

FERTILITY DIFFERENTIALS AND DETERMINANTS

IN GHANA: 1979/80

BY

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DEDICATED

TO

MY BELOVED MOTHER

AKOSUA DUFIE

DECLARATION

Except where otherwise indicated,
this thesis is my own work.

March 1986

Kwaku Amoo-Appau

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Abstract

The study was based on the Ghana Fertility Survey (GFS) 1979/80 dataset. The main objective of the study was to study fertility differentials and determinants at the national level as well as for three broad regional groups, with the emphasis on the regional analysis. The then nine administrative regions of Ghana were re-grouped into three broad regional groups as Regions 1, 2 and 3 on the basis of cultural similarity and geographical contiguity.

In the analysis of fertility differentials, it was found that variables that seem to have a noticeable effect on fertility in Ghana included age at first marriage, place of work and to some extent, at least, in some of the regional groups, education and partner's occupation. Religion, ethnic group, husband's place of abode, number of times married and partner's education were found not to have important effect on fertility, when controlled for age and place of residence. In the analysis of fertility determinants, it was found that age at first marriage was the most important determinant of fertility in all the three regional groups. Education, however, was not found to be a major determinant of fertility in any of the three regional groups, especially in Region 1 where its effect was the weakest. Finally, it was observed that differences in fertility among the three regional groups were not significant.

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CHAPTER 1

INTRODUCTION

1.1 Objectives of the Study

The main objective of the study is to examine and analyse fertility differentials and determinants in Ghana at the national level and also in broad regional groups. The broad regional groups are:

- (1) Northern and Upper Regions;
- (2) Ashanti, Brong-Ahafo, Western, Central and Eastern Regions;
- (3) Greater-Accra and Volta Regions.

The study is based on data from the Ghana Fertility Survey (GFS) which was conducted in 1979/80 by the Central Bureau of Statistics on behalf of the Government of Ghana with technical assistance from the World Fertility Survey (WFS). The study sample consists of 6,125 females aged between 15-49 years living in private households (GFS 1979/80(a): 13).

The findings from this study will be compared with those from previous studies of fertility in Ghana. The study will also attempt to show in what ways the conclusions arrived at could lead to a better understanding of the fertility situation in Ghana and guide to future government decision-making, especially, in the area of fertility control.

1.2 Significance of the Study

With the exception of Tawiah (1984) who used data from the 1971 Supplementary Enquiry to study the relationship between fertility and age at first marriage and some socio-economic factors using multivariate analysis, and Gaisie (1981) who also used data from the 1977 WFS-Ghana Pilot Survey to study child-spacing patterns and fertility differentials in Ghana, few studies have used multivariate analysis to examine fertility in Ghana. Fertility studies conducted in Ghana by Caldwell, Jain and others did not use multivariate analysis.

The present study, therefore, is the first to look at fertility differentials and determinants in Ghana at the national level and also in broad regional groups using the 1979/80 Ghana Fertility Survey dataset and a multivariate approach. In the analysis of fertility determinants the interest will be on socio-economic determinants to identify some of the major socio-economic variables influencing fertility in Ghana. Socio-economic variables will be the main area of emphasis in the study because previous work done by Gaisie (1984) using the Ghana Fertility Survey 1979/80 dataset was on the effects of intermediate variables on fertility in Ghana. However, the study will examine one intermediate variable - age at first marriage.

The emphasis of the study will be on the three broad regional groups specified earlier. The grouping is based on three main factors: geography, culture and religion.

Geographically and culturally, the grouping brings together, as much as possible, people of the same cultural background and speaking

broadly the same language. The Northern and Upper regions, which are geographically contiguous and predominantly populated by the Mole-Dagbanis form Group 1. The Ashanti, Brong-Ahafo, Western, Central and Eastern regions, five contiguous regions which support predominantly Akan speaking (including Twi, Fante and other Akan) form Group 2. The Greater-Accra and Volta regions, two contiguous regions lying to the south and south-eastern corner of the country and which are inhabited by predominantly the Ewe and Ga-Adangbe speaking people form Group 3. Whereas the people in Group 1 are mainly Moslems and Traditionalists the people in Groups 2 and 3 are mainly Christians (GFS 1979/80: 32).

The present study will also facilitate the up-dating of other fertility studies conducted in Ghana, especially, on fertility differentials and determinants, with a view to ascertaining whether recent data validates previous findings. One other significance of the study is that findings may be useful to future policy-makers of the country, especially, in the area of population control and socio-economic development.

Lastly, the present study is intended to stimulate future students of the demography of Ghana to concentrate more on studying fertility differentials and determinants, which is vital for any meaningful understanding of the current fertility situation in the country.

1.3 Sources of Data and Sample Selection

The main source of data is a magnetic tape of the Ghana Fertility Survey (GFS) 1979/80, Standard Recode Version 3 (SRO3) [MRDF] created on 5th August, 1981 by the Office of the World Fertility Survey, London.

This file, last amended on 23rd January, 1984, was created from the edited questionnaire and country recode file. In this process some inconsistencies found in the data were corrected (GHSRO3 D. REF. ARCH., 1984(a): 1). Reference will also be made to the published First Report Ghana Fertility Survey 1979/80 Volume I and other secondary sources.

The GFS sample was selected in such a way as to draw respondents from each of the nine administrative regions of the country (GFS 1979/80(a): 13). This was to conform to one of the main objectives of the survey which was to provide information on fertility levels and contraceptive knowledge and practice and related behaviour for the whole country as well as for each of the nine administrative regions (GFS 1979/80(a): 13).

In selecting the survey sample, a two-stage self-weighting design stratified by region and sector (rural, urban and large urban) was used (GFS 1979/80(a): 13). During the first stage of the design, 300 enumeration areas (EAS) or primary units were selected by systematic probability proportional to size sampling (GFS 1979/80(a): 13). During the second stage, however, the required number of households was selected with probability inversely proportional to size to give a self-weighted sample (GFS 1979/80(a): 14). The target sample was set at 7,500 households (GFS 1979/80(a): 13). Eventually, 7,208 households were selected but 6,125 women were successfully interviewed (GFS 1979/80(a): 21). This was the number of women aged 15-49 that could be interviewed out of the 6363 eligible respondents from 60.01 households with completed interviews (GFS 1979/80(a): 20).

1.4 General Background of the Study Population

Of the 6,125 women forming the study population, 4,943, representing about 80 per cent of the sample, had ever been in a union (or marriage) whilst the remaining 1,182, or about 20 per cent, had never been in union. Over 80 per cent of the ever-married women had been married only once whilst the remaining 20 per cent had married either twice or more. At the time of the survey, however, 4,436 women, representing 72 per cent of the total study population were currently married and the remainder, 1,689, were either divorced, widowed, separated or had never been in union. Over 60 per cent of the ever-married women were first married before their twentieth birthday.

More than half the women had never been to school or were illiterate. Among the literate only about 40 per cent had received ten or more years of schooling. About two-thirds of the women professed to be Christians, whilst a sixth followed the Traditional Religion and only about a tenth were Moslems.

The age distribution shows a predominance of young women. Women below 25 years of age form more than 40 per cent of the sample while women aged over 40 years form only about a sixth of the total sample.

1.5 Problems and Limitations of the Data

For the purposes of the present study there are only a few problems and limitations which need a mention. They include the age distribution and the regional distribution of the sample.

The GFS dataset, like other demographic data from the developing countries, was not without distortions in the age data, which arise mainly from age misstatement and digit preference (GFS 1979/80: 26). It was observed that there was a marked preference for ages ending in 0 or 5 and in even numbers (GFS 1979/80: 26). It was also observed that the heaping of ages at these digits is more pronounced from age 20 upwards. Some of the errors in age reporting may be attributed to over-estimation of ages by the interviewers (GFS 1979/80: 28-29). It may be remarked that distortions in the age data may not be of much consequence in so far as the objectives of this study are concerned because the analysis will be done on 5-year age groups.

Women in the sample are supposed to be aged between 15 and 49 (GFS 1979/80(a): 13). On examination of the frequency distribution of their dates of birth it was observed that the sample includes women who were aged over 49 years at the time of the survey. If the analysis is done strictly by the conventional 5 year age classification, at least, 38 women forming about 1 per cent of the sample would drop out.

It became necessary therefore to make some adjustment - by making the last age group open as 45+ instead of 45-49. This allowed the inclusion of women who were born in 1929 so ending up with a total sample size of 6,125 instead of 6,087. The problem of the regional distribution of the sample will be discussed elsewhere in the study.

CHAPTER 2LITERATURE REVIEWFERTILITY IN GHANA: 1948 - 19802.1 Introduction

In view of the incompleteness and unreliability of Ghana's vital registration system, estimates of fertility and other population parameters are largely based on the following sources: The 1960 and 1970 Population Censuses, the June-July 1960 Post-Enumeration Survey (PES), the 1968-69 National Demographic Survey (NDS), The August-September 1971 Supplementary Enquiry (SE) and, of late, the 1979/80 Ghana Fertility Survey (GFS) (US Bureau of Census, 1977: 1, WFS, 1983(a): 1). The system of vital registration, which was instituted in the country in 1888, covers only about 40 per cent of all births and 25 per cent of all deaths (WFS, 1983(a): 1).

Before 1960, there was very little reliable fertility information on Ghana (Gaisie, 1975: 339). Since 1962-63 a number of KAP (Knowledge, attitudes and practice) and fertility surveys have been undertaken in Ghana in order to assess the current and past fertility levels, trends, patterns and differentials, attitudes of people towards family limitation have also been surveyed.

This review focusses on the existing state of knowledge of fertility in Ghana over the past thirty years. The major areas of emphasis will include fertility levels and trends, patterns, differentials and socio-economic characteristics and the effects of some intermediate variables on fertility in Ghana.

2.2 Fertility Levels and Trends

It is apparent that the fertility levels have remained generally high and relatively stable for the past thirty years. Some of the fertility estimates derived from different sources but for the same period show close agreement whilst others do not. For example, the adjusted total fertility rate of 7.0 for the 1971 Supplementary Enquiry compares with the reported completed family size figure of 6.8 for currently married women aged 45-49 years for the period as shown in Table 2.1 (GFS 1979/80(a): 53; Jain, 1981: 89). However, a total fertility rate estimate of 6.3 for the period 1977-80 derived from the Ghana Fertility Survey varies slightly from the U.N. estimate of 6.7 for the period 1975 - (GFS 1979/80(a): 52; U.N. 1982: 5).

TABLE 2.1 FERTILITY RATES FOR ALL WOMEN IN GHANA: 1948-1980

SURVEY	CBR	TFR (UNADJUSTED)	# TFR (ADJUSTED)
1948 Fertility Survey (i)	49	5.4	
1960 Post-Enumeration Survey (ii)	50	6.2	7.2
Caldwell 1963-64 (iii)	52-54	6.2	7.2
National Demographic Survey (iv)			
(i) 1967-1968		6.6	
(ii) 1968-1969	49-50	6.9)	7.1
(iii) 1968-1969		6.8)	
1971 Supplementary Enquiry (v)	49.6	5.9	7.0
1977-80 Ghana Fertility Survey (vi)		6.3	

SOURCES: (i) Reported in Caldwell, 1967(b): 87, 89
(ii) Reported in Gaisie, 1968: 239
(iii) Reported in Caldwell, 1967(b): 87, 89
(iv) Gaisie, 1973: 121, 142
(v) U.S. Bureau of Census, 1979: 21
(vi) Ghana 1984(b): Table 2

Adjusted by Jain, 1981: Table 3.16

Ghana's completed family size for all women aged 45-49 of 6.7 in 1979/80 is much higher than the corresponding figure for the Cameroons of 5.2 in 1978 and lower than that for the Senegal with 7.2 also in 1978 (WFS, 1983(a): 6; WFS, 1983(b): 4; WFS, 1981: 6). The relatively low mean number of children ever born to women aged 45-49 in the Cameroons is attributed to the widespread incidence of primary infertility in the country (WFS 1983(b): 4-5). In Ghana the incidence of primary sterility is less than 5 per cent among women aged 30 years and over and those married for 5 years or more (Gaisie, 1984: 15).

The mean number of children ever born to all women aged 15-49 in the 1971 Supplementary Enquiry was 3.1, compared with 3.0 for the 1979/80 Ghana Fertility Survey, with the mean for ever-married women 3.7 (Ghana, 1975; WFS, 1983(a): 6). By comparison, in Senegal, 1978, the mean number of children ever born to all women aged 15-49 was 3.5, with 4.0 for ever-married women (WFS, 1981: 6).

From the available information on Ghana it is difficult to say whether the trend in fertility is rising or falling. For instance, estimates of total fertility rates based on birth history data in the Ghana Fertility Survey for the last four 5-year periods showed that the rates are decreasing from 7.3 for the period 15-19 years before the survey, which is approximately the early 1960s, to 6.5 for the period 0-4 years before the survey (GFS 1979/80(a): 52).

Another set of figures from the 1960, 1971 and 1979/80 surveys, on the other hand, indicates an increasing trend in fertility. For example, figures on children ever born to currently married women aged 45-49 years for the 1960 and 1971 surveys were 6.2 and 6.8 respectively compared with 6.9 for the 1979/80 survey (GFS 1979/80(a): 52).

2.3 Fertility Patterns

A comparison of the age specific fertility rates for the period 1960-1980 derived from four different surveys; the 1960 Post-Enumeration Survey (PES), the 1968-69 National Demographic Survey (NDS), the 1971 Supplementary Enquiry (SE) and the 1979/80 Ghana Fertility Survey (GFS) is made in Table 2.2. The Table reveals that there was a general uniformity in fertility patterns over the past twenty-year period with the highest rates reported for the 25-29 age group and the lowest for the 45-49 age group (GFS 1979/80(a): 45). Whereas the age specific fertility rates for 1960, 1968 and 1971 were based on births occurring within the twelve months preceding the survey, those of the GFS were based on birth history data, that is, the average number of births during the three years before the survey (GFS 1979/80(a): 45; Ghana, 1984: 5).

