REPUBLIC OF GHANA

GHANA

FERTILITY SURVEY

1979–1980

First Report

Volume I
Background, Methodology and Findings

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CENTRAL BUREAU OF STATISTICS
ACCRA, GHANA
1983

WORLD FERTILITY SURVEY

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in collaboration with
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PREFACE

The main objective of the Ghana Fertility Survey (GFS), conducted in 1979-80 was to assess the current state of fertility in Ghana. The survey has produced a wealth of statistical data pertaining to Ghanaian women on the levels and differentials of fertility, marriage patterns and stability, attitudes and practices of modern contraception, and on factors other than contraception which affect fertility.

In several respects the GFS stands out as one of the most complex statistical research undertakings by the Central Bureau of Statistics. It was an inter-agency research project carried out in close collaboration with the Ghana National Family Planning secretariat and under the auspices of the World Fertility Survey programme, and it is to date the most comprehensive statistical enquiry into the fertility levels and patterns of Ghanaian women. Its results will therefore have a significant impact on the evaluation of population policies and programmes in Ghana.

This first report, however, covers only the main findings of the survey with minimum commentary and evaluation of the data. In view of the complex and interrelated nature of the data collected in the survey, it is thought prudent that any firm conclusions from the findings should result from detailed evaluation of the data and more in-depth analysis. The analysis contained in this report is therefore not definitive in its conclusions but it does indicate the basic levels, differentials and trends of fertility and factors related to childbearing. It is expected that these findings will suggest lines of further research and analysis.

This report is presented in two volumes. Volume I presents the background, methodology, and main findings of the study, and the second volume (Volume II) contains the detailed tabulations.

The significance of the GFS does not lie only in the wealth of statistical data produced. The survey organisation and the methodology followed in its execution provided a source of training for the staff of the department and have greatly extended the scope of our accumulated knowledge of taking sample surveys. It has also demonstrated how successfully international and inter-agency co-operative research work can be organised and executed. In this regard, the Government of Ghana gratefully acknowledges the funding support provided by the United States Agency for International Development (USAID), through the International Statistical Institute (ISI) and their executive agency, the World Fertility Survey (WFS), in London, who provided expert technical assistance. This assistance greatly supplemented the sample survey expertise of the staff at CBS, and it is hoped that such international co-operative research work will be a permanent feature in our international relations.

The GFS was executed in a period of very unfavourable economic conditions in Ghana and this put tremendous strain on the staff of the Central Bureau of Statistics who were directly responsible for the planning and execution of the survey. Through their high dedication to duty, however, they were able to brave all the difficulties to carry the project through. They have my highest appreciation of their hard work and dedication to duty.

O.A.Y. JACKSON
Government Statistician

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ACKNOWLEDGEMENTS

The Ghana Fertility Survey was organised and executed as an inter-agency co-operative research project involving not only other governmental agencies but also international organisations. It was the unfailing commitment of these co-operating agencies to the project that ensured its successful execution. While acknowledging the immense assistance and support given to the project by these organisations, we would like to mention a few of their personnel who made invaluable contributions towards the success of the survey.

We mention, in particular, Dr A.A. Amar, Director of the principal local co-operating agency in the survey, the Ghana National Family Planning Programme (GNFPP), for his personal interest and support for the survey, Mr S.K. Kwafo, Deputy Director of GNFPP and a National Co-Director of the survey for providing the administrative and logistic support services for the survey, and Mr E. Lartey of GNFPP for his services as the Survey Accountant in addition to his normal departmental duties.

One of the many problems which the Central Bureau of Statistics (CBS) faced in the execution of the survey project was a lack of data processing personnel who were adequately experienced to handle and execute the complicated procedures involved in the processing of the GFS data. We were, however, fortunate to obtain the services of Mr J.K. Odai, Systems Analyst, Mr D.K. Dovlo, a programmer, and Mr K.K. Etsibah, also a programmer, all from the University of Ghana. The three constituted the local counterparts of WFS data processing experts who made regular visits to Ghana. We owe a debt of gratitude to these gentlemen for their services, especially to Mr Etsibah whose services were used throughout the data processing phase, up to the end of tabulation. Mr Z.M.K. Batse, a Research Fellow from the University of Ghana also greatly assisted us in the training of the survey field staff and in the supervision of fieldwork in several regions.

Despite the fact that the Central Bureau of Statistics was the executing agency for the project, the singular contributions of some of the key personnel of the project need special mention, particularly Mr E.S.K. Ansah, Deputy Government Statistician who was in charge of the sample design and selection, Mr L.A. Darko, Senior Statistician for his work on the geographical preparations, Miss Rebecca Appiah, Principal Statistician who played a very significant role in the training of the field staff and coding of the questionnaires and contributed greatly to the writing-up of this report, and Dr E.O. Tawiah, Principal Statistician, also for his great contributions to the writing-up of the report.

We would also like to express our great appreciation of the staff of the WFS London office for the significant roles they played in the various phases of the project. We mention in particular Mr John Cleland who was the WFS country co-ordinator for Ghana during the initial and critical phases of the project until he was succeeded in the later stages by Mr Yalcin Sahinkaya as country co-ordinator, Dr Rod Little for his assistance with the design of the sample scheme, Miss Judith Rattenbury, Mr Bogale Demissie and Mr Jim Otto for their invaluable help in the data processing and Dr Sushéela Singh for her contributions and assistance in the preparation of this report. John Cleland gave much help in all the technical phases of the project, and the services of Bogale Demissie and Jim Otto were extended to giving to local staff training in computing and the use of software installed for the processing of the data. We also appreciate the help of the finance office of the International Statistical Institute in The Hague whose understanding and patience with us on matters of finance were a source of great encouragement.

It is unfortunate that in such acknowledgements one cannot mention individually the names of those categories of personnel whose tasks were nonetheless central to the survey, because of their number. They include the geographers and the household listers from the Central Bureau of Statistics, and the interviewers and field supervisors from the Department of Social Welfare and Community Development. Their work was the most arduous involving fieldwork under very trying conditions and logistical privations. We also appreciate the meticulous work of the office editors, coders, and the key punch and computer operators at the Central Bureau of Statistics, and are grateful for the various kinds of assistance given to the project by staff in governmental agencies and institutions.

