen (1976) in her study of fertility and women's employment outside the home in Western Europe found that fertility behaviour of women is likely to be affected depending on the type of economic activity and place of work.

In France, the percentage of economically active married women with one child under 17 years of age has increased from 38.8 percent in 1954 to 42.6 per cent in 1968 and those with three or more children from 9.8 per cent to 12.8 per cent in 1968 (Sullerot, 1972). In Great Britain, 34 per cent of women with children worked in 1966. One fifth of these working mothers had at least one child under four years of age and almost half had at least one child between the ages of five and seven years (Halenson, 1973). Comparison of working and non working mothers showed that 48 percent of the non-working mothers had one child under five years of age as compared to 26 percent of the working mothers.

A study by Presvelon (1972) on young Belgian families showed that more than half of the wives continued to work after marriage. About 60 per cent of this sample had two or more children, and the responses showed that the second child is not a

major reason for discontinuing work.

### **2.1.3 Education and fertility in developing countries outside Africa**

According to the population reports (1985) women with low education have more children than those with high education. The difference is largest where fertility has declined substantially. The differences in total fertility rates between the least and most educated women are greatest in Latin America, in many countries amounting to about 4 to 5 children. The difference is smaller in Africa, the Caribbean and Asia - usually about 1 to 2 children. Like many previous studies, world Fertility Survey cross-national study found that women with higher levels of education have fewer children because they are more likely to use contraceptives, also they marry latter than women with lower education levels.

According to Casterline (1980) who studied fertility differentials in Pakistan using 1975 Pakistan Fertility Surveys, women's educational attainment is associated with lower cumulative and recent fertility. The negative effect is much larger for those who proceed beyond primary level.

Cochrane (1979) and Henin (1979) argue that just primary education for girls will lead to higher fertility levels.

Chahil (1977) in an analysis of women's work and fertility in India using evidence from the national sample survey 1962,

found that the total number of children born to a woman was Inversely related to her level of education .

#### **2.1.4 Education and Contraceptive use:**

Wife's education is one of the socio-economic variables which has been found to affect contraception.

Mazur (1981) argued that contraceptive use increased with increase in the level of education. He found the highest contraceptive use among the married women in Poland with Secondary education and above. About 75 per cent of them were contracepting compared to 42 per cent and 56 per cent who were contracepting among women with less than elementary education and elementary levels of education.

Like Mazur (1981), Immerwahr (1981) indicated a direct, definite and generally monotomic relationship between the year of wife's education and the use of contraceptives among women aged 15-50 years and who were exposed to the risk of pregnancy in  
t  
Srilanka.

Soeradji et al (1982) found that, in Javabali region in Indonesia, education was positively related to the use of contraceptives. They found that 31 percent, 36 percent and 38 percent of exposed women with no education, senior education and academic/university education respectively were contracepting.

Abdulah et al (1984) in a comparative study on contraceptive use in the commonwealth Caribbean countries found a positive

relationship between wife's education and contraceptive use. In Guyana, for instance, they found that education explained 4.3 per cent and 1.0 per cent variance in the current use of contraception among the exposed non Indian women respectively. They also found that in Trinidad and Tobago education explained 1.4 **per** cent variance in current **U3e** of contraceptives among exposed women, and in Jamaica, education accounted for 1.8 per cent variance in current use of contraceptive among exposed woman.

An analysis of World Fertility Survey data of 29 countries found that education reduced fertility more by increasing contraceptive use within marriage than by influencing women to post pone marriage, whereas urban residence reduced fertility more by delaying marriage.

### **2.1.5 Education and Fertility in India**

Educational Status of women in India has been very low throughout its history and thus, by the early 19th century, hardly any woman was educated (Chahil Renn, 1977). Education of women started to be accepted in the middle of 19th century when various reforms were promoted.

The education of women has been shown to be an important factor in reducing fertility in many societies. This holds true for India, as is evident in the results of National Sample Survey, 1962.

Chahil Renn (1977) found that the total number of children born to women who were either illiterate or educated upto primary level was 6.6. For those who were educated to the middle grade it was 5.5, for those who reached matriculation it was 4.6, and for those who had some university education it was 2.0.

Driver (1963) found in Central India that whereas illiterate women had 4.7 children, those educated above Primary level had 3.4 children. These findings show that fertility is affected by the number of years of education that an individual has received. Hence it is not sufficient to provide women just a few years of education, at least a minimum of high school education is needed.

#### **2.1.6 Women's Employment and Contraceptive use:**

According to study based on WFS data for 20 developing countries, it was found that women in modern occupations generally had the highest contraceptive use and women in traditional occupations had lower contraceptive use than their counterparts. The percentage of women not currently working who use contraception was on average 22% points less than the percentage of women in modern occupations who were using.

The percentages currently using contraception among women in traditional occupations and those in mixed occupations are generally quite similar. In most countries included, the level of use among these women is between that of women working in modern occupations and that of women who do not work.

The adjustment for demographic and socio-economic factors reduces the size of the differences between women in different occupations considerably, and effect of occupation is statistically significant in only 12 countries. For example, averaged over all countries, the level of use among women working in modern occupations is only 7 per cent points higher than the level of use among women in traditional occupations. This difference is 9 percent age points in Latin America and Caribbean, while it is only 8 percentage, points Africa and 4 points in Asia and Oceanic.

Studies done by the population Division of the United Nations (U.N. 1979A, 1981) on contraceptive use indicated that the wife's employment status has a consistently positive relationship with contraceptive use. However, these studies point out that the relationship between the two variables is often weak.

A study which was done in Cali City in Western Colombia among probability sample of 655 married women in predominantly poor and working class section of the city indicated that women who were in employment were more likely to use contraception than their unemployed counterparts. The study found that 62.7% of the employed women were ever-users while 51.7% of the unemployed women were ever users.



### **2.1.7 Female employment and fertility:-**

Some studies from Arab countries have discussed the important variables influencing the relationship between labour force participation and fertility. In this sense, education, professional activity, and the degree of urbanization of working women have been reported as having a strong association with lower fertility. Working women have lower birthrates than non working women only among the educated (Morcors 1974).

Educated professional women have also been reported as having a lower fertility pattern than non working women (Vallin, 1973). On the other hand job satisfaction has been described as a separate variable exercising an independent influence over middle class couples' low fertility rate than women who have migrated recently (Vallin 1973).

Weller (1977) contends that "the relationship between female labourforce participation and fertility is dependent upon the nature of the female's participation as well as the Milieu which the participation occurs". He also maintains that in addition to role conflicts in terms of child rearing, role incompatibility would be dependent upon the normative orientation of employers, husbands and wives towards the employment of mothers, the extent to which the wife's working would influence marital relationship, flexibility of working hours, ease of re-entry into labour force, social status in terms of child bearing and spacing.