TABLE 2.2: PATTERNS OF AGE SPECIFIC FERTILITY RATES FOR ALL WOMEN IN GHANA: 1960-1980

AGE GROUP	1960 PES (a)	1968 NDS (a)	1971 SE (b)	1977-1980 GFS (b)
15-19	.133	.149	.110	.132
20-24	.256	.293	.259	.257
25-29	.266	.287	.266	.266
30-34	.241	.256	.236	.242
35-39	.184	.180	.176	.169
40-44	.104	.100	.097	.135
45-49	.046	.047	.041	.050
TFR	6.15	6.56	5.92	6.26

SOURCES: (a) Ghana, 1984(b): Table 2
(b) GFS 1979/80(a): Table 5.4

Despite the differences in methodology and possible sampling errors, there is a general uniformity of fertility patterns as indicated by the fertility estimates derived from the four surveys (GFS 1979/80(a): 45, Ghana, 1984(b): 5; see Table 2.2).

The age-patterns of fertility, when compared with Senegal, show a sharp contrast. Whereas the patterns of age specific fertility rates in Ghana from the four surveys in the period 1960-1980 show a general uniformity, those of Senegal show much divergence between the results of the 1960 survey, the 1970-71 National Demographic Survey (NDS) and the 1978 Senegal Fertility Survey (SFS) (WFS, 1981: 9-10; GFS 1979/80(a): 45). According to the WFS (1981: 10) the higher fertility rates obtained from the 1978 Senegal Fertility Survey may not necessarily mean an increase in fertility since 1960, but rather an improvement in the estimation of the fertility level of the country.

Despite the general uniformity in Ghana's age pattern of fertility small differences, can still be discerned between the pattern of the age specific fertility rates from the four surveys. For example, when the results of the 1971 and the 1977/80 surveys are compared some noticeable differences can be observed in the fertility rates at the younger and older ages (see Table 2.2). Nevertheless it can be said that the patterns of fertility in Ghana have remained essentially the same over the past twenty years.

2.4 FERTILITY DIFFERENTIALS AND SOCIO-ECONOMIC CHARACTERISTICS

The study of fertility differentials provides clues to future trends in the fertility of the population (Balasubramanian, 1980: 10).

In Ghana, studies of fertility differences have dealt mainly with the following socio-economic characteristics: urban/rural residence, region, ethnic background, marital status, education and religion.

2.4.1 Fertility differentials by urban-rural residence

Using the results of the 1960 Census and the PES the total fertility rate was estimated as 6.4 for rural Ghana - about 18 per cent higher than the corresponding rate for urban Ghana (Gaisie, 1975: 342). In Ghana, an area is rural if the total population is less than 5,000, and is considered urban if the population is 5,000 or more (Gaisie, 1984: 9). Localities with populations of 10,000 or more, such as regional capitals, are classified as large urban.

According to the results of the National Demographic Survey in 1968, fertility levels in both rural and urban Ghana rose to 7.6 and 5.9 respectively (Gaisie, 1975: 342). Most of the urban-rural fertility differential has been attributed to a relatively higher age at marriage in the urban areas and perhaps a greater use of contraception by women in towns and cities than by their rural counterparts (Gaisie, 1975: 343). This observation was confirmed in the 1979/80 Ghana Fertility Survey. In this survey the median age at first marriage was 19.2 for urban women and 17.8 for rural women (GFS 1979/80(a): 5). It was also observed in the same survey that more urban women than rural women used contraception (GFS 1979/80(a): 14).

The results of the Ghana Fertility Survey also confirmed the presence of urban-rural fertility differentials, though, the differentials were not large. Caldwell, in a study of the new urban

elite in Ghana, also observed the existence of "an urban-rural fertility differential ... in Ghana" (Caldwell, 1967(a): 213).

The existence of urban-rural fertility differentials has been observed in other West African countries. Okore (1980: 172) in a study of the rural-urban fertility differentials in Southern Nigeria found that the mean number of children ever born for both ever-married and currently married women was higher for rural women than urban women (5.0-5.6 compared to 4.0-4.6). This finding could also have been affected by ethnicity and other factors. Similar results were found in the 1978 Senegal Fertility Survey (WFS, 1981: 6).

2.4.2 Fertility differentials by region

According to the results of the 1960 Census and the Post-Enumeration Survey, the regions with the highest fertility were Ashanti and the Brong-Ahafo, with estimated total fertility rates of 7.5 and 7.9 respectively. The Upper Region had the lowest fertility rate of 5.5, with estimates for the remaining regions lying between 5.9 and 6.9 (Gaisie, 1973: 146; 1981: 238).

However, the results of the 1979/80 Fertility Survey gave quite a different picture. The estimated 5-year average total fertility rates for women aged 15-44 was found to be highest in the Northern (7.9), Western (7.1) and lowest in the Greater-Accra (5.2) and Upper Regions (5.7) with Ashanti and the Volta Regions occupying an intermediate position (GFS 1979/80(a): 5). Caldwell (1967: 189-190), using child-woman ratios standardized by age on the results of the 1960 Census, also observed the existence of regional fertility differentials in the country.

Other West African countries also exhibit such regional fertility differentials. For example, in the 1952-53 survey of Nigeria, it was found that the former Eastern and Western Regions of the country had the highest levels of fertility, 7.4 - 7.9, with the Northern Region, 6.5 (Page, 1975: 43).

From most available sources it is apparent that Southern Ghana (i.e. Western, Central, Eastern, Volta, Greater-Accra, Ashanti and Brong-Ahafo Regions) has higher fertility levels than Northern Ghana (i.e. Northern and Upper Regions).

2.4.3 Fertility differentials by ethnic background

In a study of fertility differentials among Ghanaian tribes, Gaisie (1972) found indications of fertility differentials between ethnic groups (tribes). These he attributed in part to education, degree of urbanization, physical mobility, and distorted sex ratios, and in part, to malnutrition and diseases which tend to depress fecundity (Gaisie, 1975: 345).

Gaisie has categorized the major ethnic groups into three fertility regimes:

1. the high fertility ethnic group which includes the Ashanti and Ahafo, Akyem, Kwahu, Boron, Adangbe and Gurma;
2. the moderately high group which - includes the Fante, Nzema, Akuapem, Ga, Wasa, Guan, Ewe, Dagada, Mamprusi and Lobi;

3. the low fertility - group which includes the Grusi, Builsa, Frafra, Kusasi, Mossi, Konkomba and Dagomba.

(Gaisie, 1975: 345).

Fertility rates for certain ethnic groups, particularly those from Northern Ghana, tended to be lower than the national average (Caldwell, 1968: 189-190; 1975: 43). Most, if not all, of the ethnic groups classified by Gaisie as having low fertility rates were from the north and the high fertility ethnic groups from the south.

The results of the 1979/80 Ghana Fertility Survey, however, do not seem to support Gaisie's classification of the major ethnic groups described above. According to the results of the GFS which estimated the 5 - year average total fertility rate (over ages 15-44) for seven major ethnic groups, the other Akan had the highest fertility rate of 7.3 followed by the Ga-Adangbe, Mole-Dagbani, 6.4, Ashanti or Twi had the lowest rate of 6.1 (GFS 1979/80(a): 51).

On the other hand, when the estimated mean number of children that would be born between the fifth and twenty-fifth year of marriage to women continuously married during this period, at current fertility levels it was considered the other Akan had the highest mean number of children ever born of 5.5, followed by Fante, 5.4; Ewe, 5.3; and Mole-Dagbani with the lowest mean of 4.7 (GFS 1979/80(a): 51). There was thus some element of inconsistency in the two estimates coming from the same source. However one thing is clear, that is, the other Akan seems to have the highest fertility among the major ethnic groups. The other Akan include the Akyem, Kwahu and Nzema. That the other Akan had the

highest fertility levels should not be surprising since it was the ethnic group with the highest proportion living in the rural areas - over 80 per cent with 211 women in the sample (GFS 1979/80(a): 31, 51).

2.4.4 Fertility differentials by marital status

It has been found that the type of conjugal union has an effect on women's fertility. In a study using data drawn from the 1971 Supplementary Enquiry that included 72,816 currently married women aged 15-49 years, Tawiah (1984: 5-6) found that among both urban and rural women aged 34-49, women who were married in both customary and church ceremonies had the highest fertility levels compared to women who were married in only one ceremony, be it church, civil or customary. He also observed that women in common law ("mutual consent") unions generally have the lowest fertility levels because such relationships have no legal basis and probably tend to be unstable whilst women in more stable unions tend to have higher fertility (Tawiah, 1984: 5-6).

Ghana, like other West African countries such as Nigeria and Senegal, has a rather high incidence of polygamy. An overall proportion of 34.5 per cent of the women were in polygamous unions (WFS, 1983(a): 5). The proportion was much higher among women with no education, 39 per cent, compared with only 15 per cent among women with 11+ years of education (WFS, 1983(a): 5). This confirms an observation made by Caldwell in his study of the new urban elite in Ghana that the highly educated "are less likely to practice polygyny" (Caldwell, 1967(a): 180).

It has been observed that polygamy has a depressing effect on fertility (Ekanem, 1974: 59; Tawiah, 1984: 7). Page, in a review of

fertility levels in some sub-Saharan African countries including the Upper Volta (now Burkina Faso), Zaire and Camerouns, observed that women "in polygynous unions" had lower fertility levels compared to those in monogamous unions (Page, 1975: 51). This view, however, was not shared by scholars such as Pool who, in a study in Ghana, observed no significant difference in fertility between Ghanaian women in polygynous and monogamous unions (Pool, 1972: 249). Ahmed (1985: 87), in a study of polygyny and fertility differentials among the Yoruba of former Western Nigeria, after controlling for age, religion, education and occupation, also found that levels of fertility between women engaged in polygynous unions and those engaged in monogamous unions were similar.

2.4.5 Fertility differentials by education

Education has an effect on fertility in Ghana (Pool, 1970: 17). This has been confirmed in various studies. Page (1975: 55) observed from the results of the 1960 Post-Enumeration Survey in Ghana that there was evidence of an inverse relationship between educational attainment and fertility levels, irrespective of place or residence - urban or rural. Tawiah (1984: 6), after controlling for the effects of age at first marriage and other variables, found that, in general, increasing levels of education are associated with lower fertility. In the Ghana Fertility Survey it was also found that education was negatively related to fertility (GFS 1979/80(a): 55).

These findings confirm Cochrane's (1983: 587), and Bulatao and Lee's (1983; 782) observation that the usual relationship between education and fertility is negative. This relationship has been confirmed in other fertility studies conducted in other West African

countries. Okore, for example, in a study of rural-urban fertility differentials in Southern Nigeria observed that the mean number of children ever born to all ever-married women in his sample falls with increasing education, irrespective of place of residence (Okore, 1980: 173).

2.4.6 Fertility differentials by religion

Religion also has an effect on fertility in Ghana. According to some studies, in Ghana, Moslem women have the lowest fertility rates among the major religious groups. This has been observed in two separate studies by Gaisie (1975: 344) and Tawiah (1984: 5). Tawiah, after controlling for age at first marriage and other variables found that among the urban women aged 34-49 the Traditional Worshippers had the highest fertility rates, closely followed by the Christians; whilst in the rural areas Christian women, rather than the Traditional Worshippers that had the highest fertility rates (Tawiah, 1984: 5-6). Among Christians, Protestants had higher fertility levels than Catholics (Caldwell, 1967: 74). Caldwell's results, however, could have been affected by sampling errors - Protestants out-numbered Catholics in a ratio of 6:1 as the sample design was not by probability.

In the Nigerian 1952-53 Survey it was observed that higher fertility regimes were found in the Christian-dominated former eastern and western regions (7.4-7.9) compared to the Moslem-dominated former northern region, 6.5 (Page, 1975: 43). In the 1978 Cameroon Fertility Survey (WFS, 1983(b): 8) it was also observed that Christians, both Catholics and Protestants, alike had higher fertility levels than Moslems (7.0-7.1 compared to 5.2).

2.5 THE EFFECTS OF INTERMEDIATE VARIABLES ON FERTILITY

In discussing the effects of intermediate variables on fertility in Ghana use is made of the Davis and Blake Classification of Intermediate Variable through which any social factors influencing the level of fertility must operate (Davis and Blake, 1956: 211). They identified the intermediate variables broadly as follows:

1. Factors affecting exposure to intercourse ("Intercourse Variables")
2. Factors affecting exposure to conception ("Conception Variables")
3. Factors affecting gestation and successful parturition ("Gestation Variables")

(Davis and Blake, 1956: 211-214).

Even though intermediate variables have a direct effect on fertility, while the socio-economic and other factors have an indirect effect (Lucas, 1980: 67), not much work has been done to study the effects of intermediate variables on fertility in Ghana.

In the review, however, attention is focused on only three of the eleven intermediate variables: age of entry into sexual unions, voluntary abstinence and use or non-use of contraception. The first two are intercourse variables whilst the third is a conception variable (see Davis and Blake, 1956: 212).

2.5.1 The effect of age of entry into sexual unions on fertility

Early and universal marriage is an important feature of the Ghanaian society, especially, in the rural areas. This is due to the influence of the cultural framework that tend to foster pro-natalist goals (Gaisie, 1968: 245; Caldwell and Caldwell, 1984: 13).

In the Ghana Fertility Survey it was found that the average age at first marriage for women aged 25 or more, who married before age 25 was 18.1 (WFS, 1983(a): 4). Compared to this, in Senegal and Cameroon the average ages at first marriage were 16.4 and 17.2 years respectively (WFS, 1981: 3; WFS, 1983(b): 2).