John Y. Owusu
Survey Director

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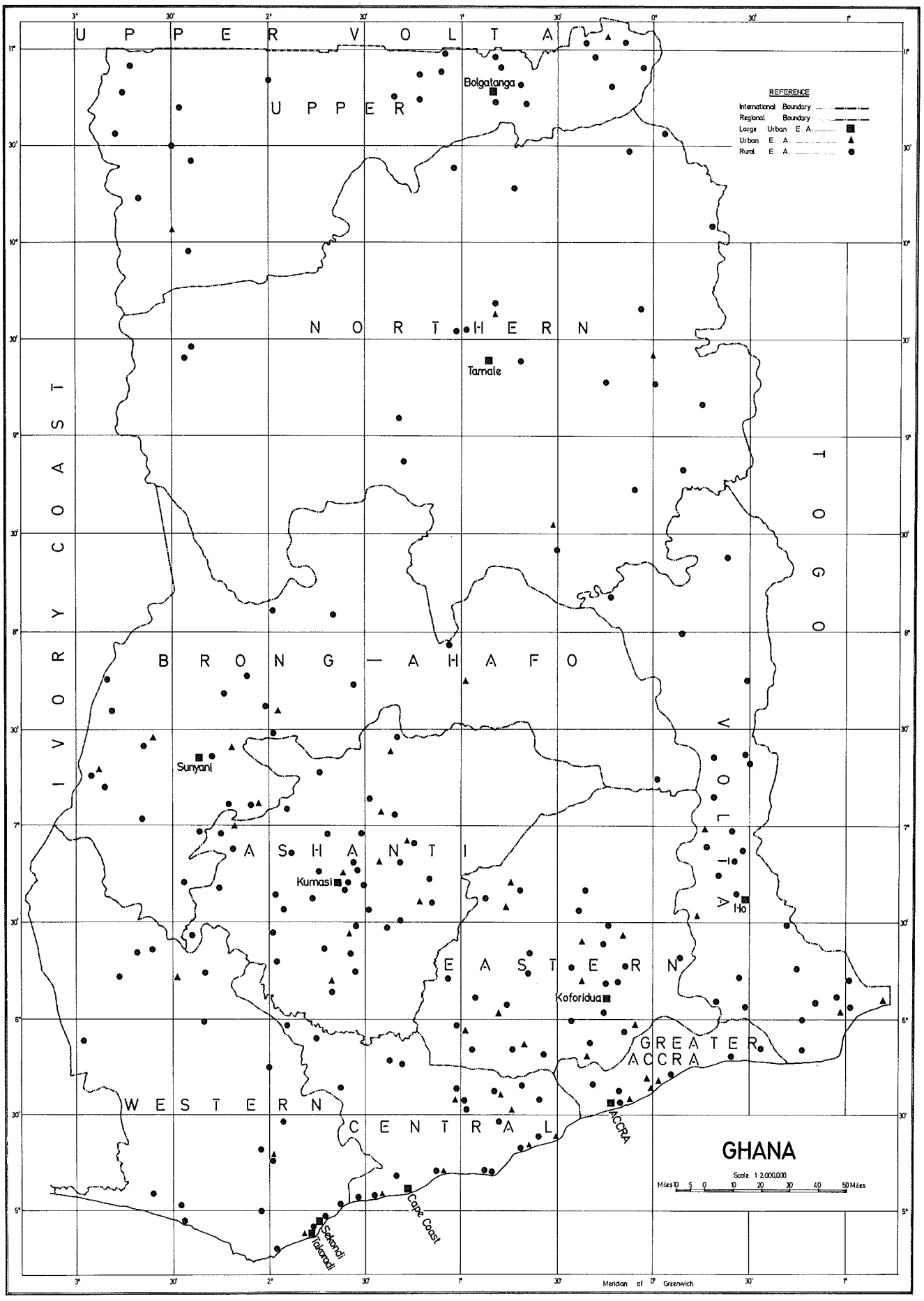

Map Regions of Ghana and geographical distribution of enumeration areas

CHAPTER 1

OBJECTIVES AND COUNTRY SETTING

1.1 POPULATION DATA NEEDS OF GHANA

In May 1969, the Government of Ghana published a national population policy entitled "Population Planning for National Progress and Prosperity". In the policy statement, the government recognised the harmful effects which high rates of population growth can have on individual and family welfare and on national efforts towards social and economic development. In a plan of action, therefore, population programmes were to be developed as an integral part of national efforts to achieve rapid social and economic development.

The government however recognised the limitations of existing demographic data for a more precise description of the structure and characteristics of the population and the measurement of its trends. Steps were therefore to be taken to strengthen the statistical and research facilities of the country for the production of more efficient and reliable demographic data.

In pursuit of above objectives the government in 1977 decided to participate in the World Fertility Survey programme whose purpose is to support scientifically designed sample survey projects to assess the current state of human fertility throughout the world.

1.2 OBJECTIVES OF GHANA FERTILITY SURVEY

Within the broad purposes of the World Fertility Survey programme, the objectives of the Ghana Fertility Survey may be stated as follows:

(1) Obtain internationally standardised data on fertility levels and fertility behaviour which will aid the development of population programmes and the execution of population-related programmes and projects in Ghana;

(2) Establish in Ghana a scientifically designed machinery for the conduct of survey of human fertility levels and behaviour, and through this, increase the nation's capability for fertility and other demographic survey research, and

(3) Further international co-operation in statistical research.

The United States Agency for International Development funded the project through the International Statistical Institute under whose sponsorship the World Fertility Survey was undertaken in collaboration with the United Nations and in co-operation with the International Union for the Scientific Study of Population.

1.3 GEOGRAPHY AND CLIMATE

Ghana with a land area of 238,537 sq km (92,100 sq miles) lies along the coast of West Africa and has a sea coast of about 560 km. From latitude 4° 45' north of the Equator the country extends over a distance of 850 km northwards to latitude 11° 11' north, and its width falls between longitude 3° 07' west and 1° 14' east. The Greenwich Meridian passes through Accra, the capital.

The geographical position of the country places it under the influence of two principal air streams: the hot, dry continental airmass (or harmattan) from the north-east, and the moist, relatively cool, maritime air mass (or monsoon) from the south-west across the Atlantic. The Convergence Zone along which these two air streams meet oscillates north and south with the movement of the overhead sun and this conditions the temperatures and determines the incidence of rainfall.

The mean temperatures are uniformly high, averaging between 26°C (79°F) and 29°C (84°F). The relative humidities are equally high (about 70 per cent in the south and 50 per cent in the north). These however drop significantly during the harmattan. The temperatures also drop at night especially in the north while the local incidence of land and sea breezes also ameliorates the high temperatures in the south.

In the southern part where the highest rainfall occurs, between 1270 mm and 2100 mm, there are two rainy seasons in April to July and September to November. These are separated by a monsoon drought in late July to August, while November to March is generally dry. The extreme south-west is the wettest part of the country. Rainfall decreases to north and east, and in the northern part with totals between 1100 mm and 1270 mm rainfall occurs in only one season between April and September. This is followed by a long dry harmattan season.

The country can be divided into three main vegetational zones. These are the coastal scrub and grassland which from a narrow stretch in the west broadens out to the east; the wet wedge-shaped forest belt in the south-west; and the hot savanna woodland in the north. Topographically, the major part of the country consists of plateau of varying elevations.

1.4 HISTORY OF POLITICAL DEVELOPMENT

Before being brought under British colonial rule, the people of present day Ghana belonged to many independent states and kingdoms each

with its own well-established political system and social institutions. Many of the states however had certain institutions and cultural practices in common.

Centuries of association first with merchants and religious missionaries from several European nations, and later with the British during the colonial era, dating from 1471, left a permanent influence on the people and particularly on their political, social and cultural institutions.

From the year 1844, British colonial rule was extended gradually over the territory, and attempts by the British administration to deprive the chiefs and the people of their natural rights were met with firm resistance by nationalist movements culminating in the agitation for self government and independence which was fully granted on 6th March 1957 largely through a process of constitutional development.

The first nationalist civilian government headed by the late Dr Kwame Nkrumah ruled for about fifteen years (1951-1966). [1] It adopted an African socialist ideology and had by 1964 established Ghana as a single party state. In its economic programmes, the government followed a policy of national economic planning based on public ownership of the means of production and distribution in the industrial, commercial and agricultural sectors, and it allocated the greater proportion of the country's resources to the provision of economic infrastructure, education and other social services.

Deficit financing of the gigantic economic and social programmes led to high domestic inflation and foreign indebtedness. The resultant internal economic difficulties coupled with increasing political opposition against the establishment of a one party state and the operation of the government Preventive Detention Act culminated in the overthrow of the government by the military in February 1966.

The succeeding military government - the National Liberation Council - ruled the country up to September 1969 before it handed over the admininstration to a civilian administration headed by the late Dr Kofi Abrefa Busia following general elections. The second civilian government administered the country under the Western type of parliamentary democracy and adopted the laissez-faire economic policies. The government however could not break through the economic difficulties it inherited. The severe economic measures introduced in 1971 to solve the economic problems of the country caused much disaffection among sections of the population, and this gave the pretext for a second military take-over in January 1972 after the government had been in office for just a little over two years.

The succeeding military government - the National Redemption Council, which later became the Supreme Military Council - headed by Lieutenant Colonel Ignatius Kutu Acheampong proposed to follow a programme of national economic reconstruction through a policy of self reliance, and by repudiation and rescheduling of the country's foreign debts, revaluation of the currency, and import controls; the administration succeeded in reducing the pressure of the balance-of-payments problem during the initial years. From 1975 onwards however the economic problems which had faced previous governments reappeared. Political agitation for a return to a multi-party civilian administration developed into a national political crisis, and after two military counter coups the administration was in 1979 handed over to a third civilian government headed by Dr Hilla Limann after general elections.