Anker (1975), in his analysis of 69 developing countries, found that adult literacy rates, secondary school enrolment rates and female labour force participation rates were negatively related to fertility.

Anker and Knowles (1982) found that contraceptive use reduced fertility and its use increases with education. Female labourforce participation, urbanisation, polygyny and separation were all related to fertility.

Chahil (1977) in an analysis of women's work and fertility in India using evidence from the National sample survey 1962, found that the negative relationship between employment and fertility does not hold. He attributed this to the fact that the occupations available to Indian women are in those types of industries like agricultural and cottage industries which makes it possible to combine the roles of worker and mother.

Barta et al (1985) studied female labourforce participation and fertility in Hungary, using data from the population census for the period 1949 to 1980. They found that in recent decades, the greatly increased economic activities of women has played an important role in the general reduction of fertility. They also found that the number of children of married women both at present and in the previous decades is negatively related to higher educational level.

According to a comparative analysis of WFS of 38 developing countries it was found that women in modern occupations have the lowest number of CEB - that is, in 29 countries. In 27

**countries**, women in traditional occupations have the greatest **number** of **CEB**. Women who have not worked at all since marriage **tend to** have a greater average number of **CEB** than women in any of **the three** occupations. These patterns generally persist when **mean** number of **CEB** are averaged for countries by level of **socio-economic** development.

In the highest development group, the average number of CEB **among** women in the modern occupation is 2.33; among women who **have not** worked since marriage it is 4.05, a difference of 1.7 **births**. In the medium development group this difference is 1.6; **and in** the lowest group, the difference between the modern and **the never** worked group is only 0.46 births.

#### 2.1.8 **Employment and Fertility in India**

**Various** researchers report the existence of an inverse **relationship** between female employment and fertility, **particularly** referring to industrialized countries.

In developing countries there is less evidence of the **existence of** this association. There has been little research **done on** employment status of women in India and their fertility. From **the** work that has been done findings have been inconclusive.

**Sinha (1971)** observes that where the dominant activity is **agriculture and** handicraft, both organised at family level, women **economically** active at home seem to be less fertile than women **not economically** active.

A study by Dubey, Bardhan and Garg (1975) on working and non-working women in middle and low income. Sections of a government colony, New Delhi, found that, there is very little difference. It was observed that working women had a small ideal family size, married later, were older at the birth of their first child, and had fewer living children. Marked differences were in the reproductive wastages and the practice of effective and less effective contraceptive methods between working and non working women.

#### **2.1.9 Women's Employment and Breastfeeding**

Does a woman's employment affect her breastfeeding? Population report series J, number 24 (1981) states that, logically the location of a woman's work place and her child care arrangement cannot fail to affect her opportunities to breastfeed.

A number of studies using WFS data have examined the relationship between various aspects of women's employment and breast feeding. Jain and Bongaarts (1981) conducted a study in which they used breastfeeding data on currently married women from eight countries, Bangladesh, Colombia, Guyana, Indonesia, Jordan, Peru, Paraguay and Sri Lanka, whose next to last birth occurred between 3 and 5 years before the survey. The mean duration of breastfeeding in the last closed interval by place of work was estimated after adjustments for respondent's age, parity, education, place of residence and husband's occupation.

They expect that since a decrease in the duration of breastfeeding, women who worked on a family farm would have the longest average duration and women who worked away from home would have the shortest duration. This particular pattern, however, was not found, but the results showed that in every country the breast feeding duration for family farm workers was longer than the duration for women who worked away from home.

Another study was done by Akin and colleagues (1981) using the Sri Lanka WFS data. The results suggested that, net of other factors associated with breastfeeding, work by itself did not have a substantively important effect on the probability of breastfeeding.

Work away from home, however, had a significant negative effect on this probability of all durations. For example, work away from home decreased the probability that a woman breastfeed for at least three months by about 4%, the probability of breastfeeding for at least six months was reduced by 8% and at 12 months by about 7%.

In a comparative analysis of 28 WFS countries, Ferry and Smith (1983) used current status of data on breastfeeding to estimate the mean duration of breastfeeding by work status (no work, self employed, employed by others), and by work place since marriage. They found that women who worked away from home breast fed for a shorter average period of time than women who worked at home.' Overall available evidence appears to indicate that work away from home is associated with lower prevalence and duration

of breast feeding.

In the absence of contraceptive use one would expect that the shorter duration of breastfeeding among women who work away from home would cause these women to have at least some-what higher fertility than other women not lower. It seems likely, therefore, that although the higher prevalence of breastfeeding among women who work at home may have some "contraceptive effect", this effect is outweighed by the deliberate limitation of fertility through contraception by women who work in the modern sector.

#### **2.1.10 Work and Age at Marriage**

Timing of work may be related to fertility in a variety of ways. One is by delaying marriage among women who work before they marry. The relatively better financial situations of never married women who work compared with non working women may contribute to the working women's ability and desire to extend single life.

**WFS** comparative analysis (1985) found that women who worked at or before marriage married somewhat later than women who never worked before marriage. Women who worked in the modern occupation married about three years later than women who did not work before marriage.

Among women who were employed before marriage, age at marriage differs between occupations. In 23 of 30 countries,

women with experience working in a modern occupation before marriage have the highest mean age at marriage. The lowest mean age at marriage generally appears among women in traditional occupations, although in a number of cases women in traditional occupations married earliest.

It appears that work of any type before marriage is associated with a later age at marriage. The implication for fertility is that because later ages at marriage are associated with lower fertility, work before marriage may contribute indirectly to lower fertility during marriage.

**2.1.11 Work Force Participation by age, Contraceptive use and women's traditional roles in Africa:**

Caldwell (1968) found in Nigeria in 1964 that, the practice of contraception rose steeply with the education of wives; from 5% of uneducated women ever contracepting to 71% of those with university education and other post secondary training.

He also found a positive relationship obtained between wife's occupational status and contraceptive use in Ghana.

Where data is available on female work-force participation rates by age, it is possible to estimate the level of incompatibility between participation and child bearing by studying changes in participation levels as women pass through the peak child bearing ages. If participation rates continues to rise, it can be assumed that there is no great incompatibility,

especially where fertility levels are high (Ware, 1977).