Tawiah, in a study of currently married women aged 15-49 years, after controlling for the effects of levels of education, and other socio-economic variables, found that age at first marriage was inversely related to cumulative fertility (Tawiah, 1984: 1-2, 5). He also found that age at first marriage had the greatest impact on cumulative fertility, more than any other variable (Tawiah, 1984: 5).

In the Ghana Fertility Survey it was also found that the mean number of children ever born to a woman was negatively associated with age at first marriage (GFS 1979/80(a): 46). This finding thus confirms that of Tawiah using the 1971 Supplementary Enquiry dataset. Age at first marriage thus has a profound effect on fertility.

2.5.2 The effect of voluntary abstinence on fertility

Voluntary abstinence includes four types of restrictions on sexual intercourse: post-partum, terminal, occasional and menstrual (Lucas,

1980: 70). Of these it is the post-partum variables that have the greatest effect on fertility in the Ghanaian society (Gaisie, 1984: 47).

Gaisie (1981: 250; 1984: 9,21), using data from the 1977 WFS-Ghana Pilot Survey, showed that differentials in post-partum variables are probably the major sources of the observed regional differences in fertility levels between Northern and Southern Ghana.

Tawiah (1984: 6), using data from the 1971 survey also concluded that the relatively low level of fertility of the illiterate women in his sample may have been due to more strict adherence to the traditional practice of post-partum abstinence, prolonged breastfeeding and polygamy, rather than to effective use of contraception.

The conclusions reached by Tawiah thus reinforce the validity of Gaisie's findings based on the 1977 WFS-Ghana Pilot Survey dataset. Voluntary abstinence thus has a negative effect on fertility in Ghana (Gaisie, 1981: 252).

2.5.3 The effect of use or non-use of contraception on fertility

Use of contraception in Ghana is not widespread, despite the establishment in 1970 of the Ghana National Family Planning Program (GNFPP) (WFS, 1983(a): 13; United Nations, 1982: 5). Of the 3,414 currently fecund women who were not pregnant, only 12.4 per cent were currently using contraception, of whom 5.2 per cent used inefficient and 7.2 per cent efficient methods (WFS, 1983(a): 13; Population Today, 1984: 4). Knowledge of contraception, however, was moderately high, with 59 per cent of the respondents saying that they knew of a modern method (Population Today, 1984: 4; WFS, 1983(a): 12).

Caldwell in his 1962/63 study of the urban elite in Ghana observed that level of education was significantly associated with use of contraception in Ghana (Caldwell, 1968: 140). This observation was confirmed by the findings of the 1977 Pilot Survey and the 1979/80 Ghana Fertility Survey (WFS, 1983(a): 13-14; Gaisie, 1981: 252).

Using data from the Pilot Survey, Gaisie observed that urban, highly educated women use contraception more effectively than rural Ghanaian women with few years of education and so are able to keep their birth rates down (Gaisie, 1981: 252). These findings reinforce one another and also validate Caldwell's findings.

According to the United Nations (1982: 5) the National Family Planning Program has contributed "significantly" in the effort to reduce fertility. This assessment was rather too optimistic. The observations made by Caldwell, Gaisie and the WFS seem to reflect the true picture more correctly.

It can be said that use or non-use of contraception in Ghana has a direct effect on fertility. Whilst use may have an inverse effect, non-use may have the opposite effect.

CHAPTER 3FERTILITY DIFFERENTIALS IN GHANA: 1979/803.1 Introduction

In this chapter an attempt is made to study fertility differentials in three broad regional groups as well as for the whole country. During the time of the survey in 1979/80 Ghana was divided into nine administrative regions: Upper, Northern, Brong-Ahafo, Ashanti, Western, Central, Eastern, Greater-Accra and Volta. In this study, however, the nine administrative regions have been re-grouped into three broad regions as:

Region 1: Northern and Upper regions;

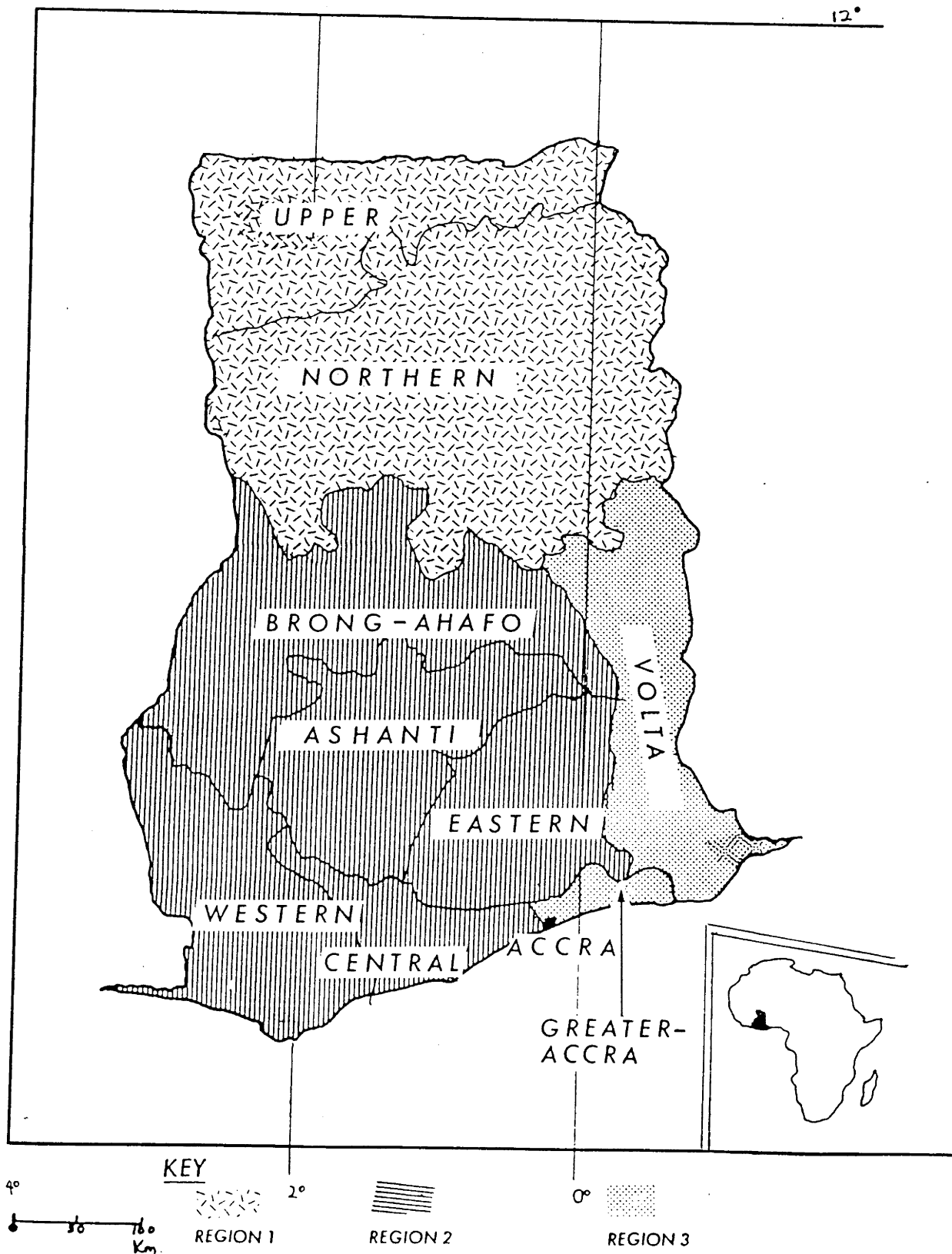
Region 2: Ashanti, Brong-Ahafo, Western, Central and Eastern regions;

Region 3: Volta and Greater-Accra regions (see Figure 3.1).

These groupings were mainly based on similar cultural characteristics or traits of the dominant cultural group in each of the administrative region and on geographical contiguity.

The demographic and socio-economic characteristics of ever-married women in the three Regions have been summarised in Table 3.1. In Region 1 the dominant cultural group is the Mole-Dagbani (67 per cent) in Region 2 the dominant cultural group is the Akan (82 per cent) whilst in Region 3 the dominant cultural group is the Ewe-Ga-Guan (62 per cent). The dominant religion in Region 1 is the African Traditional

FIGURE 3.1: MAP OF GHANA SHOWING THE NINE ADMINISTRATIVE REGIONS AS IN 1979/80 AND THE THREE REGIONAL GROUPS



Religion (72 per cent) followed by Islam (19 per cent). The dominant religions in both Regions 2 and 3 are Christianity and the Traditional Religion.

In Ghana, people belonging to the same or similar cultural group observed similar cultural norms, values and traditions and also speak broadly the same language, though sometimes with some differences as in the case of Ewe and Ga. For example, whereas the Akan, the dominant cultural group in Region 2, observe much shorter periods of post-partum abstinence, sometimes less than three months, the Mole-Dagbani, the dominant cultural group in Region 1 observe a much longer period of post-partum abstinence, usually more than two years (Gaisie, 1984: 9, 21). Secondly, whereas the Ewe-Ga-Guan, the dominant cultural group in Region 3 practise patrilineal descent, the Akan of Region 2 are matrilineal by descent.

In the GFS sample, 24 per cent of ever-married women in Region 1 were aged 15-24 with about 38 and 38 per cent aged 25-34 and 35+ respectively (Table 3.1). More than four-fifths of the ever-married women in this Region resided in the rural areas and only about 5 per cent were educated. About 40 per cent of the ever-married women in the Region worked on family farms and 20 per cent worked away from home. As many as 81 per cent of their male partners were engaged in agricultural pursuits.

In Region 2, however, about 28 per cent of the ever-married women were aged 15-24 with about 35 and 37 per cent aged 25-34 and 35+ respectively (Table 3.1). Region 2, unlike Region 1, had a higher proportion of the ever-married women living in urban areas (30 per cent)

TABLE 3.1: PERCENTAGE DISTRIBUTION OF WOMEN (EVER-MARRIED) ACCORDING TO SOME SOCIO-CULTURAL AND ECONOMIC CHARACTERISTICS BY BROAD REGIONAL GROUPS

Socio-Cultural/Economic Variable	Broad Regional Groups			All Regions
	1	2	3	
A. All Women				
Marital Status:				
Ever-Married	92.7	79.0	77.3	80.7
Never Married	7.3	21.0	22.7	19.3

N/Total	100.0 (906)	100.0 (3,891)	100.0 (1,328)	100.0 (6,125)
B. Ever-Married				
1. Age				
15-24	24.0	28.4	24.3	17.0
25-34	38.2	34.7	41.7	62.2
35+	37.7	36.9	34.0	20.8
2. Place of residence				
Rural	85.2	69.8	47.8	67.9
Urban	14.8	30.2	52.2	32.1
3. Ethnicity				
Mole-Dagbani	67.1	4.5	2.5	14.7
Ewe-Ga-Guan	4.4	13.5	61.8	21.9
Akan	28.5	82.2	35.6	63.4
4. Religion:				
Christian	8.3	72.9	67.7	60.8
Moslem	19.4	9.3	13.9	12.0
Traditional/Other*	72.3	17.8	18.4	27.2
5. Education:				
No education	95.2	56.3	42.4	60.0
Some education	4.8	43.7	57.6	40.0
6. Place of work:				
Family farm	38.9	21.5	8.0	21.7
Other farm	4.8	26.0	12.9	19.7
At home	18.0	10.5	28.0	15.4
Away from home	20.2	33.1	43.3	33.0
No work after marriage				
never work	18.1	8.9	7.8	10.2
7. Husband's occupation:				
Agric. Workers	81.0	50.6	25.0	50.4
Non-Agric. Wkrs	19.0	49.4	75.0	49.6

N/TOTAL	100.0 (840)	100.0 (3,076)	100.0 (1,027)	100.0 (4,943)

SOURCE: GFS 1979/80 Data Tape.

NOTE (1)* Include Traditional worshippers, no religion and others.

and about 44 per cent of them were educated. More than half of the ever-married women worked on farms and about a third worked away from home. Slightly more than half of their male partners were agricultural workers.

In Region 3, the greatest proportion of ever-married women were aged 25-34 (42 per cent) with about 24 and 34 per cent aged 15-24 and 35+ respectively (Table 3.1). Of the three Regions, Region 3 had the highest proportion of ever-married women living in urban areas (52 per cent) and the highest proportion of educated women (58 per cent). About one-fifth of the ever-married women worked on farms whilst more than two-fifths worked away from home and three-quarters of their male partners were non-agricultural workers.

3.2 Fertility differentials by broad regional groups

There seems to be no clear pattern of mean number of children ever born by age for the three broad regional groups. However, Region 2 exhibits a consistent pattern of highest levels of fertility by age for each of the subsequent five-year age groups above age 30 (Table 3.2).

With the raw means, Region 1 had the highest mean number of children ever born for all women of 3.3 followed by Region 2, 3.0 and lowest, Region 3 with 2.6. When standardized for age, however, Region 2 had the highest level of fertility of 3.0 children ever born, followed by Regions 1 and 2 both with an average of 2.8 children ever born. The regional fertility differences, when adjusted for age, are thus, not much different.

Though the adjusted regional fertility differentials do not show great differences, it is of interest to study the three regional groups separately with a view to assessing the nature of fertility differentials by certain socio-economic and other variables and also to ascertain the determinants of fertility in the three broad regional groups. Particularly, whether such determinants are the same or different, and if the same, what could be the possible underlying reasons and also whether the magnitude of effect was the same in all three Regions, or if different, what could be the reasons.