The civilian government ruled under a republican constitution which provided for an executive presidential system of the American type. In the two years rule of the new civilian government, the economic situation of the country reached a crisis level, and amidst allegations of high corruption among members of the government and the top hierarchy of the ruling party, the military took over the administration for the third time on 31st December 1981.

The new military government - the Provisional National Defence Council under the chairmanship of Flight Lieutenant Jerry John Rawlings - seeks to establish a new political system and social order that will transfer political power to the ordinary people by involving them in decision-making at all levels.

1.5 ADMINISTRATIVE UNITS

At present the country is administered through two-tier local government units - the regional and district units. There are nine regions and a total of sixty-five districts. The districts are headed by career administrative officers and they function as the basic units of government. The regions on the other hand are headed by political appointees and the main function of the regional administration is to plan and co-ordinate the development programmes of the constituent districts.

1.6 MAJOR SOURCES OF DEMOGRAPHIC DATA

The main primary sources of demographic data about Ghana have been decennial censuses, demographic sample surveys, and the national vital registration system.

Historically, a population census appears to be the earliest method of demographic data collection in the country, for this activity dates back to the pre-colonial era when traditional rulers conducted prototypes of modern population census in their states in order to know the population of their realm and the size of their fighting men.

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1) The country was granted internal self government in 1951 before the granting of full independence on 6th March 1957.

The first of the population censuses conducted during the British colonial administration however took place in 1891. Since then, decennial censuses were conducted until the Second World War disrupted the series in 1941. The next census after the one in 1931 and the last conducted during the colonial era therefore took placed in 1948. The censuses all had one deficiency or another. The deficiencies included limited geographical coverage, group enumeration or group recording of answers, absence of fixed census reference date to control coverage, and the "householder" method in a predominantly illiterate population.

There have been two post-independence censuses: one in 1960 and the other in 1970. These censuses covered the whole geographical area of Ghana, and the principle of simultaneity, the "canvasser" method of coverage, and the methods of individual enumeration and individual recording were followed in both censuses. Data from the 1960 and 1970 censuses and the post-independence sample surveys are therefore considered relatively more efficient and more reliable, and these have been used extensively to construct the demographic profile of Ghana, and to estimate future trends.

Major demographic sample surveys conducted in the country are: the Post Enumeration Survey (1960), conducted as a sequel to the 1960 census; the National Demographic Sample Survey (1968-69), carried out by the Demographic Unit of the University of Ghana; and the Supplementary Enquiry (1970), also conducted as a sequel to the 1970 census.

Vital registration in the country also dates back to the year 1888 when under the Cemeteries Ordinance of 1888 the registration of deaths was instituted in a few localities in the southern provinces of the country. Under another Ordinance passed in 1912, births were included in the registration system. Although the registration system is now statutorily established to cover the entire geographical area of the country, the registration machinery has not been efficient enough to ensure a more complete coverage of births and deaths in the country, with the result that only about 40 per cent and 25 per cent respectively of the expected births and deaths are covered. Nevertheless, a wide range of analytical and adjustment techniques have been applied to the registration data and the resulting statistics have been used in conjunction with census and survey data to derive demographic measures for the country.

1.7 POPULATION: SIZE, DISTRIBUTION AND COMPOSITION

1.7.1 Size

On 21st March 1960, the population of Ghana was 6.7 million. The 1970 census conducted on 1st March returned a population of 8.5 million, and this gave an intercensal growth rate of 2.4 per cent per annum. The rate however appears to be on the low side. The growth rate is estimated to be around 3.0 per cent per annum, and at this rate the population is expected to double in twenty-three years.

The rapid growth of Ghana's population is attributable to a constant high fertility rate and a declining mortality rate. However, the high rate of emigration which the country is currently experiencing may now be having a depressing effect on the rate of population increase.

1.7.2 Distribution

In 1960, 23 per cent of the population lived in urban [2] areas, and in the 1970 census the population of urban areas increased to 29 per cent. The regional distribution of the population is given in Table 1.1.

One important factor governing the regional distribution of the population is inter-regional migration shown in Table 1.2 which has been largely in response to relative economic opportunities. There are the shipping and manufacturing industries and governmental occupations in the Greater Accra region which contains the nation's capital, and the farming, timber and mining industries in the Western and Ashanti regions.

The attractions in the Brong-Ahafo region are farming and timber industries.

1.7.3 Composition

The sex ratio of the population was 98.5 in 1970 as compared to 102.2 in 1960 (see Table 1.3). The decrease in the sex ratio in 1970 was the result of the exodus of aliens who are preponderantly males - just before the census as a result of the enforcement of the immigration laws in 1969. The sex ratio of the Ghanaian-born population was 96.8 in 1970 as compared to 97.2 in 1960.

The population of Ghana is remarkably young. In 1960 census, the population aged less than 15 years constituted 44.5 per cent and in the 1970

TABLE 1.1

POPULATION SIZE, DENSITY AND PROPORTION URBAN BY REGION - 1970

Region	Area (sq km)	Population	Density (persons per sq km)	Proportion urban [1]
Western	23,921	770,087	32	26.9
Central	9,827	890,135	91	29.1
Greater Accra	2,593	851,614	328	85.3
Eastern	19,977	1,261,661	63	24.6
Volta	20,572	947,268	46	16.0
Ashanti	24,390	1,481,698	61	29.7
Brong-Ahafo	39,557	766,509	19	22.1
Northern	70,383	727,618	10	20.1
Upper	27,319	862,723	32	7.1
All regions	238,539	8,559,313	36	28.9

[1] Urban areas are localities with a population of 5000 or more

2) Urban areas are localities with a population of 5000 or more.

TABLE 1.2

IN-MIGRATION AND OUT-MIGRATION BY REGION - 1970

Region	Total born in region	In-migration[1]	Out-migration[2]	Net in (+)/Out (-) Migration	
				Number	Rate[3]
Western	615,432	241,717	87,062	154,655	25.1
Central	1,007,258	126,882	244,005	-117,123	-11.6
Greater Accra	519,832	418,594	86,812	331,782	63.8
Eastern	1,320,654	246,015	305,008	-58,993	-4.5
Volta	1,058,149	128,965	239,846	-110,881	-10.5
Ashanti	1,339,725	353,549	211,576	141,973	10.6
Brong-Ahafo	609,046	222,985	65,522	157,463	25.9
Northern	748,592	85,492	106,466	-20,974	-2.8
Upper	990,751	58,921	186,949	-128,028	-12.9
All regions	8,209,439	1,883,120	1,533,246	349,874	4.3

[1] In-migration = enumerated in the region but born in other regions or abroad

[2] Out-migration = born in the region but enumerated in other regions

[3] Rate = number of net in/out migration per 100 born in the region

TABLE 1.3

SEX RATIOS OF THE POPULATION
(1960 AND 1970 COMPARED)

	1960	1970
Total population	102.2	98.5
Born in Ghana	97.2	96.8
Born abroad	170.9	151.6

TABLE 1.4

SEX RATIO AND AGE DISTRIBUTION OF THE POPULATION: 1960 AND 1970

Year	Sex ratio	Age distribution (per cent)		
		0-14 years	15-64 years	65+ years
1970	98.5	46.9	49.5	3.6
1960	102.2	44.5	52.3	3.2

census the proportion was 46.9 per cent which shows that the population is becoming younger (see Table 1.4). The population aged 65 years and above was 3.2 per cent in 1960 and 3.6 per cent in 1970 giving the proportion in the "dependency age group" as 47.7 per cent in 1960 and 50.5 per cent in 1970 (see Figure 1.1). The labour force age group, namely, the population aged 15 to 64 years, therefore constituted 52.3 per cent of the population in 1960 and 49.5 per cent in 1970.

The age and sex distribution of the population by region also shows remarkable regional differences as shown in Table 1.5.