Zambia is one African country which exhibits a pattern closer to that of industrialized countries with an early pick prio to child bearing (in the 15-19 age group) and second peak as children become independent (among women aged 55-64). Lusaka, infact is one place in sub-saharan Africa where it has proved possible to demonstrate an association between workforce participation and reduced fertility. The reduced fertility of working women reflect educational and class differentials in fertility and workforce participation rates. The more educated women have lower fertility, whether they work or not, but are disproportionately to be found among the employed population (Ohandike and Tesfaghiorghis, 1975).

Ware Helen, (1977) maintains that, if there were any incompatibility between female labour force participation and high fertility levels, then Afriqa should have fertility levels that are lower than the rest of the developing world. In fact, tropical Africa is a region where both fertility levels and rates of female workforce participation are among the highest in the world.

An examination of available estimates of fertility and economic activity in the region shows that there is no consistent relationship (United Nations Demographic Handbook for Africa, 1975; Page and Coale, 1972). Upper Volta, for example, has a birth rate of 50 per thousand population, an average complete family size of more than six children and 53 percent of total



female population of all age groups in the workforce. In contrast, Gabon has a birth rate of 27 per thousand population, an average completed family size of 3 children and 44 per cent of women in the work force (United Nations Demographic Handbook for Africa, 1975).

Ramaniuk, (1967); Ratel-Laurentin, (1974) found that low fertility in Tropical Africa is associated with poor proportions of sterile women and poor medical facilities rather than work force participation.

Women's status in tropical Africa cannot be judged by the criteria appropriate to developed world. In traditional Africa, women are the bread winners; they dig the fields and plant and harvest the crops (Kaberr, 1952). "Africa is the region of female farming par excellence. In many tribes, nearly all the tasks connected with food production continue to be left with women" (Boserup, 1970). Although there have been areas where male labour have predominated, especially among pastoral peoples; and although colonialists blindly promoted cash crops among men who did not farm to the exclusion of women who did, it is still the case that the majority of farmers are women (Le Vine, 1966). It is women who control the means of production, for it is women who are the means of production.

Okedeji et al, (1976) in their study of Yoruba females aged 15-59 years living in Ibadan found that the more children women have up to seven children the more likely they are to be working. The study also examined contraceptive use and found that the

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major determinant of the practice of contraception is the level of education : 6 per cent of the illiterate and 57 per cent of those who have completed secondary education have practised contraception. This differential is clearly reflected in the occupational difference in usage rates, which are 11 percent among housewives and petty traders alike, but peak at 67 percent among the professional workers.

Female labour force participation rate research was done in urban and rural areas of Kenya using data from the nationwide 1974 ILO/University of Nairobi House hold survey (see Anker and Knowles, 1982). It was found that, in rural areas, female labour-force participation depended to a large extent on farm ownership. In urban areas, better educated women, single women from high income families were most likely to be in the labour-force. In addition, macro urban labour market conditions were found to have a significant effect on urban female labour-force participation rates. Interestingly, in neither urban nor rural areas did fertility, the presence of children less than 5 years of age, or the presence of another adult female had a significant difference in the probability of female participation. It seems that the child care burden does not significantly affect female labour force participation in Kenya.

According to Henin (1979) women with primary education in Kenya have higher fertility than women with no education due to the fact that they become more conscious of the importance of hygiene and other basic health requirements that prevent

pregnancy wastage. Beyond seven or eight years of education, fertility tend to decline. Thus it is secondary education that is probably the pre-requisite for a woman to change her attitude towards family size.

Osiemo (1986) recommended secondary education for girls in Kenya for a substantial reduction in fertility. Onguti (1987) in a research on fertility levels and differentials in Kenya using evidence from the Kenya contraceptive prevalence survey (1984) found that TFR starts declining after five years of education and declines more rapidly after 9 years of education. He also found that women who had never worked had the highest fertility and those who were currently working had the lowest followed by those who had worked in the past.

Henin and Mwobobia (1982), in a cross regional study of fertility in Kenya, found a negative correlation between female employment and total fertility rate. This relationship appears to be mainly due to the influence of urbanization and contraception.

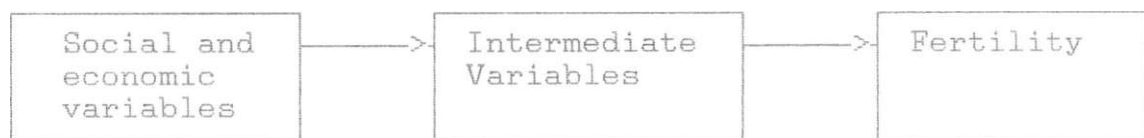
Lawrence Ikamari (1985) found that wife's employment status was positively related to contraceptive use, ( $r = 0.1826$ ) and this explained 0.01 percent variance in current use of contraception.

The low association according to Ikamari, was due to high concentration of women in the unemployed category (72 per cent). It was found that Kenyan working women have higher motivation to use contraception than the non working women.

## 2.2.0 FRAMEWORK AND HYPOTHESIS

### 2.2.1 Conceptual Framework:

It is important to define the dimensions of the role of economics in the study of fertility. Given the complexity of fertility and the degree at which it is surrounded by solid social institutions and shared values, it becomes rather cumbersome to devise adequate strategies for reducing it. The sociological framework by Davis and Blake (1956) provides a basis for empirical studies on how to reduce fertility using intermediate variables and background variables. At both macro and micro levels, it is useful to think of fertility as mediated by a set of variables defining exposure to intercourse, the probability of conception and probability of successful gestation and parturition. These intermediate variables constitute a mechanical framework, which by definition, must stand between fertility and any kind of social or economic explanation; all elements of choice or social behaviour work through the intermediate variables to influence fertility.

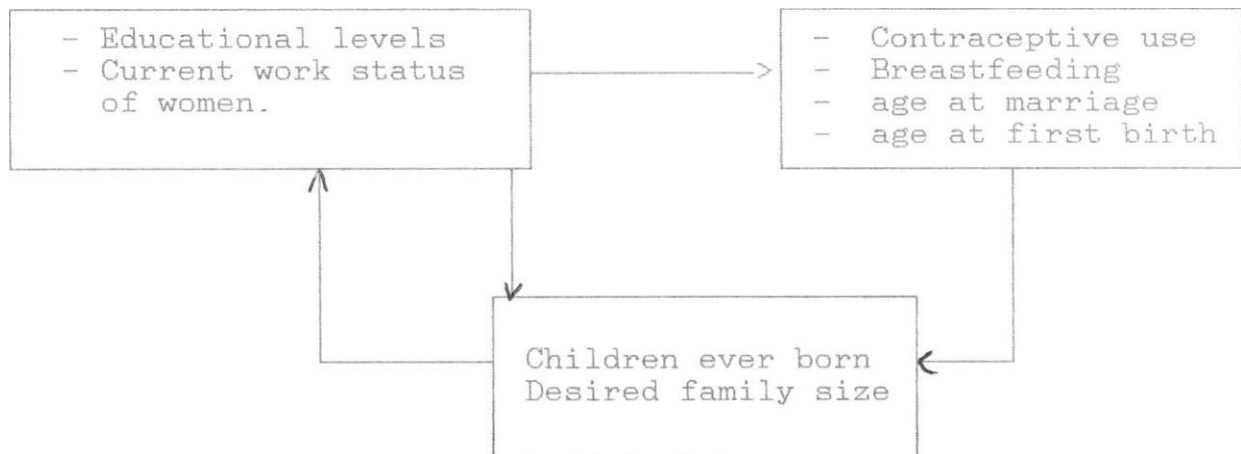


This is a simple view of the determinant of fertility, as derived from Davis and Blake's framework by Simon and Farooq, 1985.