TABLE 3.2: M.C.E.B. BY ALL WOMEN ACCORDING TO BROAD REGIONAL GROUPS BY CURRENT AGE

Current Age	M . C . E . B .		
	Region 1	Region 2	Region 3
15-19	0.2	0.2	0.1
20-24	1.3	1.3	1.0
25-29	2.8	2.5	2.9
30-34	3.7	4.1	3.5
35-39	4.9	5.5	4.9
40-44	6.3	6.3	5.9
45+	6.2	6.9	6.0
Mean - All ages	3.3	3.0	2.6
Standardized mean	2.8	3.0	2.8
Number of women	906	3,891	1,328

NOTE (1): Standardized according to age-distribution of Region 2. The standardization procedure was to remove the effect of variations in the age composition of the 3 regional groups and also to facilitate regional comparability of fertility differentials of the variable under study. The standardization was achieved by applying the age distribution of a standard population to different sets of average number of children ever born in each age group. The age distribution used as the standard in each table is indicated below the respective table.

SOURCE: GFS 1979/80(a) Data Tape.

3.3 Fertility differentials by age at first marriage and number of times married

At the national level, it was observed that ever-married women who married under 17 years of age had the highest fertility followed by women who married between 17-19 years and lastly, by those who married at age of 20 and above (Table 3.3A). When standardized for age, no change in the pattern was observed. Women who married under 17 years still had the highest adjusted mean number of children ever born of 4.2 followed by women who married between 17-19 years and lastly by women who married at age 20 and above with an adjusted average number of children ever born of 3.5 and 2.5 respectively (Table 3.3A).

From the data it is apparent that there was an inverse relationship between age at first marriage and fertility in Ghana. The same patterns for ever-married women who married under 17 years and those who married between 17-19 years and women who married at age 20 and above was also observed in all the three regional groups. The age-standardized means in all the three Regions, rural and urban, conformed to the national pattern (Table 3.3B).

The age-pattern of fertility differentials according to number of times married is not as clear as the pattern observed for age at first marriage. However, from age 25 women who had married only once appeared to have higher fertility by age than women who had married twice or more (Table 3.4A).

With the unadjusted means women who had married twice or more had a higher fertility than women married only once, with mean number of children ever born of 4.5 and 3.5 respectively (Table 3.4A). After

TABLE 3.3A: M.C.E.B. BY EVER-MARRIED WOMEN ACCORDING TO AGE AT FIRST MARRIAGE BY CURRENT AGE - ALL REGIONS

Current Age	M . C . E . B .		
	Under 17 yrs	17 - 19 yrs	20+ yrs
15-19	0.7	0.7	-
20-24	2.0	1.2	0.6
25-29	3.4	2.6	1.5
30-34	4.8	3.9	2.7
35-39	5.9	5.2	4.4
40-44	6.8	6.1	5.2
45+	7.3	7.0	5.5
Mean - all ages	4.1	3.5	3.3
Standardized mean	4.2	3.5	2.5
Number of women	1,936	1,858	1,149

NOTE: Standardized by women who married between 17-19 yrs.
SOURCE: GFS 1979/80 Data Tape.

standardizing for age, however, it was observed that women married twice or more had an average of 3.6 children whilst women married only once had an average of 3.5 children. This difference is not great.

The regional patterns conformed to the national pattern (Table 3.4B). Women married twice or more generally had higher fertility than women married only once, in all the three Regions. This pattern was observed for both rural and urban areas.

TABLE 3.3B: M.C.E.B. BY EVER-MARRIED WOMEN ACCORDING TO AGE AT FIRST MARRIAGE BY BROAD REGIONAL GROUPS AND BY RURAL/URBAN

Regional Group	M.C.E.B. RURAL			M.C.E.B. URBAN		
	<17yrs	17-19yrs	20+ yrs	<17yrs	17-19yrs	20+ yrs
<u>Region 1</u>						
Mean - all ages	3.8	3.4	3.0	4.0	2.9	3.8
STD Mean	3.7	3.0	2.3	4.1	2.8	2.4
<u>Region 2</u>						
Mean - all ages	4.3	3.6	3.5	3.9	3.4	3.1
STD mean	4.3	3.6	2.9	4.0	3.4	2.4
<u>Region 3</u>						
Mean - All ages	4.4	3.6	3.7	3.6	3.0	2.5
STD Mean	4.1	3.5	2.7	3.7	3.1	2.2

NOTE: (1) Standardized by Region 2 - urban population - women aged 17-19 yrs.

(2) M.C.E.B. = mean number of children ever born.

SOURCE: Ghana Fertility Survey (GFS) 1979/80 Data Tape.

TABLE 3.4A: M.C.E.B. BY EVER-MARRIED WOMEN ACCORDING TO NUMBER OF TIMES MARRIED BY CURRENT AGE - ALL REGIONS

	M . C . E . B .	
	Once Married	Twice or more married
15-19	0.6	1.2
20-24	1.4	2.0
25-29	2.7	2.7
30-34	4.0	3.7
35-39	5.3	5.2
40-44	6.0	6.3
45+	6.6	6.5
Mean - all ages	3.5	4.5
Standardized mean	3.5	3.6
Number of women	3,963	980

NOTE: Standardized by women married once.

TABLE 3.4B: M.C.E.B. BY EVER-MARRIED WOMEN ACCORDING TO NUMBER OF TIMES MARRIED BY BROAD REGIONAL GROUPS AND BY RURAL/URBAN

Regional Group	M.C.E.B. RURAL		M.C.E.B. URBAN	
	Once	Twice or more	Once	Twice or more
<u>Region 1</u>				
Mean - all ages	3.5	4.2	3.3	4.2
STD Mean	3.3	3.0	3.2	4.1
<u>Region 2</u>				
Mean - all ages	3.7	4.7	3.2	4.6
STD Mean	3.6	3.9	3.2	3.8
<u>Region 3</u>				
Mean - all ages	3.6	4.4	2.8	3.7
STD Mean	3.4	3.7	2.9	3.2

NOTE: (1) Standardized by Region 2 - urban women married once
 (2) M.C.E.B. = Mean number of children ever born.

SOURCE: GFS 1979/80, Magnetic Data Tape.

This variation in fertility differentials according to age at first marriage in the three Regions could be attributed to two factors. First, in all the three Regions, especially in Region 1 there was little practice of modern birth control methods. Secondly, in traditional Ghanaian society the effect of the socio-cultural system on family formation can be very strong. This influence varies with the different socio-cultural lives, practices and taboos of the people in the three Regions, educational status and degree of modernization.

In all three Regions there is little use of effective contraception. In the First Report of the Ghana Fertility Survey (1979/80: 65) it was observed that less than 18 per cent of the women had ever used any effective method of contraception. According to Bongaarts, in a society like Ghana, where there is little use of effective contraception, fertility is near its natural level, especially among the rural and the uneducated such as those living in rural areas of Region 2 (Bongaarts, 1983: 103). It is therefore no wonder that women who married under 17 years had the highest average number of children ever born in all three Regions, both rural and urban. Since there is little use of contraception in all those Regions women who married under 17 years were exposed to the risk of child-bearing for a longer period than women who married at later ages. Consequently, women who married under 17 years had the highest fertility among the three age groups of women in all Regions.

The effect of the traditional socio-cultural society on fertility may be strongest in Region 2, followed by Region 3 and Region 1. This is evidenced by the fact that among the three Regions, Region 2 had the highest adjusted mean number of children ever born by women who married

under 17 years, as well as those who married at 17-19 years and those who married at age 20 and above.

The dominant cultural group in Region 2 is the Akan. The Akans are matrilineal by descent. The matri-clan of the woman tends to be much more interested in the birth of the female child than male since the woman's matri-clan sees the perpetuation of the clan through the female line. Young girls are therefore strongly recommended to marry early and start child-bearing. Marriage in this Region is a simple process which does not involve much financial outlay compared with Regions 1 and 3. Young girls tend to obtain husbands more readily in this Region than the other two Regions. Consequently women in this Region tend to marry earlier, start child-bearing earlier and so have more children.

The other two Regions, on the other hand, practice patrilineal descent. In these two Regions the male child is the centre of attraction. Young girls are encouraged to marry early but the pressure is not as great as in Region 2. Marriage in these two Regions involves payment of heavy bride-wealth by the prospective suitor and his kin. This bride-wealth is even more demanding in Region 1. As a result of this traditional socio-cultural arrangement young girls do not find husbands as readily in Regions 1 and 3 as in Region 2.

Even though Region 3 is the most modernised, has the highest proportion of educated ever-married women and also has the highest proportion of users of modern contraception, the relative effect of the socio-cultural system on fertility may be the main reason why Region 3 rural areas have higher fertility than Region 1 rural but not urban

areas (see Table 3.3B) It may also explain why Region 2 has the highest fertility according to age at first marriage, of the three Regions. Cultural differences coupled with age at first marriage and use of effective contraception therefore have major effects on regional fertility differentials according to age at first marriage.

In Regions 2 and 3 women married twice or more had higher fertility than women who had been married only once. The same pattern was observed both for urban and rural areas. In these two Regions this may be attributed to the relative ease with which separated or divorced women and widows remarry. As a result, such women do not normally suffer any lowering of fertility caused by long periods of separation. In Region 1, however, the pattern was slightly different. Women who had married twice or more had lower fertility than women who had married only once in the rural areas, whilst in urban areas the reverse was the case. This may be explained by the relatively better economic circumstances of the urban people coupled with the stronger influence of traditional religion in the urban areas of this Region.

3.4 Fertility differentials by husband's place of abode

The general pattern was that currently married women living with their husbands in the same household have higher fertility than currently married women who were not living with their husbands (Table 3.5A). When age was controlled, however, it was observed that the difference between the fertility of women living with their husbands and those not living with their husbands was not great. Currently married women living with their husbands had an average of 3.8 children compared to currently married women not living with their husbands who had 3.6 children.

TABLE 3.5A: M.C.E.B. BY CURRENTLY MARRIED WOMEN ACCORDING TO WHETHER HUSBAND LIVE IN DIFFERENT HOUSEHOLD BY CURRENT AGE - ALL REGIONS

Current Age	M . C . E . B .	
	Yes	No
15 - 19	0.8	0.5
20 - 24	1.5	1.5
25 - 29	2.4	2.6
30 - 34	3.8	4.0
35 - 39	5.2	5.4
40 - 44	5.6	6.2
45+	6.8	6.7
Mean - all ages	3.3	3.8
Standardized mean	3.6	3.8
Number of women	1,078	3,358

NOTE: Standardized by 'NO' husband live in different household.

TABLE 3.5B: M.C.E.B. BY CURRENTLY MARRIED WOMEN ACCORDING TO WHETHER HUSBAND LIVE IN DIFFERENT HOUSEHOLD BY BROAD REGIONAL GROUPS AND BY RURAL/URBAN

Regional Group	M.C.E.B.		M.C.E.B.	
	RURAL		URBAN	
	Yes	No	Yes	No
Region 1				
Mean - all ages	2.0	3.6	2.7*	3.6
Std. mean	2.6	3.5		3.6
Region 2				
Mean - all ages	3.4	4.1	3.2	3.6
Std. mean	3.8	4.0	3.5	3.6
Region 3				
Mean - all ages	3.4	4.1	2.6	3.1
Std. mean	3.4	3.9	2.8	3.2

NOTES: (1) * Less than 10

(2) Standardized by Region 2 - urban - by 'NO' husband live in different household.

SOURCE: G.F.S., 1979/80 Data Tape.

A similar pattern is evident in all three regional groups. When controlled for age, the difference in fertility between currently married women living with their husbands and those not living with their husbands in Region 2 was quite minimal; while the corresponding difference in fertility in Region 1 rural areas was still substantial (Table 3.5B).

The rather high proportion of currently married women whose husbands lived in different households may be attributed to two factors - economic and culture. As a result of the general high cost of accommodation and living in the country, some currently married men are unable to afford to stay under the same roof as their wives and children. As a result, the wife may continue to stay in the house of her parents or the family house and visit the husband at night.

This arrangement, which occurs mainly in Regions 2 and 3 is also buttressed by cultural factors. The Akans (mainly in Region 2), for example, are matrilineal and so any domestic arrangement that tends to weaken the control of the husband/father over the wife and the children is favoured by the woman's matri-kin. In Ashanti rural areas the domestic group may be either a conjugal family of husband, wife and children and some other dependants or a matrilineal group consisting, for example, of a woman, her sons and her daughters and their children (Fortes, 1954: 270). In his 'Ashanti Social Survey', Fortes observed that married women tended to live in the matrilineal domestic groups than with their husbands, the ratio being mainly 4:1 during the childbearing years (Fortes, 1954: 270). According to Fortes there is a marked preference for local endogamy among the Ashantis, partly because marriage outside one's own village or local community is incompatible

with the preference of both men and women for living in their maternal households, rather than with their spouses (Fortes, 1954: 260, 295). Abu in a study of 'The separateness of Spouses' also observed that duo-local residence remains a common domestic arrangement in Ashanti and less than half of the married women in Ashanti live with their husbands, most of these are aged between 25 and 40 years (Abu, 1983: 159, 168). She also observed that young married women tended to stay in the matrilineal home in order to have help in looking after the infants and also because their husbands being fairly young generally, are unable to provide accommodation for joint residence (Abu, 1983: 159). The observations made by both Fortes and Abu generally apply to other Akans and also confirms the observations made by the author in the previous paragraph.

The Ewe-Ga-Guan (mainly of Region 3) are patrilineal. Their usual situation is for the man, the woman and the children to stay in one household. Nowadays, as a result of accommodation and general economic problems the woman sometimes continues to remain in the house of her father while the man stays at his father's house or elsewhere. The Mole-Dagbani (mainly of Region 1) are patrilineal. Like the Ewe-Ga-Guan, the usual domestic arrangement is for the man, the woman and the children to stay together in one house. Sometimes for economic reasons the woman and the children may have to continue staying at the house of the woman's father until such time as the man can accommodate all of them under one roof. It is not usual to find the husband and the wife living in different households in Region 1 as husbands, as much as possible, endeavour to bring the wife and the children together in one household.