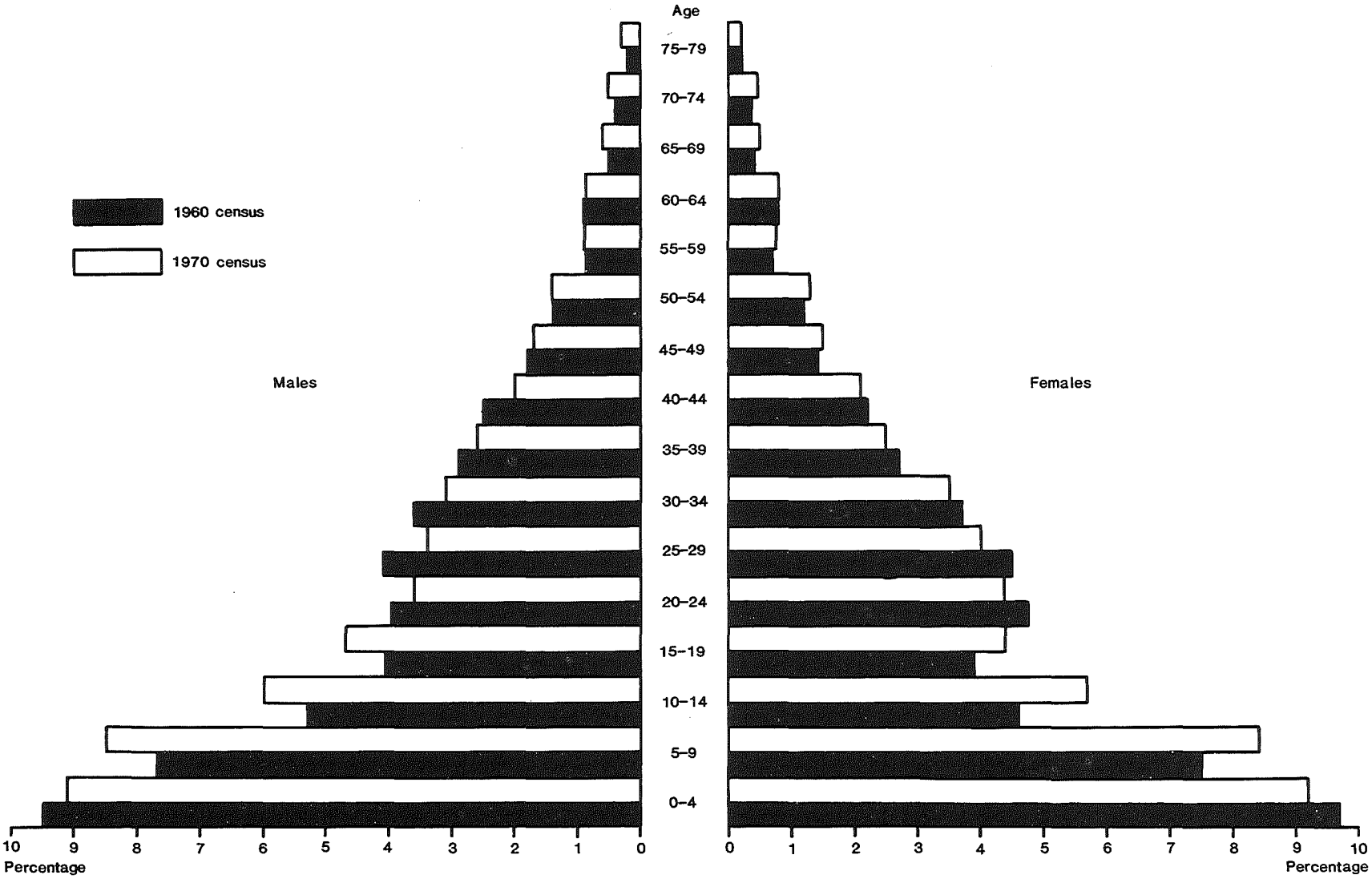
The regional differences in the sex ratio and age distribution of the population are attributable to regional differences in the operation of several demographic factors including fertility, mortality and migration. Differences in the coverage of specific age groups and age misstatements in the census may also contribute to the regional differences.

1.8 ETHNIC COMPOSITION, LANGUAGE AND RELIGION

1.8.1 Ethnic groups

The nationality and racial classification of the population of Ghana as obtained from the 1970 census showed that 99.8 per cent of the population is of indigenous African origin, and 93.4 per cent were indigenous Ghanaians (see Table 1.6).

The indigenous African population can be classified also into ethnic groups. On the basis of traditional and historical classification, geographical affinity or origin, language or dialect, and cultural practices, not less than ninety primary ethnic groups were identified by the planners of the 1960 census. These were grouped into seventeen major ethnic groups on the basis of major language groups, comprising families of related or mutually intelligible languages or dialects, common historical origin or fusion, or similarities of culture. Two of the major groups, the Akan and Ga-Adangbe, were subdivided into intermediate groups.



1.1 Age-sex population pyramid - 1960 and 1970 censuses compared

TABLE 1.5

SEX RATIO AND AGE DISTRIBUTION OF THE POPULATION BY REGION - 1970

Region	Sex ratio	Age distribution (per cent)		
		0-14 years	15-64 years	65+ years
Western	104.7	45.6	51.4	3.0
Central	93.8	47.6	47.9	4.5
Greater Accra	105.8	42.0	55.9	2.1
Eastern	97.9	47.8	47.9	4.3
Volta	92.5	47.6	47.7	4.7
Ashanti	99.1	49.2	47.7	3.1
Brong-Ahafo	104.5	48.7	47.9	3.4
Northern	102.1	47.1	49.6	3.3
Upper	90.2	44.6	51.3	4.1

As shown in Tables 1.7 and 1.8, the largest major ethnic group are the Akans (44.2 per cent), found predominantly in the Western, Central, Ashanti, Brong-Ahafo and the Eastern regions. The Ga-Adangbe group (8.3 per cent) are concentrated in the Greater Accra and the Eastern regions. The Ewes (13.0 per cent) are based in the Volta region. The Guans (3.7 per cent) are scattered in larger proportions over Western, Central, Eastern, Northern and Upper regions, while the Mole-Dagbanis (16.0 per cent), Grussis (2.2 per cent) and the Gurmas (3.5 per cent) are found mostly in the Northern and Upper regions. Other smaller groups [3] and the population not classifiable by ethnic group make up the remainder (9.1 per cent).

1.8.2 Language

As an ethnic group in Ghana is identified primarily by the language or dialect spoken by the members, there are consequently as many local languages and dialects as there are ethnic groups. English is however the official language.

1.8.3 Religion

The professed religions of the people of Ghana are classifiable into three main groups: the indigenous traditional religions, Christianity and Islam.

The indigenous traditional religions, which comprise a number of traditional beliefs and

3) Each constituting less than 2 per cent of the total population.

TABLE 1.6

POPULATION BY NATIONALITY AND RACE - 1970

	Population	African		Non-African
		Ghanaian	Non-Ghanaian	
Number	8,559,313	7,997,181	547,149	14,983
Percentage	100.0	93.4	6.4	0.2

religious practices, conceive the whole universe to be peopled by a hierarchy of countless spirits of all kinds. At the apex of the hierarchy is the Supreme Being. Next are the major deities most of which inhabit natural features such as rivers, lakes, hills, rocks and trees. These are regarded as the sons of the Supreme Being who is the source of their power. Below them are the lesser spirits, and these are contacted and worshipped through their priests (and priestesses) at shrines. Another category of supernatural beings highly revered and propitiated are the spirits of ancestors who are believed to continue to take an interest in the affairs of their descendants.

Islam was the first foreign religion to be introduced in the country at the beginning of the fifteenth century, and it was followed by the Christian religion in the nineteenth century, after sporadic earlier missionary visits dating from the end of the fifteenth century.

Statistics of religious affiliation (Table 1.9) obtained from the 1971 Supplementary Enquiry, which were based on the respondent's own declaration, showed that Christians constituted 52.7 per cent of the adult population and were evenly distributed over regions in the southern half of the country where they constitute between 46 per cent and 75 per cent of the adult population of each region. The population of Islamic faith (Muslims) constituted 13.9 per cent and were concentrated in the Northern region forming 44.1 per cent of the region's adult population. The population professing traditional religions also constituted 21.6 per cent with Upper region showing the highest proportion of these (64.6 per cent) in its population. Miscellaneous religious groups and the population professing no religion together constituted 11.8 per cent.