Economic framework has also been used to device ways through

which fertility can be depressed to suit various economic and social development situations. Such framework has its basis on the early works of Becker (1960) and Mincer (1963), in which quality of children are looked upon as consumer durables. A woman who is considering entering labour force, for example, would decide whether the costs involved in bearing a child are worth the market wage she would have to forgo by not working in order to give birth to that child. It is argued that the greater the opportunity costs, the greater are the chances that she will enter the labour market and have relatively low fertility (Ben Porath, 1973; Cain, 1971; Weller, 1976).

### 2.2.2 Operational Framework



### 2.2.3 Operational hypotheses

- (i) High educational levels lead to high labour force participation rates.

- (ii) Educational attainment and the number of currently-working women determine the number of children ever born.
- (iii) Education and employment of women are directly related to contraceptive use.
- (iv) Female labourforce participation and education levels have negative relationships with breastfeeding.
- (v) Female labourforce participation is inversely related to desired family size.

2.3.0 **Definitions of conceptual and Operational variables:-**

2.3.1: **Fertility:-** The actual reproductive performance of an individual, a couple or a population. The production of live births in a population is related to the number of marriages, the age at marriage (or cohabitation), the availability and use of contraceptives and abortion, economic development, the educational and occupational development, the educational and occupational status of women and the age sex structure.

2.3.2: **Education:-** The variable is defined as the number of years spent in school by the respondent, the educational level is divided into four groups. Those with no education, incomplete primary, complete primary and secondary plus.

2.3.3: **Labour Force Participation:-**  
This variable refers to how people aged between 15-64 join labour market or employment.

2.3.4: **Role incompatibility:-**  
This variable refers to a situation where roles are conflicting. for example, roles of a mother and a worker sometimes conflict such that one of the roles must suffer.

2.3.5: **Contraception:-**  
Practices employed by couples that permit sexual intercourse with reduced likelihood of conception. The term contraception is often used synonymously with such terms as birth control, fertility control and family planning

**2.3.6: Child bearing years:-**

The reproductive age span of woman, arbitrarily assumed for statistical purposes to be 15-49 in most countries. It is also referred to as reproductive age.

**2.3.7: Number of Living children:-**

This variable refers to the number of children alive for each respondent by the time of the survey.

**2.3.8: Births in the last five years:-**

This variable refers to the number of live births to the women within five years interval.

**2.3.9: Age at first birth:-**

refers to age of respondent when she got her first live birth or her first baby.

**2.3.10: Currently working:-**

Women who were on wage employment at the time of the survey.

**2.3.11: Total Fertility Rate (TFR):-**

Average number of children a woman would have during her reproductive life span given age specific fertility rate.



2.3.12: **Desired Family size:-**

The total number of children a couple would like to have during their reproductive period.

2.3.13: **Children Ever Born (CEB):-**

The total number of live births to a woman by the end of her reproductive period which lies in age group 44-49 for most women.

## CHAPTER THREE

### 3.0 METHODOLOGY

#### I 3.1.0 Methodology of Data Collection

##### I 3.1.1 Source of data

This study uses secondary data extracted from the Kenya Demographic and Health survey of 1989. The Kenya Demographic and Health Survey (KDHS) was a national survey that was carried out by National Council for population Development (NCPD) of Ministry of Home Affairs in collaboration with the Central Bureau of Statistics (CBS) and the Institute for Resource Development (IRD). The survey is based on the National sample survey and Evaluation Programme (NASSEP), master sample maintained by CBS.

The KDHS (1989) is National in coverage, with exclusion of North Eastern Province and four Northern Districts which together account for only about five percent of Kenya's Population. It was designed to produce completed interviews with 7,500 women aged 15-49 years and with a sub-sample of 1000 husbands of these women. The survey considered mean number of children ever born to women aged 15-49 years old, according to their background characteristics. This study will use such information to come up with comprehensive results.

##### 3.1.2. Reliability and Quality of data

The KDHS (1989) utilised three questionnaires; one of them was known as household questionnaire. This was the one used to

list members of the selected households; another one known as women's questionnaire was used to record information from all women aged 15-49 years old who were present in the selected households the night before the interview; and the third questionnaire (husband's questionnaire) was used to record information from the husbands of the interviewed women in a subsample of households. The questionnaires were pre-tested in August 1988.

The field staff consisted of nine teams, each of which was fluent in one of the major indigenous languages. The teams were composed of four or five female interviewers, one editor; one supervisor, and one male interviewer. The teams were supervised by the local District population officer, the district Statistical officer or in some cases, an officer from NCPD Headquarters.

A total of 9836 households were selected in the KDHS. Of these 8343 were identified as occupied households during the fieldwork and 8173 were successfully interviewed. Respondents for individual interviews were women aged 15-49 years old who had spent the night before the interview in the selected households, 7424 eligible women were identified and 7150 were successfully interviewed. Very few problems were encountered during the interviewing and the response rate was high, 98 percent for households and 90 percent for individual female respondents.

Since the survey was of such high quality and of National coverage, the study will use it for the necessary findings which

are expected to fulfill the laid down objectives.

### **3.2.0      Methods of data analysis**

Fertility is normally determined by many factors. In this study we are going to consider the effect of female educational attainment and labour force participation on fertility. The independent variable will be education as given in the KDHS report and current "work" status of women at the time of the survey; where "work" only considered women who were engaged in wage employment. The selected dependent variables are children ever born (CEB), contraceptive use, breast-feeding and age at first birth.

The techniques used in the analysis are cross tabulation, percentages and chi-square.

Cross tabulation method and percentages are used to determine the relationships which exist between the demographic, socio-economic variables and various fertility variables used as dependent variables in the study.