It should be noted, however, that husbands who have had the benefit of extended education and are also of good economic backgrounds are less likely to adopt the kind of domestic arrangement that pertains especially in Regions 2 and 3. Differences in fertility of currently married women according to whether or not husbands live in the same household with the wife were found not to be great in all the three Regions, except for Region 1 rural.

3.5 Fertility differentials by ethnic groups

Of the overall unadjusted means, the Mole-Dagbani had the highest mean number of children ever born of 3.2, followed by the Akan and the Ewe-Ga-Guan (Table 3.6A). After age-standardization, however, the pattern changed. the Akan now had the highest mean number of children ever born of 3.0, followed by the Ewe-Ga-Guan and the Mole-Dagbani with 2.8 and 2.7 mean number of children ever born respectively. The adjusted means do not show much differences in fertility levels by ethnic group.

In the Regions, the patterns did not follow the national pattern. Each of the three Regions seemed to follow a different pattern (Table 3.6B). In Regions 2 and 3 the rural patterns of fertility by ethnic group differed from the urban. In all the three Regions, rural and urban, differences in fertility by ethnic groups generally did not appear to be large.

TABLE 3.6A: M.C.E.B. BY ALL WOMEN ACCORDING TO BROAD ETHNIC GROUPS BY
CURRENT AGE - ALL REGIONS

Current Age	M.C.E.B.		
	Mole-Dagbani	Ewe-Ga-Guan	Akan
15 - 19	0.2	0.2	0.2
20 - 24	1.2	1.1	1.3
25 - 29	2.7	2.3	2.5
30 - 34	3.6	3.7	4.0
35 - 39	4.7	5.0	5.4
40 - 44	5.5	6.2	6.1
45+	6.0	6.4	6.8
Mean-all ages	3.2	2.8	3.0
Standardized mean	2.7	2.8	3.0
Number of women	804	1,391	3,930

NOTE: Standardized by Akan.

SOURCE: GFS 1979/80 Data Tape.

In Regions 1 and 2 the Akan had the highest adjusted mean number of children ever born in both rural and urban areas. This may be attributed to differences in observance of certain cultural practices and taboos such as different periods of post-partum abstinence. The Akan, for example, observe a much shorter period of post-partum abstinence, usually less than six months, whilst the Mole-Dagbani practise a much longer period of post-partum abstinence sometimes for 37 months and the Ewe-Ga-Guan observes a birth interval that falls between that of the Mole-Dagbani and the Akan (Gaisie, 1984: 20-21).

TABLE 3.6B: M.C.E.B. BY EVER-MARRIED WOMEN ACCORDING TO BROAD ETHNIC GROUPS BY BROAD REGIONAL GROUPS AND BY RURAL/URBAN

Regional Group	M.C.E.B. RURAL			M.C.E.B. URBAN		
	Mole- Dagbani	Ewe-Ga Guan	Akan	Mole- Dagbani	Ewe-Ga- Guan	Akan
Region 1						
Mean - all ages	2.8	2.6	3.6	3.5	4.0*	4.0
Std. mean	3.3	2.8	3.5	3.4		3.6
Region 2						
Mean - all ages	3.3	3.8	3.9	3.4	3.7	3.4
Std. mean	3.3	3.4	3.8	3.4	3.2	3.4
Region 3						
Mean - all ages	4.0*	3.0	3.8	2.5	3.1	2.9
Std. mean		3.6	3.5	3.0	3.0	3.0

NOTES: (1) * Less than 10

(2) Standardized by Region 2 - urban population - Akan.

SOURCE: GFS 1979/80 Data Tape.

In Region 3, rural areas, the Ewe-Ga-Guan and not the Akan had the highest adjusted mean number of children ever born though the differences are not much. A possible explanation could be that the Akan in this Region are mainly migrants. Maybe as a result of the cost of accommodation and the general high cost of living in this Region, especially in the urban areas, the migrant Akans were forced to adopt a much longer birth interval than that of the original inhabitants of the Region, the Ewe-Ga-Guan.

3.6 Fertility differentials by religion

Traditional worshippers (including no religion and others) had the highest raw mean number of children ever born of 3.7, followed by Moslems and Christians in that order (Table 3.7A). After age-standardization, however, Traditional worshippers and Moslems shared the highest level of fertility of 2.8 mean number of children ever born whilst Christians had an average of 2.7 children. The differences in the adjusted means are thus not much.

The regional patterns generally deviated from the national pattern. With the exception of Region 3, there appeared to be no consistent pattern of fertility differentials by religion between urban and rural areas of the same Region. In Region 1, for instance, whereas Christians had the highest fertility followed by Traditional worshippers in the rural areas, in the urban areas, Moslems had the highest fertility followed by Christians - though the differences are small (Table 3.7B).

In Ghana, the effect of religion on fertility is quite difficult to measure. This is because Ghanaians in general merely profess to

TABLE 3.7A: M.C.E.B. BY ALL WOMEN ACCORDING TO RELIGION AND BY CURRENT AGE - ALL REGIONS

Current Age	M.C.E.B.		
	Christians	Moslems	Traditional/Other
15 - 19	0.2	0.3	0.3
20 - 24	1.2	1.3	1.4
25 - 29	2.3	3.0	2.8
30 - 34	3.8	3.8	4.0
35 - 39	5.2	5.4	5.2
40 - 44	6.1	6.2	5.9
45+	6.8	6.3	6.4
Mean-all ages	2.7	3.2	3.7
Standardized mean	2.7	2.8	2.8
Number of women	3,992	660	1,473

NOTE: Christians used as standard.

TABLE 3.7B: M.C.E.B. BY EVER-MARRIED WOMEN ACCORDING TO RELIGION BY BROAD REGIONAL GROUPS AND BY RURAL/URBAN

Regional Group	M.C.E.B. RURAL			M.C.E.B. URBAN		
	Christians	Moslems	Trad./	Christians	Moslems	Trad./
			Other			Other
Region 1						
Mean - all ages	3.6	3.4	3.6	3.3	3.4	4.3
Std. mean	3.5	3.3	3.4	3.3	3.4	3.1
Region 2						
Mean - all ages	3.7	3.5	4.6	3.2	3.6	4.0
Std. mean	3.8	3.5	3.9	3.2	3.4	3.8
Region 3						
Mean - all ages	3.6	4.1	4.2	2.9	3.2	3.3
Std. mean	3.5	4.2	3.7	2.9	3.8	3.2

NOTES: Standardized by Region 2 - urban population
by Religion: Christians.

SOURCE: GFS 1979/80 Data Tape.

belong to one religion or the other and are not in anyway deeply involved in doctrine. This is especially true with foreign religions such as Christianity. It is therefore no wonder that fertility differentials by religion do not follow any consistent pattern. It was observed that even in the same Region, when age and place of residence, were controlled the rural fertility differentials by religion differed from the corresponding urban pattern in Regions 1 and 2.

Most Christians in Region 1 are Catholics. Catholics preach against birth control by contraception. This could in part be the reason for the high fertility of Christians in the Region, especially in the rural areas. In the urban areas, however, Moslems had the highest fertility in the Region. This may be attributed to the pro-natalist influences of the Islamic religion that encourage early marriage and child-birth, and also to the general economic well-being of urban Moslems as Moslem marriage rites involve large financial outlay.

In Region 2, the reason why Traditional worshippers had the highest fertility may be the influence of the Traditional Religion which strongly advocates for early marriage and child-birth. Added to this is the fact that the marriage rites of Traditional worshippers compared to those of the Moslems and the Christians are less complicated and involve little financial outlay, so ever-married women who follow the Traditional Religion are thus able to find suitors more readily than women who follow Christianity or Islam in this Region. As women who follow the Traditional Religion in this Region marry early they tend to have the longest period of exposure to the risk of child-birth. As there is little use of contraception in this Region the result is that ever-married women who follow the Traditional Religion tend to have a

larger average number of children ever born than ever-married women who follow the other two religions in the Region.

In Region 3, it was observed that ever-married Moslem women had the highest fertility in both rural and urban areas (Table 3.7B). This may be attributed to the fact that Moslems dominate a vital area of the retail trade in this Region. They are mainly the middlemen in the corn and rice businesses. They also control the private road passenger and bulk haulage transportation network in the Region. As a result of their economic power Moslem men are able to marry early. In practice, Moslem men normally tend to marry women who are also Moslems. Thus early marriages of Moslem women in this Region also contribute to their larger average number of children ever born than the ever-married women belonging to the two other religions. This is evidenced by the upward variations in the unadjusted and adjusted mean number of children ever born to ever-married Moslem women in the Region, both rural and urban areas (see Table 3.7B).

3.7 Fertility differentials by educational level

At the national level, women who had reached the post-primary level of education consistently recorded the lowest fertility in all age groups, whilst women with only primary level education generally had the highest levels of fertility by age (Table 3.8A). Overall, it was observed that women with no education had the highest unadjusted level of fertility. After standardizing for age, however, it was observed that ever-married women with only primary education, had the highest fertility of 5.1 mean number of children ever born whilst women with post-primary education only had an average of 2.4 children ever born.

So, whilst there is not much difference in fertility between women with no education and those with only primary education; between these two groups of women and women with post-primary education, however, the differences in fertility appears to be greater.

TABLE 3.8A: M.C.E.B. BY EVER-MARRIED WOMEN ACCORDING TO LEVEL OF EDUCATION BY CURRENT AGE - ALL REGIONS

Current Age	M. C. E. B.		
	No Education	Primary (1-6 yrs)	Post-Primary (7+ yrs)
15 - 19	0.6	0.6	0.7
20 - 24	1.5	1.7	1.4
25 - 29	2.9	2.5	2.2
30 - 34	4.1	4.2	3.4
35 - 39	5.4	4.9	4.5
40 - 44	6.1	6.6	5.5
45+	6.7	7.1	5.6
Mean-all ages	4.3	3.4	2.4
Standardized mean	4.9	5.1	2.4
Number of women	2,966	527	1,450

NOTE: Standardized by women with post-primary (7+ years) education.

SOURCE: GFS 1979/80 Data Tape.

In the Regions, a similar pattern was observed. For the unadjusted means, it was observed that the differences between the mean number of children ever born by ever-married women with no education and those with education were substantial in all three Regions (see Table 3.8B).

After adjusting for age, it was observed that differences in fertility between ever-married women with no education and those with some education appeared to be quite large in all three Regions (Table 3.8B). These differences appeared to be greatest in Region 1, both rural and urban, and least in Region 3 rural areas. In all three Regions it was also observed that the differences in fertility were generally greater in the urban areas than the corresponding rural areas.

In all three Regions, for both rural and urban areas, it was observed that ever-married women with no education had higher fertility than ever-married women with some education (Table 3.8B). This could be attributed to the fact that ever-married women with no education usually marry much earlier than ever-married women with some education. Another reason could also be that ever-married women with no education hardly used any method of efficient contraception. During the time of the Ghana Fertility Survey it was established that only about 18 per cent of all women in Ghana had ever used an efficient method of contraception (GFS 1979/80(a): 65). It was also found that current use of contraception was highest among women with eleven years or more of schooling (45 per cent) and lowest among women of no schooling, about 8 per cent (GFS, 1979/80: 70).

According to the Ghana Fertility Survey, First Report, the Volta and Greater-Accra regions (here referred to as Region 3) had the highest level of contraceptive knowledge, while the Northern and Upper Regions (Region 1) had the lowest proportions of contraceptive knowledge (GFS 1979/80(a): 69). With early marriages coupled with little or no use of contraception, especially among the uneducated ever-married women, it was not surprising that ever-married women with no education had higher

TABLE 3.8B: M.C.E.B. BY EVER-MARRIED WOMEN ACCORDING TO EDUCATION BY
BROAD REGIONAL GROUPS AND BY RURAL/URBAN

Regional Group	M.C.E.B. RURAL		M.C.E.B. URBAN	
	No Education	Education	No Education	Education
Region 1				
Mean - all ages	3.6	2.0	3.8	2.0
Std. mean	2.9	2.4	2.9	1.8
Region 2				
Mean - all ages	4.7	2.6	4.5	2.6
Std. mean	3.3	3.0	3.1	2.6
Region 3				
Mean - all ages	4.5	3.0	4.1	2.4
Std. mean	3.1	2.9	3.0	2.3

NOTES: (1) M.C.E.B. = Mean number of children ever born.

(2) Standardized by Region 2 - urban population - educated.

SOURCE: GFS, 1979/80 Data Tape.

levels of fertility than educated ever-married women, in all three Regions, both rural and urban Areas (Table 3.8B).

It was observed that, even though Region 1 had the lowest proportion of educated ever-married women (5 per cent), it also had the lowest levels of fertility compared to the two other Regions, in both rural and urban areas (see Tables 3.1 and 3.8B). Region 2 had the highest levels of fertility in both rural and urban areas followed by Region 3 and then Region 1.

3.8 Fertility differentials by partner's level of education

Though ever-married women whose partners had only primary level of education had the highest levels of fertility in most of the age groups, overall, the ever-married women whose partners had no education had the highest mean number of children ever born of 4.3 (Table 3.9A). The difference between the mean number of children ever born to ever-married women whose partners had no education (4.3) and those whose partners had only primary level of education (4.1) was small. Between these two groups and ever-married women whose partners had post-primary level of education, however, the difference in fertility was quite substantial.

After standardizing for age, ever-married women whose partners had only primary education had the highest fertility of 3.3 children followed by those whose partners had no education (3.1 children) and 3.0 children for those whose partners had post-primary level education (Table 3.9A). These differences are minimal.