TABLE 1.7

RELATIVE SIZES (PERCENTAGES) OF THE SEVEN LARGEST MAJOR ETHNIC GROUPS - 1960

Total	Akan			Ga-Adangbe	Ewe	Guan	Mole-Dagbani	Grussi	Gurma	Other[1]
	Twi	Fante	Other Akan							
100.0	28.3	11.3	4.6	8.3	13.0	3.7	16.0	2.2	3.5	9.1

[1] Including population not classifiable by ethnic group

TABLE 1.8

PERCENTAGE DISTRIBUTION OF THE SEVEN LARGEST MAJOR ETHNIC GROUPS BY REGIONS - 1960

Ethnic group	Population	Percentage distribution						
		Western & Central	Greater Accra	Eastern	Volta	Ashanti	Brong-Ahafo	Northern & Upper
Akan	2,964,580	37.3	2.7	16.5	0.6	28.0	14.1	0.8
Twi	(1,899,470)[1]	(11.2)	(2.3)	(23.3)	(0.2)	(41.0)	(21.5)	(0.5)
Fante	(757,550)	(82.7)	(4.0)	(5.6)	(0.2)	(6.0)	(1.1)	(0.4)
Other Akan	(307,560)	(86.2)	(1.6)	(1.2)	(4.0)	(2.2)	(0.9)	(3.9)
Ga-Adangbe	560,370	4.0	42.5	47.7	1.2	2.9	1.1	0.6
Ga	(236,210)	(5.6)	(78.0)	(10.1)	(0.9)	(3.0)	(1.6)	(0.8)
Adangbe	(237,440)	(1.7)	(5.1)	(88.9)	(0.5)	(2.7)	(0.8)	(0.3)
Ewe	876,230	5.2	8.1	14.9	65.2	4.1	1.5	1.0
Guan	251,810	20.9	2.1	30.0	13.0	3.9	6.7	23.0
Mole-Dagbani	1,072,370	4.0	1.2	2.1	0.4	7.8	4.9	79.6
Grussi	148,480	6.0	2.5	2.9	1.1	10.4	8.7	68.4
Gurma	237,780	2.5	3.2	9.4	13.4	9.9	7.0	54.6
Other[2]	615,200	15.4	12.0	13.5	17.8	15.3	8.3	17.7

[1] In brackets are sub-groups

[2] Including population not classifiable by ethnic group

TABLE 1.9

PERCENTAGE DISTRIBUTION OF ADULT POPULATION BY RELIGION WITHIN REGIONS - 1971

Region	Population aged 15 years and above	Percentage distribution			
		Christians	Muslims	Traditional religion	No religion and others
Western	455,000	73.3	6.8	4.5	15.4
Central	440,960	69.6	9.9	7.7	12.8
Greater Accra	521,820	74.5	14.8	4.3	6.4
Eastern	668,900	61.4	5.9	14.5	18.2
Volta	517,680	52.9	4.2	39.3	3.6
Ashanti	743,580	66.1	12.8	7.9	13.2
Brong-Ahafo	437,720	46.8	18.7	22.9	11.6
Northern	468,480	6.8	44.1	39.0	10.1
Upper	465,260	9.2	13.0	64.6	13.2
All regions	4,719,400	52.7	13.9	21.6	11.8

1.9 MARRIAGE SYSTEMS AND PATTERNS

1.9.1 Marital status

The conventional classification of "marital status" into never-married, married, divorced and widowed was followed in the 1960 and 1971 post-census surveys, and this was based on the respondent's own declaration. Although "marriage" was formally defined in the survey's Interviewer's Manuals as "a union between a man and a woman for which customarily or legally recognised rites or ceremonies have been performed", the end result of the various qualifications to this definition was that every union of man and woman was to be considered as marriage.

The distribution of the population aged 15 years and above into the four categories as given in Table 1.10 show that in the 1971 survey only 14.4 per cent of the adult female population had never been married as compared to 38.2 per cent for males. Proportions of the never-married in the 1960 survey were 8.5 per cent for females and 33.5 per cent for males, showing that the size of the population never married increased between 1960 and 1971.

The proportions of divorced and widowed were however higher for females, and this is explained by a number of factors. Besides the differential mortality rate for the sexes which contributes to women often surviving their husbands, the fact that women are generally married to men older than themselves also contributed to women more often surviving their husbands. Remarriage after divorce or widowhood is also relatively easier for males particularly at higher ages; and in a polygamous marriage the death of the husband leaves more than one wife widowed, but a husband remains married on the death of one of his wives.

The distribution given in Table 1.10 also shows that females enter the married state much earlier than males, and this partly explains the statistical differences between the sexes in the proportions of the never-married.

1.9.2 Extent of polygamy

In the 1971 Supplementary Enquiry, 23.9 per cent of the married males had more than one wife compared to 26.2 per cent obtained from the 1960 Post Enumeration Survey. The proportions, as given in Table 1.11, were higher in the rural areas in both surveys.

TABLE 1.10

DISTRIBUTION OF ADULT POPULATION BY MARITAL STATUS, AGE AND SEX - 1971

Age (in years)	Sex	Population aged 15 years and above	Percentage distribution			
			Never married	Married	Divorced	Widowed
15-19	M	414,600	98.6	1.3	0.1	0.0
	F	395,560	68.2	29.5	2.2	0.1
20-24	M	306,620	79.6	18.6	1.7	0.1
	F	374,960	16.0	76.1	7.3	0.6
25-29	M	290,580	39.5	54.8	5.4	0.3
	F	364,740	3.5	87.7	7.5	1.3
30-34	M	254,680	17.9	74.3	7.1	0.7
	F	302,000	1.4	87.3	8.9	2.4
35-39	M	226,820	9.7	81.5	7.7	1.1
	F	248,000	0.9	85.9	9.2	4.0
40-44	M	173,080	6.2	83.5	8.5	1.8
	F	187,560	0.7	79.9	12.2	7.2
45-49	M	152,740	4.4	84.1	9.3	2.2
	F	151,180	0.5	72.1	13.9	13.5
50+	M	440,760	2.6	80.2	11.1	6.1
	F	435,520	0.6	40.8	18.0	40.6
Total	M	2,259,880	38.2	54.1	6.0	1.7
	F	2,459,520	14.4	66.5	9.5	9.6

TABLE 1.11

MARRIED MALES BY NUMBER OF WIVES AND TYPE OF PLACE OF RESIDENCE - 1960 AND 1970

Year	Urban/ Rural	Total married males	Per cent distribution		
			1 wife	2 wives	3+ wives
1970	Total	1,222,060	76.1	18.7	5.2
	Urban	356,260	81.3	14.9	3.8
	Rural	865,800	74.0	20.3	5.7
1960	Total	1,104,200	73.8	20.0	6.2
	Urban	271,920	78.6	16.8	4.6
	Rural	832,280	72.2	21.0	6.8

1.10 FERTILITY AND MORTALITY LEVELS

In the absence of reliable vital statistics, statistical data from the population censuses and demographic sample surveys have provided the basic materials for the estimation of various vital rates for Ghana. The primary data from these sources are however believed to have deficiencies characteristic of retropective enquiries relating to fertility and mortality, and various adjustment and estimation techniques have been applied to derive what are believed to be more plausible measures of vital rates.

1.10.1 Fertility

In both the 1960 Post Enumeration Survey and the 1971 Supplementary Enquiry, direct questions were asked of women aged 15 years and over about the number of children ever born and the number born during the past twelve months. On the basis of data from these enquiries and data from the main censuses, the crude birth rate for Ghana was estimated to be about 49 per thousand population in 1970 and a total fertility rate of about 6.9 children. This meant that every Ghanaian woman passing through the childbearing period would on the average bear 6.9 children. With an estimated crude death rate of 18 to 20 per thousand the rate of growth of the population was estimated to be between 2.9 and 3.1 per cent per annum.