The chi-square is used in this study to examine how significant the relationship between the named independent variables with the dependent variables is. Chi-square ( $X^2$ ) shows if any two variables are dependent or independent at a given level of significance but it does not give the strength of the relationship. In the Chi-square ( $X^2$ ), the null hypothesis states that there is no association between the variables. If we reject

the null hypothesis then the alternative which states that there is an association between the variable, is accepted. Thus, it is on the basis of the mentioned techniques that we intend to perform our analysis.

## CHAPTER FOUR

### 4.0 **RESULTS AND DISCUSSIONS**

#### 4.1.1 Introduction

The research is based on women's educational attainments and their current work status as socio-economic variables affecting the selected fertility variables. The analysis is done using percentages and cross tabulation, with chi-square test to show whether relationships between the socio-economic variables and fertility variables is significant.

#### 4.2.0 'DATA ANALYSIS AND FINDINGS

#### 4.2.1. Current Work Status of Women by their levels of Education

Table I: **Percentage distribution of current work status of Kenya women by levels of education:-**

| Currently working | Level of Education |                 |                 |                 |                  |
|-------------------|--------------------|-----------------|-----------------|-----------------|------------------|
|                   | No Education       | Pri Incomplete  | Pri Complete    | Secondary plus  | Total            |
| No                | 95.21              | 91.1X           | 89.47.          | 68.77.          | 86.67.<br>(5857) |
| Yes               | 4.7'/.             | 8.97.           | 10.67.          | 31.37.          | 13.47.<br>(907)  |
| J Total           | 1007.<br>11620)    | 1007.<br>(1794) | 1007.<br>(1824) | 1007.<br>(1516) | 1007.<br>(6764)  |

Chi-square value 568.06374 DF 4 significance 0.0000

Table I shows the percentage distribution of current work status of women according to their education levels. A total of 6764 women were successfully interviewed for work status by levels of education, and 5857 of them were not working. Of the women interviewed, 1620 of them had no education. Of this total, 95.2% were not working and only 4.7% were working. The percentages for women who reported to have been working increased with education levels. For example, 10.6% of women with primary education reported to working and 31.3% of those with secondary education also reported to be working.

These results show that women with at least secondary education are more likely to join labour force than their counterparts with primary and below levels of education. The chi-square test confirms that the relationship between labour force participation and education levels is highly significant with  $P < 0.0001$ . Thus the hypothesis that labourforce participation is positively related to educational attainment is confirmed.

**4.2.2 Children ever born by levels of education and by current work status of Kenyan women**

Table 11a Percentage Distribution of children ever born by levels of education

| Children ever born | Level of Education. |                 |                 |                |                  |
|--------------------|---------------------|-----------------|-----------------|----------------|------------------|
|                    | No Education        | Pri Incomplete  | Pri Complete    | Secondary plus | Total            |
| 0-2                | 16,87,              | 37.72           | 00 • -j! •      | 65.77.         | 45.27.<br>(3137) |
|                    | a .j , la           | 6 L. i 'L       | 36. n           | 34.37.         | 54.82<br>(3697)  |
| <b>Total</b>       | loo?;<br>(1648)     | loo?;<br>(1812) | 1007;<br>(1833) | 1002<br>(1539) | 1007.<br>(6839)  |

Chi-square value 1452 DF 20 significance 0.0000

The majority of Kenyan women have low educational attainment, that is, primary levels and below. Those with no education were 1648, 16.8% of whom had 0-2 children ever born and 83.1% of them had 3-5 children ever born. More women with below primary education levels in this category had many children ever born compared to those who had few children (0-2 CEB). Similarly, more women who never completed primary education had



3-5 children ever born (62.3%) as compared to the ones with 0-2 children ever born (62.3%), although comparatively percentage for women with secondary plus who reported to have 0-2 children ever born was the highest.

This illustrates that educational attainment is inversely related to children ever born to women during their reproductive periods.

Table lib: Percentage distribution of children ever born by women's current work status in Kenya:-

| Children ever born | Currently Working. |               |                 |
|--------------------|--------------------|---------------|-----------------|
|                    | No                 | Yes           | Total           |
| 0-2                | 45.2%              | 50.7%         | 46%<br>(3106)   |
| 3-5                | 54.8%              | 49.3%         | 54.0%<br>(3658) |
| JTotal             | 100%<br>(5857)     | 100%<br>(907) | 100%<br>(6765)  |

Chi-square value 6832.25151 DF 12 significance 0.0000

It can be observed from the table that the difference between working and not working as affecting children ever born is very little. Of the 5857 women who reported not to be working

45.2% had 0-2 children ever born, while 54.8% had 3-5 children ever born, consequently of the 907 women who reported to have been working 50.7% had 0-2 children ever born while 49.3% of them had 3-5 children ever born.

This analysis suggests that women's status of work does not have much effect on children ever born. Perhaps because they work to feed their families and hence do not intend to limit their family sizes because of employment. However, Chi-square test ( $P < 0.0001$ ) confirms that there is a significant relationship between work status and children ever born. This could be possible through other factors like role incompatibility and years spent in pursuing education before the first birth takes place.

4.2.3 Births in the last five years by levels of education and by current work status of Kenyan women.

Table 11a: Percentage Distribution of Births in the last five years by levels of education.

| Births in the last 5 years | Level of Education. |                 |                 |                 |                  |
|----------------------------|---------------------|-----------------|-----------------|-----------------|------------------|
|                            | No Education        | Pri Incomplete  | Pri Complete    | Secondary plus  | Total            |
| 0                          | 39.3%               | 35.87.          | 47.07.          | 45.57.          | 41.97.<br>(2865) |
|                            | 27.87.              | 25.9%.          | 27.07.          | 29.47           | 27.47.<br>(1876) |
|                            | 25.17.              | 30.07.          | 21.0X           | 18.97.          | 23.87.<br>(6839) |
| 3+                         | 7.87.               | 8.37.           | 5.07.           | 6.27.           | 6.8<br>(469)     |
| Total                      | 100%.<br>(1645)     | 100%.<br>(1811) | 100%.<br>(1835) | 100%.<br>(1538) | 100%.<br>(6839)  |

Chi-square value 116.89908 DF 20 significance 0.0000

From the table III(a) above, it can be observed that the effect of education on birth intervals is not much. However, most women with at least primary (Complete) education reported to have had no births in the last 5 years; 47.0% and 45.5% for primary complete and secondary plus respectively. This can be compared with women with below primary levels. 39.3% of those with no education had had no births and 35.8% of the ones with incomplete primary education had had no births in the last five years.