TABLE 3.9A: M.C.E.B. BY EVER-MARRIED WOMEN ACCORDING TO PARTNER'S EDUCATIONAL BACKGROUND AND BY CURRENT AGE - ALL REGIONS

Current Age	M.C.E.B.		
	No Education	Primary (1-6 yrs)	Post-Primary (7+ yrs)
15 - 19	0.5	0.5	0.6
20 - 24	1.4	1.6	1.4
25 - 29	2.8	3.1	2.4
30 - 34	3.9	4.4	3.8
35 - 39	5.3	5.3	5.1
40 - 44	6.0	6.5	6.2
45+	6.6	5.8	6.6
Mean-all ages	4.3	4.1	3.0
Standardized mean	3.1	3.3	3.0
Number of women	2,247	307	2,389

NOTE: Standardized by women with post-primary education.

SOURCE: GFS 1979/80 Data Tape.

The regional patterns generally followed the national pattern. In all three Regions the differences in the unadjusted mean number of children ever born between ever-married women whose partners were not educated and those whose partners were educated were found to be great (Table 3.9B). After age-adjustment, however, the difference in fertility between ever-married women whose partners were educated and those whose partners were not educated appeared to be much greater in Region 1 than in Regions 2 and 3 (Table 3.9B).

In Region 1, the pattern of fertility differential in the rural areas was different from that observed in urban areas (Table 3.9B). In the rural areas, it was observed that ever-married women whose partners were educated had higher fertility than those whose partners were not educated. Thus, in the rural areas of Region 1 there was a positive

TABLE 3.9B: M.C.E.B. BY EVER-MARRIED WOMEN ACCORDING TO PARTNER'S EDUCATION BY BROAD REGIONAL GROUPS AND BY RURAL/URBAN

Regional Group	M. C. E. B. RURAL		M. C. E. B. URBAN	
	No Education	Education	No Education	Education
Region 1				
Mean - all ages	3.6	2.5	3.7	2.4
Std. mean	3.2	3.8	3.3	1.8
Region 2				
Mean - all ages	4.8	3.2	4.3	3.2
Std. mean	3.7	3.5	3.5	3.2
Region 3				
Mean - all ages	4.6	3.4	3.7	2.7
Std. mean	3.6	3.3	3.2	2.7

NOTE: Standardized by Region 2 - urban population - educated partners.

SOURCE: GFS 1979/80 Data Tape.

relationship between ever-married women's partner's educational background and fertility, while in the urban areas the corresponding relationship was negative. In the other two Regions, both rural and urban, the relationship between ever-married women's partner's educational background and fertility was negative.

In Regions 2 and 3, the differences in fertility between ever-married women whose partners were educated and those whose partners were not appeared to be much greater in urban than in rural areas (Table 3.9B). A possible explanation is that ever-married women whose partners were educated in the urban areas of these two Regions were much more enlightened than ever-married women whose partners were educated in the rural areas. So, they tended to have better knowledge and use of modern contraception to control their family sizes.

3.9 Fertility differentials by partner's occupation

At the national level, ever-married women whose partners were agricultural workers consistently had the highest levels of fertility in all age groups, followed by ever-married women whose partners were production and other service workers, while those whose partners were in the professional-technical-managerial and clerical class consistently had the lowest fertility (Table 3.10A). Overall, the pattern did not change.

After standardizing for age, the difference in the fertility of ever-married women whose partners were agricultural workers (3.6) and those whose partners were production and other service workers (3.4) was found not to be much (Table 3.10A). Between these two groups, however, and ever-married women whose partners were professional-technical-managerial and clerical workers the difference in fertility was not much either.

The regional pattern generally followed the national pattern. Region 1, however, showed some deviations from the national pattern (Table 3.10B). In the rural areas of this Region it was observed that ever-married women whose partners were in the professional-technical-managerial and clerical class rather had the highest level of fertility. In Regions 2 and 3 ever-married women whose partners were agricultural workers had the highest levels of fertility in both rural and urban areas, while ever-married women whose partners were in the professional-technical-managerial and clerical class had the lowest levels of fertility (Table 3.10B).

TABLE 3.10A: M.C.E.B. BY EVER-MARRIED WOMEN ACCORDING TO PARTNER'S OCCUPATION AND BY CURRENT AGE - ALL REGIONS

Current Age	M. C. E. B.		
	Prof-Tech-Manag and Clerical	Agricultural Workers	Prod. & Other Service Workers
15 - 19	0.6	0.7	0.6
20 - 24	1.3	1.6	1.4
25 - 29	2.2	2.8	2.6
30 - 34	2.9	4.1	3.8
35 - 39	4.9	5.8	5.7
40 - 44	5.5	6.5	6.3
45+	6.3	6.9	6.1
Mean-all ages	2.8	4.5	3.4
Standardized mean	3.0	3.6	3.4
Number of women	756	2,472	1,695

NOTE: Standardized by production and other service workers.

TABLE 3.10B: M.C.E.B. BY EVER-MARRIED WOMEN ACCORDING TO PARTNER'S OCCUPATION BY BROAD REGIONAL GROUPS AND BY RURAL/URBAN

Regional Group	M.C.E.B. RURAL			M.C.E.B. URBAN		
	Prof-Tech -Manag & Clerical	Agric Workers*	Prod and Other Serv Wkrs	Prof-Tech -Manager & Cler	Agric Workers*	Prod & Other Serv Wkrs
Region 1						
Mean - all ages	2.7	3.6	3.4	1.8+	3.9	3.4
Std. mean	3.8	3.3	3.4		3.4	3.4
Region 2						
Mean - all ages	3.0	4.3	3.3	3.1	4.1	3.5
Std. mean	3.6	3.8	3.6	3.1	3.5	3.5
Region 3						
Mean - all ages	2.9	4.4	3.5	2.6	4.7	3.1
Std. mean	2.9	3.9	3.4	2.6	3.5	3.1

- NOTES: (1) + Less than 10
 (2) * No work included under agric workers (total 20 for all Regions)
 (3) Standardized by Region 2 - urban population - production and other service workers.

SOURCE: GFS 1979/80 Data Tape.

It is known from studies conducted elsewhere in West Africa that women classified by partner's occupation have different levels of fertility. Okediji, in his 1965-66 survey of three areas in Ibadan, established that improved education, advanced occupational prestige, and higher income were all positively associated with decreased fertility (Morgan, 1975: 207). This observation which was found to be true in Region 3, was however, not found to be true in Region 1. In the rural areas of Region 1 it was found that ever-married women whose partners were in the professional-technical-managerial and clerical group had the highest fertility followed by those whose partners were production and other service workers (Table 3.10B).

From the variations between the unadjusted and the adjusted mean numbers of children ever born by Region, rural and urban, it is apparent that ever-married women whose partners were in the professional-technical-managerial and clerical class were the youngest among the three groups of ever-married women classified according to partner's occupation (Table 3.10B). This was found to be true especially for the rural areas of Regions 1 and 2.

3.10 Fertility differentials by place of work

At the national level, there was a consistent pattern of highest levels of fertility for ever-married women who worked on farms followed by those who worked at home, while those who were not working consistently had the lowest fertility (Table 3.11A). While the difference in the age-adjusted mean number of children ever born between ever-married women working on farms (3.8) and those working at home (3.5) was small, between these two groups and ever-married women who

were not working (3.1), however, the difference in fertility was not substantial either.

Regions 2 and 3 followed the national pattern but not Region 1. In Region 1 ever-married women working at home had the highest fertility. Whereas in the other two Regions, ever-married women working on farms had the highest levels of fertility in both the rural and urban areas (Table 3.11B). The pattern of fertility differentials in Region 1 rural was similar to the urban.

That ever-married women working on farms in Regions 2 and 3 had the highest levels of fertility may be attributed to their rather low socio-educational status and their general attitudes and ideas towards fertility. In these two Regions women who normally worked on farms represented a cross-section of women with little or no educational background. Such women had a limited view of the world. To them having a lot of children in itself is seen as a source of pride and prestige. Since they usually marry early and also tend to have a longer duration of marriage they end up having the largest average number of children ever born.

In Region 1, however, ever-married women working at home had the highest fertility in both rural and urban areas (Table 3.11B). In this Region, ever-married women working at home generally do petty trading or sell cooked food to the public. While ever-married women working away from home are generally the retail traders and the salaried workers. Ever-married women working at home and those working away from home are able to earn sufficient income to enable them to meet their part of the domestic budget, as required by the social, religious and cultural practices of the Region. Such women, because of their economic

TABLE 3.11A: M.C.E.B. BY EVER-MARRIED WOMEN ACCORDING TO PLACE OF WORK BY CURRENT AGE - ALL REGIONS

Current Age	M . C . E . B .			
	Farm	At Home	Away From Home	No Work After Marr Never Worked
15 - 19	0.8	0.6	0.7	0.4
20 - 24	1.7	1.4	1.4	1.2
25 - 29	2.9	2.7	2.3	2.4
30 - 34	4.2	3.9	3.7	3.5
35 - 39	5.5	5.3	4.9	4.9
40 - 44	6.4	6.0	5.7	4.9
45+	6.8	6.6	6.4	5.9
Mean - all ages	4.3	3.9	3.3	2.1
Standardized mean	3.8	3.5	3.3	3.1
Number of women	2,044	761	1,633	505

NOTE: Standardized by women working away from home.

TABLE 3.11B: M.C.E.B. BY EVER-MARRIED WOMEN ACCORDING TO PLACE OF WORK BY BROAD REGIONAL GROUPS AND BY RURAL/URBAN

	M. C. E. B. RURAL				M. C. E. B. URBAN			
	Farm		Away From Home		Farm		Away From Home	
	At Home	Home	Home	No Wk	At Home	Home	Home	No Wk
<u>Region 1</u>								
Mean - all ages	3.5	4.3	3.9	3.0	4.7*	4.7	3.6	1.5
Std. mean	3.5	3.8	3.7	3.0		3.8	3.6	1.4
<u>Region 2</u>								
Mean - all ages	4.4	3.8	3.1	1.8	4.4	4.0	3.5	1.7
Std. mean	4.1	3.7	3.6	3.5	3.9	3.7	3.5	3.2
<u>Region 3</u>								
Mean - all ages	4.4	3.8	3.2	2.1	4.1	3.5	2.9	1.9
Std. mean	3.9	3.7	3.3	3.5	4.1	3.4	3.0	3.3

NOTES: (1)* Less than 10
 (2) No wk = No work after marriage & never worked
 (3) Standardized by Region 2 - urban - women working away from home

SOURCE: GFS 1979/80 Data Tape.

resourcefulness tend to have stable marital unions and longer durations of marriage. Given the weak knowledge of contraception in the Region, the result is that ever-married women working at home and those working away from home tended to have a larger average number of children ever-born because of their economic resourcefulness compared to other ever-married women in the Region also classified by place of work.

CHAPTER 4AN ANALYSIS OF THE DETERMINANTS OF FERTILITY IN GHANA: 1979/804.1 Introduction

In this study an SPSS sub-program, 'ANOVA' was used to conduct a multiple classification analysis (MCA) of the determinants of fertility in Ghana. The analysis shows the effects of the predictor or the independent variables, before and then after adjusting for the effects of the other variables.

The dependent variable in this analysis is the mean number of children ever born (M.C.E.B.) whilst the independent variables include age at first marriage, level education, place of work, partner's occupation and region of residence. The independent variables were selected from the results of the previous chapter and were those that seem to have some noticeable effect on the dependent variable. Age at the time of the survey was used as a co-variate because older women usually have more children ever born than younger women. It was therefore necessary to control for age in order to remove its effect as a factor on fertility so that the effects of the other factors on fertility in Ghana could be studied.

The unit of analysis was the ever-married woman. The national level analysis includes all 4,943 ever-married women whilst the sample sizes for the regional analyses were as follows: Region 1, 840 ever-married women, Region 2, 3,076 ever-married women and Region 3, 1,027 ever-married women.

4.2 Fertility determinants at the national level

At the national level, the independent variables were: age at first marriage, level of education, place of work and region of residence. These four independent variables were used because in the previous chapter they were found, among seven other variables studied, to have the greatest impact on fertility in Ghana. Secondly, their two-way interaction effects were found to be insignificant at a level of 0.01 (Table 4.1A).

It was observed that with the unadjusted means, education, with an eta of 0.33, had the greatest impact on mean number of children ever born in Ghana followed by place of work, with an eta of 0.25, then age at first marriage with an eta of 0.13, and lastly, region of residence, with an eta of 0.06 (Table 4.1B). When the results were adjusted for the effects of the other independent variables and the co-variate, age, it was observed that age at first marriage, with a beta of 0.24, was the most important determinant of fertility in Ghana among the variables considered in the analysis. Place of work and region of residence, each with a beta of 0.07, and level of education, with a beta of 0.05 were found not to be important determinants of fertility in Ghana. Nearly 60 per cent of the total variation in fertility levels in Ghana could be explained by the co-variate, age, and the four independent variables (Table 4.1B).