1.10.2 Mortality

Data on mortality are relatively more deficient. While plausible fertility estimates have been derived from the censuses and other demographic surveys, the censuses and the surveys have generally not included direct questions on mortality, except in the 1971 Supplementary Enquiry when an attempt was made to collect data on deaths occurring in households. The returns from the Supplementary Enquiry were however so deficient that not much use could be made of the data to derive any reliable estimates of mortality. Consequently, greater use has been made of child survivorship ratios and life table models to estimate infant and childhood mortalities.

In addition to questions on children ever born and children born in past twelve months, the 1960 and 1971 post census surveys contained also questions on number of children dead, and the schedules of child survivorship derived directly from the survey data were as shown in Table 1.12.

TABLE 1.12

AVERAGE NUMBER OF CHILDREN EVER BORN AND AVERAGE NUMBER SURVIVING BY AGE OF WOMAN: 1960 AND 1971

Age of woman	Average number of children ever born		Average number of children living		Proportion of deceased children	
	1960	1971	1960	1971	1960	1971
15-24	1.174	0.882	0.951	0.754	0.190	0.144
25-34	3.583	3.762	2.718	3.009	0.241	0.200
35-44	5.396	5.900	3.797	4.459	0.296	0.244
45-49	5.921	6.420	3.875	4.566	0.345	0.289

On the basis of Brass and Trussell mortality estimation techniques, the infant mortality rate for the total country has been estimated at 150 and 121 per thousand births for 1960 and 1971 respectively as against 126 and 87 estimated directly from the 1960 and 1971 surveys.

Childhood mortality (1-4 years) has been very high - estimated at about 65 per thousand in 1971, as compared to a rate of 130 for infant deaths (see Table 1.13). The ratios of deaths 1-4 years to deaths under one year were 73.5 per cent and 73.8 per cent respectively in 1960 and 1971 when the expected ratio according to standard UN life tables should be about 50 per cent. The high childhood mortality rate is due largely to the prevalence of infective and parasitic diseases as major causes of deaths in the age group 0-5 years.

Life expectancy at birth was also estimated at 46.6 years for both sexes in 1971. The estimates for males and females were 45.3 years and 48.3 years respectively as against 39.0 years and 41.7 years in 1960. This implied an average annual increase of 0.5 to 0.6 years during the period 1960 to 1971.

Estimates based on Brass and Trussell methods and on life-table models indicate higher levels of mortality than estimates derived directly from the recorded data do. Nevertheless, both sets of estimates (i.e. adjusted and direct measures) obtained for 1960 and 1971 show substantial downward trends in mortality.

TABLE 1.13

INFANT AND CHILD MORTALITY RATES AND LIFE EXPECTANCIES BY SEX - 1971

	Male	Female
1. Infant mortality (<1 year):		
a) Rate per thousand	130	111
b) Life expectancy	45.3	48.3
2. Childhood mortality (1-4 years):		
a) Rate per thousand	65	58
b) Life expectancy	51.4	53.3

1.11 EDUCATION

In the 1960 and 1970 censuses the question on education was limited to persons aged six years and above, and it referred to regular attendance in formal educational institutions where a person spends at least four hours a day receiving general education in which the emphasis is not on vocational training. The definition therefore excluded private tuition, correspondence courses, night schools and ungraded schools like nurseries.

In 1960, only 27.0 per cent of the population aged six years and above had been to school and the proportion increased to 43.2 per cent in 1970. As shown in Table 1.14 the proportions of males and females who had been to school were 36.7 per cent and 17.0 per cent respectively in 1960 and 52.7 per cent and 33.2 per cent respectively in 1970.

The regional data given in Table 1.15 show great regional inequalities in levels of education. In the 1970 census Greater Accra region had the highest level of school attendance (64.5 per cent) while the Northern and Upper regions together had the lowest level (11.7 per cent).

While the regional differences may be partly due to inter-regional migration of the educated to areas with high concentration of modern industrial activities and governmental administrative services, the inequalities reflect more largely the differential contact with the early European traders and religious missionaries who pioneered the introduction and spread of formal education in the country during the colonial era. Successive governments after independence have however introduced various educational policies to raise the level of education in general and to reduce the regional inequalities. This is reflected in the higher rates of increase in the levels of school attendance between 1960 and 1970 shown in Table 1.15 for the regions with low levels and for the females whose levels of education have also been lower than that of their male counterparts.

TABLE 1.14

PROPORTION OF THE POPULATION AGED 6 YEARS AND ABOVE WHO HAD BEEN TO SCHOOL: 1960 AND 1970

Age (years)	Sex	Population		Proportion who had been to school	
		1960	1970	1960	1970
6-14	T	1,468,438	2,128,152	43.7	62.5
	M	758,410	1,079,029	53.3	66.5
	F	710,028	1,049,123	33.4	58.4
15-24	T	1,131,988	1,459,186	35.9	59.3
	M	543,878	704,603	52.0	74.1
	F	588,110	754,583	21.1	45.5
25+	T	2,598,321	3,084,162	13.7	22.2
	M	1,340,674	1,522,397	21.2	33.0
	F	1,257,647	1,561,765	5.8	11.7
Total aged 6 years and above	T	5,198,747	6,671,500	27.0	43.2
	M	2,642,962	3,306,029	36.7	52.7
	F	2,555,785	3,365,471	17.0	33.8

TABLE 1.15

PROPORTION OF THE POPULATION AGED 6 YEARS AND ABOVE WHO HAD BEEN TO SCHOOL BY REGION: 1960 AND 1970

Region	Sex	1960	1970	Rate of increase (I)*
Western & Central	T	28.1	45.7	163
	M	40.2	57.8	144
	F	15.6	33.7	216
Greater Accra	T	47.5	64.5	136
	M	58.7	74.7	127
	F	34.4	53.6	156
Eastern	T	35.0	53.4	153
	M	45.3	63.5	140
	F	24.4	43.6	179
Volta	T	33.7	47.4	141
	M	46.1	59.2	128
	F	22.0	36.6	166
Ashanti	T	32.5	51.5	158
	M	43.7	60.3	138
	F	20.6	42.8	208
Brong-Ahafo	T	19.6	38.8	198
	M	27.0	45.9	170
	F	11.0	31.3	285
Northern	T	5.4	11.7	217
	M	8.7	16.9	194
	F	2.3	6.8	296
All regions	T	27.0	43.2	160
	M	36.7	52.7	144
	F	17.0	33.8	199

* $I = \frac{\text{Proportion 1970}}{\text{Proportion 1960}} \times 100$

1.12 THE ECONOMY AND LABOUR FORCE

1.12.1 Economy

The economy of Ghana has two distinct sub-economies: the small capital intensive modern sector comprising mining and industrial activities, and the large peasant-based agricultural and traditional sector which is not much touched by the development of the modern sector.

According to the latest official statistics published in December 1980 the Gross National Product (GNP) of Ghana at constant prices was estimated at $6005 million for 1974, and after some fluctuations in the intervening years the GNP stood at $5633 million in 1978. The GNP therefore recorded a fall of 6.2 per cent during the four years ended 1978. As shown in Table 1.16 the fall in the total GNP coupled with the high rate of population increase resulted in a fall in the per capita GNP from 620 cedis in 1974 to 519 cedis in 1978 (at constant prices).

According to the published statistics, agricultural production (including forestry, fishing and livestock) constituted 61.6 per cent of the total Gross Domestic Product (GDP) in 1978 while industrial production (including manufacturing, mining, construction and eletricity) contributed 12.2 per cent. The transport, storage and communication sector contributed 2.7 per cent, and wholesale and retail trade 13.1 per cent.

In the area of foreign trade, agricultural and forest products constituted 66.9 per cent of the total value of exports with cocoa beans contributing 63.1 per cent and timber logs 3.8 per cent. Other products exported in 1978 were: cocoa paste and butter (7.8 per cent), sawn timber (2.4 per cent), mineral products (9.8 per cent) and aluminium (10.2 per cent).