The majority of women who had had two children in the last five years had incompleting primary levels. The least percentage is observed for women with secondary plus. This implies that women with high educational attainments have longer birth intervals than their counterparts who have low educational attainment. Chi-square test with  $P < 0.000$  confirms that there is a significant relationship between education levels and birth intervals.

Table 111b: Percentage distribution of births in the last five years by current work status

| Birth in the last 5 Years | Currently Working. |               |                 |
|---------------------------|--------------------|---------------|-----------------|
|                           | No                 | Yes           | Total           |
| 0                         | 40.8%              | 48.1%         | 44.7%<br>(2824) |
| 1                         | 26.8%              | 31.3%         | 27.4%<br>(1855) |
| 2                         | 25.2%              | 16.2%         | 24.0%<br>(1621) |
| 3+                        | 7.2%               | 4.4%          | 6.9%<br>(465)   |
| j Total                   | 100%<br>(5857)     | 100%<br>(907) | 100%<br>(6765)  |

Chi-square value 6817.57420 DF 12 significance 0.0000

From table 111(b) above it can be observed that the bulk of Kenyan women are not in wage employment. Only 907 out of 6765 women interviewed reported to have been working. About half of the women who reported to have been working (48.1%) had not had

any birth in the last five years, while 40.8% of the women who reported not to have been working also had not had any birth in the last five years. A higher percentage of the women who were currently working had one birth in the last five years (31.3%) than their counterparts who were not working. Most women who reported two births in the given interval were not working (25.2%), compared to those who reported to have been working **(16.2%)**

From the analysis it can be said that women's work status is directly related to birth intervals. That is, wage employment is likely to lengthen their birth intervals.

Chi-square test shows that the relationship is highly significant with  $P < 0.0001$ . This confirms the hypothesis that female labour force participation determines the number of children ever born to a woman during her reproductive period.

4,2.4 Number of living children by levels of education and by current work status of Kenyan women

Table IV(a): Percentage Distribution of number of living children by levels of education:

| Number of living Children | Level of Education |                 |               |                | Total          |
|---------------------------|--------------------|-----------------|---------------|----------------|----------------|
|                           | No. Education      | Pri. Incomplete | Pri. Complete | Secondary Plus |                |
| 0-2                       | 10.9%              | 40.8%           | 67.35         | 48.6%          | (5857)         |
| 3-5                       | 78.6%              | 59.3%           | 34.5%         | 51.4%          | (907)          |
| Total                     | 100%<br>(1645)     | 100%<br>(1811)  | 100%<br>1835  | 100%<br>(1538) | 100%<br>(6834) |
|                           | Chi-square         | Value           | D             | Significance   |                |
|                           |                    |                 | 20            | 0.0000         |                |

Women with low levels of education tend to have more children than their counterparts with higher educational attainments. This could be explained by the fact that those with low levels of education have very strong cultural attachments which strongly support large family sizes. From table IV(a) above. 6834 women were interviewed and 1645 were not educated. 78.6% of women had more than 3 children. This can be compared with 502 women who had at least secondary education, and 32.6% of whom had more than 3 children. The remaining 67.3% had 0-2 children. Apart from cultural attachments, it can be said that women with high levels of education are likely to be careerists whose interests are to have small families to allow them pursue further education. The concept of opportunity costs can also

sed to explain the phenomena; in other words it is up to a mother to choose either to give birth to the next child or take up an employment. Women with low education on the other hand may not be bothered about family size. Given the advance in medical services in Kenya, if fertility is not regulated, the number of surviving children can be more than a mother can afford. Education thus seems to have a depressing effect on fertility due to the fact that women will be aware of the needs and ways of controlling their fertility.

Chi-square test ( $P < 0.0001$ ) confirms that the relationship between education and living children per mother is highly significant.

Table IV(b): Percentage Distribution of Number of Living children by current statms of Kenyan women:

Currently Working

| Number of Living Children | No     | Yes   | Total  |
|---------------------------|--------|-------|--------|
| 0-2                       | 47.9%  | 51.8% | 48.6%  |
| 3-5                       | 51.7%  | 48.1% | 51.3%  |
| Total                     | 100%   | 100%  | 100%   |
|                           | (5857) | (907) | (6764) |

Chi-square : Value D Significance  
58.22720 5 0.000



The relationship between current work status and number of living children exists but it is not a strong one for Kenyan women. It could be strong if women experienced high opportunity costs of child bearing and rearing as far as employment status is concerned.

From table IV(b) above 6764 women were successfully interviewed and 5857 of them were not working, 47.9% of whom had at least three children and 51.8% had 0-2 children. 51.8% of the working women had 0-2 children while 48.1% had at least three children.

The Chi-square value of 58.22720 with  $P < 0.0001$  shows that the relationship between the two variables is significant. Hence we confirm the hypothesis that labour force participation is inversely related to the number of children a woman may have.

**4-2.5** Ever use OF contraceptives by levels of education and by current work status pf Kenyan womeni.

Table V(a): **Percentage Distribution of ever use contraceptives by levels of education**

| Ever use any method Children | Level of Education |                 |                |                | Total           |
|------------------------------|--------------------|-----------------|----------------|----------------|-----------------|
|                              | No. Education      | Pri. Incomplete | Pri. Complete  | Secondary Pius |                 |
| Never used                   | 71.7%              | 62.0%           | 64.4%          | 46.0%          | 61.4%<br>(4200) |
| Used only Trad. Method       | 10.6%              | 12.5%           | 12.1%          | 14.6%          | 12.4%<br>(848)  |
| Used modern method           | 17.7%              | 25.3%           | 23.4%          | 39.5%          | 26.2%<br>(1791) |
| Total                        | 100%<br>(1645)     | 100%<br>(1811)  | 100%<br>(1835) | 100%<br>(1538) | 100%<br>(6840)  |

Chi-square : Value D Significance  
260.10289 12 0.0000

Contraceptive use increases with level of education.

According to table V(a) above 6840 women were interviewed and 4200 of them had never used any method and only 1791 women had used modern method. 71.7% of the uneducated had used no method, 10.6% used traditional method and only 17.7% had used modern method, as compared to 46% of the women with at least secondary education who had not used any method and 39.5% who used modern method. This implies that if many women are educated upto at least secondary levels then contraceptive prevalent rate can go up drastically.

Chi-square Test with  $P < 0.0001$  confirms the hypothesis that education is positively related to contraceptive use.