That age at first marriage was the most important determinant of fertility in Ghana may be explained by the fact that there is little practice of modern contraception in Ghanaian society, so girls who marry at early ages are exposed to the risk of child-bearing for a much longer

TABLE 4.1A: ANALYSIS OF VARIANCE (M.C.A.) AT THE NATIONAL LEVEL

N = 4,943

Source of Variation	F	Signif of F
COVARIATES	6,219.651	0.000
Age	6,219.651	0.000
MAIN EFFECTS	91.761	0.000
Age at First Marriage	312.720	0.000
Level of Education	12.027	0.000
Place of Work	16.509	0.000
Region of Residence	27.744	0.000
2-WAY INTERACTIONS	1.310	0.120
Age at First Marriage Level of Education	0.913	0.456
Age at First Marriage Place of Work	0.373	0.896
Age at First Marriage Region of Residence	0.239	0.916
Level of Education Place of Work	2.289	0.033
Level of Education Region of Residence	1.103	0.353
Place of Work Region of Residence	1.747	0.106
EXPLAINED VARIATION	177.120	0.000

SOURCE: GFS 1979/80 Data Tape

TABLE 4.1B: MULTIPLE CLASSIFICATION ANALYSIS OF FERTILITY DETERMINANTS
OF EVER-MARRIED WOMEN - ALL REGIONS

N = 4,943

Variable & Category	Number (N)	Unadjusted Deviation Eta	Adjusted for Inde- pendents & Covariates Deviation	Beta
AGE AT FIRST MARRIAGE				
Under 17 years	1,936	0.42	0.62	
17 - 19 years	1,858	-0.21	-0.04	
20 years and over	1,149	-0.38	-0.98	
		0.13		0.24
LEVEL OF EDUCATION				
No Education	2,966	0.66	0.10	
Primary	527	-0.27	0.03	
Post-Primary	1,450	-1.26	-0.21	
		0.33		0.05
PLACE OF WORK				
Farm	2,044	0.57	0.15	
At Home	761	0.24	0.12	
Away from Home	1,633	-0.35	-0.15	
No Work After Marriage and Never Worked	505	-1.55	-0.33	
		0.25		0.07
BROAD REGIONAL GROUPS				
Region 1	840	-0.07	-0.40	
Region 2	3,076	0.10	0.11	
Region 3	1,027	-0.25	-0.01	
		0.06		0.07

Grand Mean = 3.62

Multiple R² = 58.8%

Multiple R = 76.7%

Explained Variation Significance of F = 0.000

SOURCE: GFS 1979/80 Magnetic Data Tape

period than girls who marry late. The result is that girls who marry early tend to have larger average numbers of children ever born than girls who marry at older ages. This presupposes that girls who marry early also enjoy marital stability and therefore longer durations of marriage.

The effect of education on fertility in Ghana is yet to be seen. Not many people in Ghana have had the benefit of higher education and until it is widespread, especially, among women, education can hardly have the same net impact as age at first marriage. Generally, women with no education and even those with only primary education tend to be greatly under the influence of the tradition pro-natalist cultural goals of Ghanaian society.

With place of work, it was observed that ever-married women who worked on farms and those who worked at home in general had more children than ever-married women who worked away from home and also those not working at all (Table 4.1B).

With region of residence, it was observed that, when the other variables, were controlled Region 2 had an adjusted mean number of children of 0.1 above the national average of 3.6, Region 1 had about 0.4 children below the national average whilst Region 3 had about the same level as the national average (Table 4.1B). The small variation between the unadjusted and the adjusted values for region of residence shows that fertility levels are about the same in all regions of the country.

4.3 Fertility determinants in Region 1

The selected independent variables for this Region are age at first marriage, place of work and education. These variables, with the exception of education, were found to be highly significant at a level of 0.001 (Table 4.2A). Education was included among the independent variables, mainly out of interest, and also to facilitate some comparability with the other two Regions where education as a factor was found to be significant.

With the raw means, it was observed that place of work, with an eta of 0.20, had the greatest impact on fertility followed by education, with an eta of 0.14, and lastly age at first marriage, with an eta of 0.11 (Table 4.2B). When adjusted for the other independent variables and the covariate, age, the situation was reversed. Age at first marriage, with a beta of 0.21, was found to be the major determinant of fertility in the Region followed by place of work, with a beta of 0.11. Education, with a beta of 0.02, had the least net impact on fertility in the Region. The covariate, age, together with the three independent variables explain more than half of the proportion of the total variation in fertility levels in the Region.

As in the national analysis, age at first marriage was found to be the major determinant of fertility in the Region. Among the three regional groups, Region 1 has the lowest median age at first marriage of about 17 years (GFS 1979/80(a):37). Demographically, women who marry early are exposed to the risk of child-bearing for a much longer period of time than women who marry late and consequently have a larger average number of children ever born than women who marry late. The effect of

the traditional religion and Islam on the people of this Region, too, should not be overlooked. These two religions strongly recommend early marriage and child-birth.

The pattern of fertility differentials by place of work in this Region was different from the national pattern. It was observed that ever-married women working at home had the highest fertility followed by those working away from home, while ever-married women not working had the lowest fertility (Table 4.2B). That ever-married women working at home had the highest fertility may be attributed to the fact that they may be economically better off than ever-married women working elsewhere.

TABLE 4.2A: ANALYSIS OF VARIANCE (M.C.A.) - REGION 1

N = 840

Source of Variation	F	Signif. of F
<u>Covariates</u>	774.728	0.000
Age	774.728	0.000
<u>Main Effects</u>	15.175	0.000
Age at First Marriage	34.927	0.000
Level of Education	0.773	0.380
Place of Work	6.655	0.000
<u>2-Way Interactions</u>	0.406	0.954
Age at 1st Marriage Education	0.512	0.600
Age at 1st Marriage Place of Work	0.528	0.787
Education Place of Work	0.332	0.803
<u>Explained variation</u>	48.347	0.000

SOURCE: GFS 1979/80 Data Tape

TABLE 4.2B: MULTIPLE CLASSIFICATION ANALYSIS OF FERTILITY DETERMINANTS
OF EVER-MARRIED WOMEN - REGION 1

N = 840

Variable & Category	Number	Unadjusted Deviation Eta	Adjusted for Independ- ents and Covariates Deviation Beta
<u>Age at First Marriage</u>			
Under 17 yrs	404	0.27	0.46
17-19 yrs	327	-0.22	-0.23
20 yrs and over	109	-0.32	-1.00
		0.11	0.21
<u>Education</u>			
No Education	800	0.08	0.01
Education	40	-1.54	-0.24
		0.14	0.02
<u>Place of Work</u>			
Farm	367	-0.08	0.01
At Home	151	0.75	0.34
Away from Home	170	0.25	0.13
No Work after Marriage and Never Worked	152	-0.83	-0.51
		0.20	0.11

Grand Mean = 3.54
 Multiple R² = 51.2%
 Multiple R = 71.5%

Explained variation - Significance of F = 0.000

SOURCE: GFS 1979/80 Magnetic Data Tape

The net effect of education as a determinant of fertility in this Region was found to be very trivial. This is not surprising as only about 5 per cent of the ever-married women in this Region have had any form of education (Table 3.1). Education, therefore has not had much impact on the social life of the people in this Region. Of the three Regions, the net impact of education on fertility in this Region is the least (see Tables 4.2B, 4.3B and 4.4B). It was also observed that the effect of education on fertility in this Region was found to be not significant at a level of 0.01 (Table 4.2A).

4.4 Fertility determinants in Region 2

As for Region 1, the selected independent variables for the analysis of fertility determinants are age at first marriage, education and place of work. Unlike Region 1, however, the main effects of all the three independent variables together with the co-variate, age, were found to be highly significant ($P < 0.001$) - see Table 4.3A.

Education and place of work, with etas of 0.36 and 0.29, had the most impact on the unadjusted mean number of children; whilst age at first marriage, with an eta of 0.13, had the least impact (Table 4.3B). After adjusting for the effects of the other variables, however, it was observed that age at first marriage, with a beta of 0.24, was the most important determinant of fertility in the Region. Place of work, with a beta of 0.08, and education, with a beta of 0.04, were found not to be major determinants of fertility in the Region.

Nearly 60 per cent of the total variation is explained by the three independent variables taken together and the covariate, age (Table

TABLE 4.3A: ANALYSIS OF VARIANCE (M.C.A.) - REGION 2

N=3076

Source of Variation	F	Signif. of F
<u>Covariates</u>	3757.884	0.000
Age	3757.884	0.000
<u>Main Effects</u>	81.209	0.000
Age at First Marriage	194.893	0.000
Level of Education	10.529	0.001
Place of Work	12.891	0.000
<u>2-Way Interactions</u>	0.550	0.870
Age at 1st Marriage Education	0.488	0.614
Age at 1st Marriage Place of Work	0.638	0.700
Education Place of Work	0.443	0.723
<u>Explained Variation</u>	236.177	0.000

SOURCE: GFS 1979/80 Data Tape.

4.3B). Of the explained variation, age at first marriage alone accounts for the greatest proportion. It is also obvious that the three independent variables are much affected by controlling for the other variables. This is evident by the rather big variations between the unadjusted and the adjusted values of the three independent variables.

In this Region, too, it is not surprising that age at first marriage is the most important determinant of fertility, given the rather strong pro-natalist cultural influences of the society. In the traditional society, therefore, pressure on the individual for early

TABLE 4.3B: MULTIPLE CLASSIFICATION ANALYSIS OF FERTILITY DETERMINANTS
OF EVER-MARRIED WOMEN - REGION 2

N = 3,076

Variable & Category	Number	Unadjusted Deviation Eta	Adjusted for Independ- ents and Covariates Deviation Beta
<u>Age at First Marriage</u>			
Under 17 yrs	1,207	0.42	0.61
17-19 yrs	1,142	-0.22	0.02
20 yrs and over	727	-0.35	-1.04
		0.13	0.24
<u>Education</u>			
No Education	1,731	0.86	0.10
Education	1,345	-1.10	-0.13
		0.36	0.04
<u>Place of Work</u>			
Farm	1,463	0.63	0.19
At Home	322	0.12	-0.03
Away from Home	1,018	-0.42	-0.16
No Work after Marriage and Never Worked	273	-1.98	-0.42
		0.29	0.08

Grand Mean = 3.72
Multiple R² = 58.1%
Multiple R = 76.2%

Explained variation - Significance of F = 0.000

SOURCE: GFS 1979/80 Magnetic Data Tape

marriage is very strong. This Region has a median age at first marriage of between 17-19 years (GFS 1979/80(a):37). The demographic significance of early age at first marriage is as has already been explained in section 4.2.

In this Region the majority of the ever-married women who have had any form of education did not go beyond secondary school level (GFS 1979/80(a): Table 3.7). As in Region 1, the effect of education as a determinant of fertility in this Region is very little.

Like Region 1, place of work was found to be the next variable in terms of importance after age at first marriage (Table 4.3B). Unlike Region 1, however, it was observed that ever-married women who worked on farms had the highest adjusted mean number of children ever born.

4.5 Fertility Determinants in Region 3

In this Region the sample was made up of 1,027 ever-married women. Unlike the other two Regions, the independent variables were four, not three, namely, age at first marriage, education, place of work and partner's occupation. Partner's occupation was included because it was observed that this variable had a significant effect on fertility in this Region (Table 4.4A). In the other two Regions the effect of this variable was found to be insignificant.

With the raw means, education, with an eta of 0.33, was strongly related to fertility, followed by place of work, with an eta of 0.27, then partner's occupation, with an eta of 0.24, and lastly, age at first marriage with an eta of 0.17 (Table 4.4B). When adjustment was made for

the other independent variables and the co-variate, age, it was observed that age at first marriage and not education was the major determinant of fertility in the Region, as shown by Table 4.4B. Age at first marriage, with a beta of 0.22, by far accounts for the greatest proportion of the variation in the fertility level in the Region.

It was observed that all the four independent variables and the covariate, age, explained more than 50 per cent of the total variation in fertility in the Region (Table 4.4B). It was also observed that the significance of F of the explained variation was highly significant ($P < 0.001$) - see Table 4.4A.

As in the other two Regions, age at first marriage was found to be the major determinant of fertility in the Region. Of the three regional groups, however, this Region had the highest median age at first marriage of between 18-20 years (GFS 1979/80(a): 37).

As in the other two Regions, place of work was the next most important determinant of fertility after age at first marriage. As in Region 2, it was observed that ever-married women who worked on farms had the highest levels of fertility (Table 4.4B). Unlike the other two Regions, however, it was observed that ever-married women working away from home had the lowest level of fertility, when the other effects were controlled. In this Region, ever-married women working away from home were generally the salaried and sales workers mainly resident in urban areas. Given the social problems associated with mothers working away from home, such as the problem of finding baby-sitters coupled with the rather high cost of living in the Region, it is not surprising that they had the lowest level of fertility among the ever-married women classified according to place of work.

TABLE 4.4A: ANALYSIS OF VARIANCE (M.C.A.) - REGION 3

N = 1,027		
<u>Source of Variation</u>	F	Signif of F
<u>Covariates</u>	862.089	0.000
Age	862.089	0.000
<u>Main Effects</u>	21.982	0.000
Age at First Marriage	45.667	0.000
Education	7.163	0.008
Place of Work	3.358	0.018
Partner's Occupation	3.936	0.020
<u>2-Way Interactions</u>	1.155	0.278
Age at First Marriage Education	0.876	0.417
Age at First Marriage Place of Work	1.297	0.256
Age at First Marriage Partner's Occupation	0.979	0.418
Education Place of Work	1.203	0.307
Education Partner's Occupation	0.520	0.595
Place of Work Partner's Occupation	1.592	0.146
<u>Explained Variation</u>	33.266	0.000

SOURCE: GFS 1979/80 Data Tape.

TABLE 4.4B: MULTIPLE CLASSIFICATION ANALYSIS OF FERTILITY DETERMINANTS OF EVER-MARRIED WOMEN - REGION 3

N = 1,027

Variable & Category	Number	Unadjusted Deviation Eta	Adjusted for Independents and Covariates Deviation Beta
<u>Age at First Marriage</u>			
Under 17 yrs	325	0.59	0.60
17-19 yrs	389	-0.16	0.10
20 yrs and over	313	-0.42	-0.75
		0.17	0.22
<u>Education</u>			
No Education	435	0.94	0.19
Education	592	-0.69	-0.14
		0.33	0.07
<u>Place of Work</u>			
Farm	214	0.98	0.30
At Home	288	0.27	0.10
Away from Home	445	-0.39	-0.18
No Work after Marriage and Never Worked	80	-1.39	-0.14
		0.27	0.08
<u>Partner's Occupation</u>			
Prof-Tech-Manag. & Clerical	251	-0.67	-0.24
Agricultural Workers	257	0.95	0.27
Production and Other Service Workers	519	-0.15	-0.01
		0.24	0.07

Grand Mean = 3.37

Multiple R² = 50.4%

Multiple R = 71.0%

Explained Variation - Significance of F = 0.000

SOURCE: GFS 1979/80 Data Tape

The net impact of education on fertility in this Region was stronger than in the other two Regions. This may be attributed to the fact that, of the three regional groups, Region 3 had the greatest proportion of educated ever-married women and also the largest proportion with higher levels of education.