One of the weaknesses in the country's economic development and plans of industrialisation has been the failure or inability to develop economic linkages, which has thwarted efforts to diversify the economy. Most of the industries established in the country continue to depend on imported raw materials for their operations thus defeating the import substitution objectives of the industrialisation programmes. In consequence, export earnings of the country have not been able to match import bills in recent years. Although import controls have been instituted by successive governments in the wake of falling levels of exports, increases in import prices have had unfavourable counteracting effects resulting in alternating positive and negative balances of payments during the period 1974 to 1980 as shown in Table 1.17.

1.12.2 Labour force

The distribution of the adult population by economic activity given in Table 1.18 shows that in 1970 77.1 per cent of the males were employed with 59.3 per cent in agricultural industries. Comparative figures for females were 61.1 per cent employed, with 54.6 per cent in agriculture. Homemakers constituted 26.1 per cent of

TABLE 1.16

GROSS NATIONAL PRODUCT: 1974-1978

Year	GNP at 1975 prices		Per capita at 1975 prices	
	Million	% change over previous years	Cedis (¢)	% change at 1975 prices
1974	6,005	+7.3	620	+4.4
1975	5,241	-12.7	526	-15.2
1976	5,046	-3.7	492	-6.5
1977	5,185	+2.8	491	-0.2
1978	5,633	+8.6	519	+5.7

Source: "Economic Survey: 1977-1980", Central Bureau of Statistics, Accra, December 1981

TABLE 1.17

TOTAL VISIBLE EXTERNAL TRADE: 1974-1978 (MILLION CEDIS)

Year	Exports (incl. re-exports)	Imports	Balance of visible trade
1974	926.0	943.7	-17.7
1975	1,005.1	909.3	+95.8
1976	953.4	991.7	-38.3
1977	1,221.1	1,193.2	+27.9
1978	1,011.6	1,076.4	-64.8

Source: "Economic Survey: 1977-1980", Central Bureau of Statistics, Accra, December 1981

TABLE 1.18

PERCENTAGE DISTRIBUTION OF THE POPULATION AGED 15 YEARS AND ABOVE BY SEX AND TYPE OF ECONOMIC ACTIVITY - 1970

Economic activity	Both sexes	Male	Female
Employed, total	69.0	77.1	61.1
(In agriculture)	(57.2)	(59.3)	(54.6)
Unemployed	4.3	6.4	2.4
Homemaker	13.8	1.0	26.1
Other	12.9	15.5	10.4
Total aged 15 years and above	100.0	100.0	100.0

Source: 1970 Population Census of Ghana

the adult females as against 1.0 per cent for males.

The distribution of the employed by occupation given in Table 1.19 also showed that in 1970, 59.8 per cent of the males and 54.5 per cent of the females were in agricultural occupations.

TABLE 1.19

PERCENTAGE DISTRIBUTION OF THE EMPLOYED BY SEX AND OCCUPATION - 1970

Occupation	Both sexes	Male	Female
Professional, technical and related workers	3.8	5.3	2.0
Administrative, executive, and managerial workers	0.4	0.6	0.0
Clerical workers	2.7	4.3	0.9
Sales workers	13.2	2.9	25.7
Farmers, fishermen, hunters, loggers, and related workers	57.4	59.8	54.5
Production and related workers, transport equipment operators, and labourers	19.6	23.1	15.4
Service, sport, and recreation workers	2.9	4.0	1.5
Total employed	100.0	100.0	100.0

Source: 1970 Population Census of Ghana

In terms of both production and scale of employment therefore the agricultural sector constitutes the mainstay of the country's economy.

CHAPTER 2

ORGANISATION AND METHODOLOGY OF THE SURVEY

2.1 WFS GUIDELINES ON SURVEY ORGANISATION AND METHODOLOGY

Following its objectives of ensuring high quality data and international comparability of data collected in the WFS programme, the WFS has produced manuals and other documents which give guidelines in the methodology to be followed and set forth standards to be aimed at in the execution of the various phases of the surveys. The guidelines, which are to be adapted to the situation of each participating country, cover questionnaire development, sample design, training of field staff, execution of fieldwork, and data processing.

The methodology of the GFS discussed in this chapter followed closely the models prescribed by WFS with slight adaptations to meet the statistical data needs of Ghana and to suit local conditions.

2.2 THREE MAJOR PHASES OF THE SURVEY

The Ghana Fertility Survey was carried out in three major developmental phases: the Pilot, the Pre-test, and the Main Survey.

The Pilot Survey was conducted in 1975 by the Institute of Statistical, Social and Economic Research of the University of Ghana in collaboration with the Regional Institute of Population Studies also of the University of Ghana. The latter is a research and training institute established in 1972 by the United Nations and the Ghana Government for the English-speaking African countries. The main objectives of the Pilot Survey were to find out problems involved in the use of Ghanaian languages to collect demographic information and to assess the advantages of using either male or female interviewers in a survey which deals with sensitive questions.

The Pre-test and the Main Survey which were carried out in 1978 and 1979/1980, respectively, were conducted by the Demographic and Social Statistics division of the Central Bureau of Statistics in collaboration with the Ghana National Family Planning Secretariat. The Pre-test was designed to test the efficiency and suitability of the survey questionnaire and the field manuals, and to serve as a necessary rehearsal for the successful execution of the Main Survey.

2.3 THE SURVEY ORGANISATION

2.3.1 National organisation

For the conduct of the Pre-test and the Main Survey the Central Bureau of Statistics was designated as the executing agency and the Ghana National Family Planning Secretariat as the administrative agency. The Central Bureau of Statistics is the national agency responsible for the collection, analysis and publication of statistical information relating to the social and economic activities and conditions of the population of Ghana - including the conduct of national statistical surveys and population censuses. The National Family Planning Secretariat is the co-ordinating agency for family planning programmes in the country, and it was required to provide the needed administrative support services for the GFS.

The national directorate for the survey comprised the following personnel:

E A Colecraft*	Head, Demographic and Social Statistics	Central Bureau of Statistics	National Co-Director
S K Kwafo	Deputy Executive Director	Ghana National Family Planning Secretariat	National Co-Director
J Y Owusu*	Principal Statistician	Central Bureau of Statistics	Survey Director
Rebecca Appiah	Principal Statistician	Central Bureau of Statistics	Demographer
E S K Ansah	Deputy Government Statistician	Central Bureau of Statistics	Sampling Expert
L A Darko	Senior Statistician	Central Bureau of Statistics	Geographer

* *E A Colecraft left the Department in 1978 after the Pre-test and he was succeeded by J Y Owusu (Survey Director) as Head of the Demographic and Social Statistics Division.*

The Survey Director (Mr J Y Owusu) was to be released fully from other responsibilities, but following the departure of Mr E A Colecraft from the Central Bureau of Statistics in 1978 after the Pre-test, the Survey Director assumed the headship of the Demographic and Social Statistics Division of the department and had to combine the duties involved as head of the Divison with his responsibilities as the executive Survey Director.

2.3.2 Technical Advisory Committee

The Evaluation and Research Committee of the National Family Planning Programme was constituted as the project's local Technical Advisory Committee to give technical advice

and assistance to the executing agency in the conduct of the survey. On this committee are represented individuals, institutions and organisations expert in the fields of statistics, demography and research or concerned with national activities in these fields.

2.3.3 International collaboration and technical assistance

Financial support for the survey was provided by United States Agency for international development. The project had a great deal of collaboration and technical assistance from the WFS headquarters in London in all phases and stages of the survey. A country co-ordinator who was based in London was appointed for the survey and there were several visits by WFS specialists during the various stages of the project. There was however no resident WFS advisor, co-ordinator or consultant in Ghana.

2.4 THE SAMPLE

2.4.1 Sample size

One of the main objectives of the GFS was to provide information on fertility levels and contraceptive knowledge and practice and related behaviour not only for the country as a whole but also for each region of the country. There were nine regions of comparable population size, and in order to provide statistically reliable demographic estimates at the regional level the required minimum sample size was considered to be not less than 5000 respondents. The target sample for the survey was consequently set at 7500 households.