**Table V(b): percentage Distribution of ever use of contraceptives by current work status:**

| Ever use of any method | Current work status |               | Total           |
|------------------------|---------------------|---------------|-----------------|
|                        | No                  | Yes           |                 |
| Never used             | 65.0%               | 39.9%         | 61.5%<br>(415)  |
| Used only trad, method | 12.4%               | 12.7%         | 12.4%<br>(840)  |
| Used modern method     | 22.6%               | 48.0%         | 26.1%<br>(1767) |
| Total                  | 100%<br>(5857)      | 100%<br>(907) | 100%<br>(6764)  |

Chi-square : Value D Significance  
283.72323 2 0.0000

Table V(b) shows that women who worked are more likely to contracept than their counterparts who are not in formal employment. 6764 women were interviewed where 907 reported to have been currently working and 5857 were not working. From the table we observe that 65% of the women who were not working never used any method while only 22.6% used modern method; this can be compared with 39.0% of women who were currently working and never used modern method. This implies that women's current work status leads to high contraceptive use. Chi-square value with  $P < 0.0001$  confirms that there is a highly significant relationship between the two variables. Hence when many women join labour force then contraceptive prevalence can also go up. The roles of a mother and a worker which may be incompatible can be used to explain why working mothers are most likely to regulate their fertility.

4.2.6: Currently breastfeeding by levels of education and by current work status of Kenyan women:

The table below gives the relationship between breastfeeding and levels of education of women in Kenyan society. This is an important fertility regulating factor since it determines the length of amenorrheic period.

**Table VI(a): Percentage Distribution of currently breastfeeding by levels of education:-**

| Currently breast-feeding | Education Levels |                 |                |                | Total           |
|--------------------------|------------------|-----------------|----------------|----------------|-----------------|
|                          | No education     | Pri. Incomplete | Pri complete   | Sec. plus      |                 |
| No                       | 66.0%            | 62.8%           | 70.0%          | 73.0%          | 67.9%<br>(4642) |
| Yes                      | 33.9%            | 37.0%           | 29.9%          | 26.9%          | 32.1%<br>(2197) |
| Total                    | 100%<br>(1645)   | 100%<br>(1812)  | 100%<br>(1835) | 100%<br>(1538) | 100%<br>(6840)  |

Chi-square : Value 48.58290 D 8 Significance 0.0000

Of the women interviewed 1645 had no education, 66% of whom were not currently breastfeeding. Of the women with at least secondary education, 73% were not breastfeeding. This implies that education is inversely related to breastfeeding. Researches done on the same variable show that shorter periods of breastfeeding lead to high fertility; in other words, the woman remains amenorrheic for a very short time Caldwell and Caldwell 1985 found that in absence of breastfeeding a woman can remain

amenorrhoeic for 2 - 2% months after giving birth. Therefore in absence of contraception and other birth control measures, fertility is expected to be higher among the highly educated women than the ones with primary levels or below.

**Table VI(b): Percentage Distribution of currently breastfeeding by current work status**

| <u>Currently working</u> |                |               |                 |
|--------------------------|----------------|---------------|-----------------|
| Currently breastfeeding  | No             | Yes           | Total           |
| No                       | 65.9%          | 79.1%         | 67.7%<br>(4582) |
| Yes                      | 34.7%          | 20.9%         | 32.3%<br>(2182) |
| Total                    | 100%<br>(5857) | 100%<br>(907) | 100%<br>(6764)  |

Chi-square : Value D Significance  
61.322289 1 0.0000

Work status of women also has some implications on breastfeeding. In many researches done especially in developing countries, it has been found that, working mothers prefer giving their infant bottles milk other than breast milk. They claim that working hours do not allow for adequate or intensive breastfeeding after maternity leave is over. From table V(b) above, we find that of the 907 women who reported to have been working, 79.1% were not breastfeeding. Labourforce participation is thus inversely related to breastfeeding be used as the only fertility depressing variables in Kenya then working women may be

expected to have higher fertility than their counterparts who are not in formal employment; however, since other factors like education, role incompatibility and contraception are in control we find that they actually have lower fertility than their counterparts.

Chi-square test as shown in the table above gives evidence that the relationships between breastfeeding and labourforce participation is significant.

**4-2-7 Age-at-first birth vs levels of education and hv current work, status of Kenyan women**

The table below shows the relationship between age at first birth by levels of education. This is an important variable to look at because at the final analysis we find that age at first birth is affected by education.

**Table VII(a): percentage Distribution of age at first birth by levels of education**

| Age at first birth | Education Levels |                 |                |                | Total           |
|--------------------|------------------|-----------------|----------------|----------------|-----------------|
|                    | No education     | Pri. Incomplete | Pri. complete  | Sec. Plus      |                 |
| 15-19              | 18.4%            | 11.2%           | 5.8            | 3.5%           | 10.6%<br>(558)  |
| 20-24              | 53.9%            | 67.8%           | 68.0           | 46.2%          | 59.5%<br>(3135) |
| 25-29              | 22.1%            | 18.8%           | 24.5           | 43.1%          | 25.8%<br>(1359) |
| 30-34              | 4.2%             | 1.9%            | 1.5            | 6.8%           | 3.4%<br>(181)   |
| 35-39              | 1.0%             | 0.5%            | 1.2            | 0.5%           | 0.6%<br>(30)    |
| 40-44              | 0.3%             | -               | 0.3            | -              | 0.1%<br>(7)     |
| Total              | 100%<br>(1545)   | 100%<br>(1504)  | 100%<br>(1181) | 100%<br>(1033) | 100%<br>(5270)  |

Chi-square : Value D Significance  
1271.82099 20 0.0000

It is expected that women with at least secondary education are likely to pursue further education, and therefore are likely to avoid pregnancy while still studying.

From table VII(a) above many women who had attained upto primary levels had their first births as early as 20 years of age; 53.9%, 67.8% and 68% of those with no education, primary incomplete and upto primary respectively, got their first births at an early age of 20-24 years of age. 43.0% of the women with at least secondary education got their first births at a later age of 25-29 years age group, while only 22.1% of women with no

education, 18.8% of those with incomplete primary and 24.5% of those with primary levels had their first birth in the same age group. Generally, however, Kenyan women have their first births quite early in life.

From the above analysis, education can be said to be positively related to age at first birth. The chi-square test confirms that the relationship is highly significant with  $P > 0.0001$ .

Table VII(b) below is an illustration of age at first birth as affected by current work status of women. It is expected that women who are employed must have taken a long time in school and had their first births late in life.