Partner's occupation, introduced only in this Region, explained about the same proportion of the variation as education, after adjusting for the other variables. Ever-married women whose partners were agricultural workers had the highest mean number of children ever born, while those whose partners were in the professional-technical-managerial and clerical class had the lowest mean number of children ever born (Table 4.4B). Ever-married women whose partners were in the professional-technical-managerial and clerical class were, generally, better educated than ever-married women whose partners were in the other two occupational groups (GFS 1979/80: 34-35). Such women were more likely to make use of modern contraception to control their family sizes than ever-married women whose partners were in the other occupational groups (GFS, 1979/80: 35, 69).

CHAPTER 5

SUMMARY AND CONCLUSION5.1 Summary of Main Findings

This study represents the first attempt to study fertility differentials and determinants in Ghana by three broad regional groups. In the study of fertility differentials, a number of socio-economic and other variables, including level of education, ethnic group, religion, place of work, partner's occupation, partner's level of education, husband's place of abode, age at first marriage and number of times married were analysed with a view to selecting those variables that seem to have some noticeable effect on fertility in Ghana. The selected variables were used for a study of determinants of fertility in Ghana.

Age at first marriage was found to have a great effect on fertility. Ever-married women who married at much earlier ages had a larger average number of children ever born than those who married at older ages. This was found to be true not only at the national level, but also in each of the three broad regional groups. The demographic implication of this is that in Ghanaian society, where there is little use of efficient contraception, women who marry early are exposed to the risk of child-birth for a much longer period than women who marry at older ages. Consequently, women who marry early eventually have a larger average number of children ever born than women who marry late. The number of times that a woman marries was found not to have much effect on fertility at the national level nor in any of the three regional groups.

Currently married women living with their husbands in the same household were found to have slightly higher fertility than currently married women not living with their husbands in the same household. This was true at the national level as well as in Regions 2 and 3. Difference in fertility between currently married women living with their husbands and those not living with their husbands was found to be great in Region 1 rural.

In examining fertility differentials by ethnic groups, the major ethnic groups in Ghana were grouped into three broad ethnic groups: Mole-Dagbani, Akan and Ewe-Ga-Guan. It was found that, at the national level as well as in the three regional groups, differences in fertility among the three ethnic groups appeared to be quite minimal. In Region 3, for example, after standardizing for age, no differences in fertility were observed. The differences in fertility according to ethnic group that were observed in Regions 1 and 2 may be attributed to differences in the observance of certain cultural practices and taboos, such as the differential periods of breast-feeding and post-partum abstinence among the three ethnic groups.

The major religions in Ghana were broadly classified into three groups: Christianity, Islam and the African Traditional Religion, including no religion and others. At the national level, it was found that differences in fertility by religion hardly exist. In the Regions, with the exception of Region 3, fertility differentials by religion did not seem to follow any consistent pattern. Again, with the exception of Region 3, differences in fertility were found to be quite minimal. Religion, it may be said, does not seem to have permeated the socio-cultural fabric of Ghanaian society enough to influence the fertility behaviour of the people.

At the national level, it was observed the difference in fertility between women with no education and those with only primary educational background was minimal. However, substantial differences in fertility were found, between women with post-primary education and women with either no education or women with only primary level of education. In the Regions, however, differences in fertility between ever-married women with no education and those with education appeared to be quite substantial in all the three Regions, especially in Region 1. The differences in fertility may be attributed to two factors. First, that women with no education in all the three Regions usually marry much earlier than women with some education. Second, women with no education in all the Regions, especially, in Region 1 hardly use any method of efficient contraception.

At the national level, it was observed that differences in fertility between ever-married women whose partners had no education and those whose partners had either primary or post-primary education were small. In the Regions, it was observed that differences in fertility between ever-married women whose partners were educated and those whose partners were not educated appeared to be much greater in Region 1 than in the other two Regions. In the rural areas of Region 1, a positive relationship between ever-married women's partner's educational background and fertility was observed, while in the urban areas the relationship was negative. In the other two Regions, however, both rural and urban, the relationship was found to be negative.

At the national level, it was observed that ever-married women whose partners were agricultural workers had the highest fertility followed by those whose partners were production and other service

workers and lastly by ever-married women whose partners were in the professional-technical-managerial and clerical class. The differences in fertility between these three groups of ever-married women classified according to their partner's occupation were not found to be great. The Regions generally followed the national pattern. Whereas in Regions 2 and 3 ever-married women whose partners were agricultural workers had the highest levels of fertility, in Region 1 rural, however, it was the ever-married women whose partners were in the professional-technical-managerial and clerical class who had the highest level of fertility. Differences in fertility of ever-married women according to their partners occupation appeared not to be much in Regions 1 and 2; in Region 3, however, the differences appeared to be quite substantial.

It was observed at the national level that, difference in fertility between ever-married women who worked on farms and those who worked at home was small, but between these two groups and ever-married women who were not working the difference in fertility was quite substantial. Regions 2 and 3 followed the national pattern but not Region 1. In Region 1 ever-married women working at home had the highest fertility whereas in the other two Regions it was the ever-married women working on farms who had the highest levels of fertility.

In the study of fertility differentials, it was found that age at first marriage, place of work, level of education and partner's occupation were the variables that seemed to have some significant effect on fertility at the national and/or at regional levels. These variables were used as independent variables to study the determinants of fertility in three regional groups.

At the national level, age at first marriage was found to be the most important determinant of fertility in Ghana. It was also found that place of work, level of education and region of residence were not major determinants of fertility in Ghana. Nearly 60 per cent of the total variation in fertility in Ghana was explained by the covariate, age, and the four variables: age at first marriage, place of work, level of education and region of residence. After controlling for age, age at first marriage was found to account for the greatest proportion of the explained variation in fertility.

Age at first marriage was also found to be the major determinant of fertility in all three regional groups. As in the national level analysis, education and place of work were found not to be major determinants of fertility in all three Regions. Partner's occupation as an independent variable was introduced in the analysis only in Region 3 because this was the only Region where its effect on fertility was found to be significant ($P < 0.05$). The impact of partner's occupation as a determinant of fertility in this Region was found to be about the same level as the impact of education in the Region.

5.2 Comparisons with Earlier Studies

Gaisie (1981: 238) using the 1960 Population Census and the Post-Enumeration Survey dataset, found Ashanti and the Brong-Ahafo regions (both in regional group 2) to be the regions with the highest levels of fertility, while the Upper region (included in regional group 1) was the region with the lowest level of fertility. The results of the present study, to some extent, seem to confirm these findings. After standardizing for age, Region 2 had the highest fertility followed by Regions 1 and 3, both with the same mean number of children ever

born. However, the difference in fertility between Region 2 and the other two Regions was not much.

In a study of fertility in Ghana, Gaisie (1975:345) categorised the major ethnic groups into three fertility regimes, high, moderately high and low. The high fertility ethnic group included Asante and Boron, the moderately high included the Fante, Ga, Ewe, Guan and Dagaba while the low fertility included the Grusi, Dagomba and the Kusasi. This finding could not be substantiated by the results of the present study. It was observed that differences between the three broad ethnic groups, Mole-Dagbani, Ewe-Ga-Guan and the Akan, were hardly so significant as to justify such a classification. Neither the national nor the regional study could justify the existence of any wide fertility differentials between the major ethnic groups in Ghana.

Previous findings of Gaisie (1975: 344) and Tawiah (1984: 7) that Moslem women had the lowest fertility rates in Ghana and Christians the highest fertility also could not be confirmed by the results of the present study. It was observed in this study that Moslem women and Traditional worshippers both had the highest fertility, followed by Christian women. The differences in fertility according to religion were too small to be significant. In the Regions, Moslem women were found to have the highest fertility in Region 3 and also in Region 1 urban, while Traditional worshippers had the highest fertility in Region 2.

Previous studies conducted by Gaisie (1969), Pool (1970) and Page (1975) concluded that education has some effect on fertility in Ghana and that there is a negative relationship between education and fertility. These conclusions to some extent were confirmed by the

results of the present study. It was, however, observed that education was not a major determinant of fertility in Ghana.

This study also confirmed previous findings of Tawiah (1984) that age at first marriage is negatively related to cumulative fertility and that age at first marriage has the greatest impact on cumulative fertility in Ghana. The study convincingly demonstrated in all three Regions, as well as at the national level, that age at first marriage is the single most important determinant of current fertility in Ghana.

Tawiah (1984: 5-6), in a study of determinants of fertility in Ghana, using the Ghana 1971 Supplementary Enquiry dataset, found religion was the next most important determinant of fertility of currently married women aged 34-49 after age at first marriage. This finding, however, could not be confirmed by the results of the present study. In fact, religion, as an independent variable, was not included among the selected independent variables for the multiple classification analysis (M.C.A) because it was found not to have a noticeable effect on fertility. The disparity in the two results could be attributed to the fact that Tawiah, in his study, did not control for age as a co-variate.

5.3 CONCLUSION

For purposes of formulating new government policies on fertility control it is suggested that programs aimed at educating the people of Ghana should be pursued with vigour. It is hoped that with the education of the people, and especially, of girls, they will not continue to marry at such young ages. Presently, age at first marriage in regional group 1 (Northern and Upper regions) averages as low as 17 years while regional group 2 (Ashanti, Brong-Ahafo, Western, Central and

Eastern Regions) averages about 18 years with regional group 3 (Volta and Greater-Accra regions) averaging about 19 years (GFS 1979/80(a): 37).

The demographic significance of an intensive educational program will be the raising of the levels of age at first marriage. This would help to a great extent in reducing fertility levels in all the three regional groups since age at first marriage was found to be the most important determinant of fertility in all the three regional groups. Another demographic significance of this policy would be the raising of the people's general level of consciousness so that they will be able to appreciate better the need to control their family sizes for a better standard of living.

This program of an intensive educational program could be carried out through a mass community educational campaign for the benefit of the great mass of illiterate Ghanaian adults and the introduction of population education as part of secondary school curricula. Parents should also be encouraged to educate their children to higher educational levels. This would, of course, require the establishment of more educational institutions in all three Regions, especially, in Region 1 where education as a determinant of fertility was found to be the weakest.

It is hoped the study has contributed, to some extent, to up-dating the knowledge of current fertility situation in Ghana as the study was based on a more reliable dataset than previous fertility studies conducted in the country. From the results of this study, it may be concluded that differences in fertility in the three broad regional groups can hardly be said to be significant.

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APPENDIX

APPENDIX 1: REGIONAL DIFFERENCES IN SOME SELECTED INTERMEDIATE VARIABLES

Regions	Mean Age at First Marriage of Women who Married before Age 25 (Years)	Percentage of Ever-Married Women who have Ever Used Contraception	Percentage of 'Exposed' Women Currently Using Contraception	Mean length of Post- Partum Abstinence (Months)
	(1)	(2)	(3)	(4)
<u>Region 1</u>				
Northern	17.6 (227)	5.4 (334)	0.8 (265)	16.6 (260)
Upper	17.0 (369)	12.3 (506)	2.1 (382)	20.0 (323)
<u>Region 2</u>				
Western	17.5 (251)	23.0 (387)	9.1 (253)	7.2 (324)
Central	18.3 (250)	18.0 (388)	4.9 (223)	5.8 (314)
Eastern	18.4 (530)	69.3 (761)	20.7 (545)	7.5 (624)
Ashanti	18.1 (710)	35.5 (1,148)	10.4 (723)	5.7 (852)
Brong-Ahago	18.0 (261)	23.0 (392)	9.2 (292)	6.9 (306)
<u>Region 3</u>				
Greater-Accra	18.9 (362)	49.2 (549)	25.6 (399)	6.4 (429)
Volta	18.2 (336)	91.4 (478)	18.7 (332)	12.3 (392)
N/TOTAL	18.1 (3,296)	39.9 (4,943)	12.4 (3,414)	8.9 (3,820)

Note: Figures in parentheses refer to number of women.

Sources: GFS 1979/80(b) (1) Table 1.1.3C
 (2) Table 4.3.2A (3)
 (3) Table 4.4.5C
 (4) Table 6.4.2C

Appendix 1 shows the regional differences in some selected intermediate variables. The selected intermediate variables are age at first marriage, contraception and post-partum abstinence. Since intermediate variables have a direct effect on fertility in societies with large illiterate populations like Ghana it was found necessary to give an idea of the regional differences in these selected intermediate variables. The nine administrative regions of Ghana as at the time of the survey have been classified under the respective three broad regional groups, Regions 1, 2 and 3.

Region 1 has the lowest mean age at first marriage of between 17 and 18 years while Region 3 has the highest mean age at first marriage of between 18 and 19 years. Region 2 occupies an intermediate position with a mean age at first marriage of around 18 years.

The proportion of ever-married women who have ever used contraception is lowest in Region 1 ranging between 5 and 13 per cent and highest in Region 3 with a range of 49 to 92 per cent. In Region 2, however, the proportion of ever-married women who have ever used contraception is between 18 and 70 per cent. The proportion of women who were exposed to the risk of pregnancy who were currently using contraception follows on the same pattern as the ever-married women who have ever used contraception. In Region 1 less than 3 per cent of the women exposed to the risk of contraception were currently using contraception while in Region 2 it was between 4 to 21 per cent and between 18 and 26 per cent in Region 3.

The mean length of post-partum abstinence was highest in Region 1 and lowest in Region 2 with Region 3 occupying an intermediate position. In Region 1 the mean length of post-partum abstinence ranges between 16 to 20 months while in Region 2 it is between 5 to 8 months and between 6 and 13 months in Region 3.