**Table VII(b): Percentage Distribution of age at first birth by current work status:**

| Age at first birth | Currently working |               | Total           |
|--------------------|-------------------|---------------|-----------------|
|                    | No                | Yes           |                 |
| 15-19              | 10.9%             | 8.8%          | 10.6%<br>(553)  |
| 20-24              | 61.7%             | 45.2%         | 59.5%<br>(3101) |
| 25-29              | 23.8%             | 38.2%         | 25.7%<br>(1342) |
| I 30-34            | 2.9%              | 7.2%          | 3.5%<br>(180)   |
| 35-39              | 0.6%              | 0.6%          | 0.6%<br>(30)    |
| 40-44              | 0.2%              | -             | 0.1%<br>(7)     |
| Total              | 100%<br>(4508)    | 100%<br>(704) | 100%<br>(5213)  |

Chi-square : Value 123.02584 D 10 Significance 0.0000



More women who were not working (61.7%) got their first births quite early (20-24), than their counterparts who were currently working (45.2%), more women who were working (38.2%) had their first births in the later age of 25-29 age group than their counterparts who were not working (23.8%). The percentage distributions of ages at first birth tend to reduce as women advance in age.

From the above analysis we can conclude that labour force participation leads to later age at first birth. It can thus be used by planners as one of the fertility depressing measure. This is also because as women join labour force, opportunity costs of child rearing rise, and therefore women are likely to choose to bear few children to allow them take up employment. The chi-square test confirms the relationship. We therefore confirm the hypothesis that labour force participation rate is positively related to age at first birth.

## CHAPTER FIVE

### 5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

#### 5.1 SUMMARY

The objective of this study was to examine the socio-economic effects of female educational attainment and labour force participation on fertility. We have found that education levels determine labourforce participation which in turn affects fertility through such variables as age at first birth, contraception and role incompatibility. However, from our findings, both educational attainments and labour force participation rates are still very low among Kenyan women which has led to very high fertility levels. Since the study used KDHS 1989 data which only considered women who were employed in the formal sector as currently working, it is expected that most women were engaged in other types of work which were positively related to fertility. For example, agricultural work, self employment, and retail trade are all compatible with child bearing and rearing.

Finally education is bound to have much stronger relationships with fertility variables - most of them show negative relationships, especially to the number of births to a woman.

This study has attempted to briefly examine the relationships between female labour force participation, educational attainment and fertility in Kenya using KDHS survey of 1989. It has examined how these two independent variables affect fertility. Analysis of the frequencies has revealed that there is a significant relationship between the independent variables and fertility.

Despite the high level of economic development in Kenya, it is found that female labour force participation is still very low. On the one hand this could be a result of low educational attainments by women which is indicated in the study, and on the other hand it could be due to the existing attitudes towards employment of women especially outside the home. Some jobs are also stereotyped as belonging to males. It is also evident from the literature review that African woman's obligation is to till the land and produce food for her children - for the African women the number of children born would rather be high for this determines her social status in the society (Ocholla - Ayayo, 1991). From the study we conclude that women with low educational attainment, that is, upto primary levels tend to have higher fertility than those who attained at least secondary education. This could be seen as a result of the fact that only primary level of education makes women aware of hygienic and medical care and hence do not experience much of pregnancy losses. However, at the same time they cling very much to the

cultural values which encourage large family sizes. Seeing the many children one has, gives him a feeling of success in life. The desire for a male child is supreme in an African eye. Parents who do not have a male child, do not have anybody to bury them (Ocholla-Ayayo, 1988).

Most Kenyan families live in poverty and depend on subsistent farming for daily life. Large families are therefore preferred because children and women are used as means of production to produce enough food for subsistence.

Education and current employment status work together to depress fertility. From the study, the analysis revealed that women with at least secondary education have the lowest fertility. Women who are employed also tend to have low fertility levels. Secondary education is probably a prerequisite for a woman to change her attitude towards family size (Ocholla-Ayayo, 1991). Women with at least secondary education and those who are employed are likely to use contraception in order to control their fertility behaviour. Thus it can be concluded that female labour force participation which is determined by education levels affects fertility if role incompatibility exists. The more incompatible the jobs that women do are with child care, the more they will be geared towards contraceptive use in order to regulate their fertility.

Education and work status also combine to delay age at first birth. From the study it was established that women with high education and those who are currently employed tend to give birth

to their first babies later than their counterparts with only upto primary levels of education. Those who have at least secondary education are likely to delay their first births in order to pursue further education and better careers for well paying jobs in future.

The study also analysed current breastfeeding women vis-a-viz education and current work status. Most women who are currently working and the ones with at least secondary education were not breastfeeding. It can be concluded that these women perhaps had no time to breastfeed their babies. In other studies, we find that they prefer giving their babies bottle milk other than breast milk (Ocholla-Ayayo and Muganzi, 1987), which is very dangerous to the infants' health status.

### **5-3.1. Recommendations for further research:-**

Due to time and resource constraints, this project has not been able to exhaust all facets of the associations between fertility and the Independent variables used for the study. Thus further research is recommended in the following areas:-

- CI) It is necessary for researchers to go out in the field and collect primary **data pertaining to women's** employment record and fertility. This will enable them

to examine women on their fertility levels as affected by the actual type of occupation. It will also be possible to study the attitude of women towards family size by their levels of education and by their employment record.

(2) Further statistical tests can be used to test the strength of the relationships in order to help researchers reach more concrete results. For example correlation can be used to get the direction and strength of the relationships.

(3) More indicator of employment types and education (eg post school training) may be used to test the association between fertility and status of women. At the same time more fertility indicators can be used for further research to establish those relationships.

### **5-3.2. Recommendations for Policy makers:-**

Any study on fertility in a country like Kenya with high levels fertility, aims at finding ways and means of reducing it. In this study efforts were made to examine the extent to which education and employment of women can affect fertility. From the findings, the study gives the following recommendations:

(1) To curb the problem of low educational attainment and low labour force participation of Kenyan women, the

Government should create programmes which encourage higher learning for girls. This may raise age at first birth, which in turn leads to low fertility especially among the adolescents. Higher learning for girls will enable them have strong bargaining power for job opportunities.

- (2) Girls should be encouraged to learn subjects which had been stereotyped as being for boys. This will enable them take up tasking jobs like engineering, commerce and managerial courses. Given role incompatibility which are obvious for such jobs, the fertility behaviour of working mothers many change - it is likely that most of them will prefer small families to enable them pursue their careers.
  
- (3) On the issue of contraceptive use, Family Planning Programmes should be made available to both educated and non educated women, whether they stay in rural or urban areas. With the help of information, education and communication (IEC), the programmes will be able to reach the women of all categories of life, and teach them about value of and demand for children given the present socio-economic situation in the country. The programmes should also include educating women on the importance of breastfeeding and how it can be done if a mother is supposed to be working.

- (4) Employers should also be educated or rather- **informed on** the importance of allowing mother to go and breast feed during the day before one year from birth elapses; also maternity leave should be extended if possible.



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