The study population was all women aged 15 to 49 years living in private households, who slept in the selected household the night before. On the basis of the 1970 census data the ratio of women in this age range to households was estimated at 1.07. Allowing for wastage, therefore, a sample of 7500 households would yield a sample of about the same number of women. The emphasis on the provision of regional data with acceptable sampling precision also implied that it would be unwise to raise the size of the primary sampling units (PSUs) to more than 25 respondents. These considerations consequently led to a basic two-stage self-weighting sample design involving 300 PSUs with an average of 25 respondents each.

2.4.2 Sampling frame

The region is the major administrative subdivision of the country and it constitutes the highest level of statistical area units in the country. For purposes of conducting population censuses and statistical surveys, the regions have been divided into enumeration areas (EAs). There were a total of 8328 EAs in 1970. Urban EAs had an average population of 1000, and rural EAs, 700 in 1970. During census counts and statistical surveys, dwellings in EAs are subdivided into households by the interviewers, so as to make available statistical information at the level of the household which is a basic socio-economic unit of the population. The subdivision of dwellings into households also serves to control coverage of enumeration. However, there does not exist any permanent list of households for use as a sampling frame. At the time of the survey, therefore, the only suitable frame available for selection of the primary sampling units was the EAs used for the 1970 census.

2.4.3 Mapping and listing of households

To realise the basic sample design mentioned, the use of the census EAs as PSUs would have entailed the listing of over 80,000 households taking into account the estimated population size of the EAs in 1977. Such a big listing operation would have placed a great burden on administrative and other logistical resources and entailed problems of control and supervision. The alternative strategy of splitting selected EAs into smaller area units, called segments, together with estimates of size, expanding the list of EAs to include the sub-EAs in some order, and then using the original random start and selection interval for the first stage to select the sub-EAs with probability proportional to size was adopted. Scrutiny of the census maps suggested that about one third of the EAs could be split into sub-EAs of approximately equal size without recourse to fieldwork, but for the remainder detailed mapping in the field was necessary. The office splitting, field mapping, and household listing operations were carried out as follows.

Office segmentation of EAs

For rural EAs, localities with an estimated (1978) population of between 300 and 500 were taken as single segments, and larger localities were divided into two or more segments according to their estimated size. Smaller localities were combined to form segments of the required size if the localities were contiguous and there were physical features to be used to define the boundaries of the segments so formed. Urban EAs were also split (or partially split) in the office if well-defined physical boundaries (usually roads or streets) were available to divide the EA into blocks of the required size.

About two-fifths of the rural EAs and one-eighth of the urban EAs were thus split in the office.

Field mapping

The field mapping was undertaken by five teams each composed of a draughtsman and a

statistical clerk. The teams visited each EA, made a quick estimate of the population of all localities and indicated their position on a copy of the census map, entering such details of natural or physical boundaries as streams, paths, etc. New sketch maps of the EAs were then made in the field and these were sent to the headquarters for fair drawings to be made by a team of eight statistical clerks and a draughtsman. The operation involved 224 EAs and took about six months to complete.

Listing of households

The household listing operation was undertaken by nine teams each comprising five listers and a supervisor. The staff were recruited from the field staff of the Control Bureau of Statistics in the various regions, and their assignment was to apply the census definition of "household" to divide persons in a dwelling into households, list these in a listing booklet, providing for each household such particulars as name of head of household, address of house or dwelling (or a description of its location), size of household, and main language spoken by members of the household. The listers were to assign a three digit number for the dwelling and this was also to be written in white chalk on the dwelling.

The specification of main language spoken in the household was to enable the survey organisers to estimate the quantity of questionnaires to be printed for each survey language. It was also to help the interviewer to determine what questionnaires to take along to the household. The other particulars were to facilitate the easy identification of the household by the interviewer.

2.4.4 Selection of sample

The selection of the sample therefore proceeded as follows: after estimating the population of the EAs in 1978 on the basis of the average annual growth rate between 1960 and 1970 the EAs were then listed in a serpentine order and stratified by region and sector (rural, urban and large urban). The rural/urban strata were defined as follows:

i) Rural stratum consisted of all EAs in localities with an estimated population below 5000. This included all localities forming single EAs and all smaller localities forming parts of EAs.

ii) Urban stratum included all EAs in localities with a population of 5000 or more with the exception of regional capitals.

iii) Large urban stratum consisted of EAs in localities with a population of 10,000 or more and serving as the capitals of the regions.

The required number of 300 EAs were then selected by systematic probability proportional to size sampling. For each selected EA the 1970 census map was extracted and split where necessary into the required number of sub-EAs, either in the office or after field mapping. One of the sub-EAs was then selected with probability proportional to size. All the households in the selected EAs or sub-EAs were then listed in a field operation and the required number of sample households was selected with probability inversely proportional to size to give a self-weighted sample.

In summary, the Ghana Fertility Survey sample was a stratified cluster sample. The sample design was a two-stage self-weighting design stratified by region and sector (rural, urban and large urban). 300 primary sampling units were selected with the intention of yielding a sample of 7500 households and all women aged 15 to 49 years who slept in the selected household the night before the first visit for the household interview were interviewed.

Further information on the sample design and sampling errors is given in Appendices II and III respectively. Details of response rates and the achieved sample are discussed below in Section 2.9.

2.5 THE QUESTIONNAIRE

2.5.1 WFS core questionnaire and modules

The questionnaires used in the GFS were developed from the recommended WFS core questionnaire, the Module on Factors Other Than Contraception Affecting Fertility, and selected portions of the Family Planning and Abortion Modules. The modules are sets of supplementary questionnaires on particular topics which can be incorporated into the main questionnaire in whole or in parts.

As stated in Section 2.1 the prescription by WFS of prototype survey questionnaires and documents for countries participating in the WFS programmes was intended to ensure that country surveys produced standardised data on fertility levels and behaviour which will be internationally comparable. Within this broad constraint, however, participating countries were permitted, and in fact encouraged, to adapt or modify the documents and even extend the scope of the questionnaires to meet country needs and local conditions. Consequently, while adopting the broad outlines and structure of the recommended questionnaires the GFS questionnaires contained some modifications of the prototype questionnaires to meet the statistical data needs of the country and to suit the social system and conditions in the country. Modifications made were also to ensure comparability with existing statistical data about the country.

2.5.2 GFS questionnaire

The questionnaire consisted of two major parts as recommended by WFS:

i) the household schedule, and

ii) the individual questionnaire.

Household schedule

The household schedule prescribed by WFS provides for the listing of household members together with basic social and demographic data about members, which serves as a frame for identifying eligible respondents for the individual interview. The data could also provide denominators for calculating certain demographic statistics and useful contextual data on factors which may relate to fertility.

The extent of adoption of the schedule as prescribed however depended on the scope of the country survey and the availability of other sources of data for use as social and demographic background to the survey findings. Consequently the GFS adopted a shortened version of the schedule, including only questions on relationship, de facto/de jure household membership, sex, date of birth, and age, which were necessary mainly for identifying eligible respondents for the individual interview. The reasons for the adoption of a shortened version of the household schedule were the following.

a) The GFS as a fertility survey had a limited scope and it was not intended to be an all-embracing demographic survey.

b) The 1960 and 1970 post-census surveys provided more comprehensive data which could be used as social and demographic background for the survey. Moreover at the time of planning the survey a national population census which would also provide the necessary background data was being planned for 1980 or early during the decade.

c) Since most of the topics - such as those relating to fertility - applied mainly to the sample population (all women aged 15 to 49) and a more in-depth approach was going to be used to collect the information during the individual interview, their duplication in the household schedule was considered unnecessary. This was particularly so since the respondents in the individual survey were not a sub-sample but the entire female population aged 15 to 49 listed in the household schedule.

Individual questionnaire

The individual questionnaire constructed from the WFS core questionnaire and the modules mentioned earlier comprised seven sections: (1) respondent's background, (2) maternity history, (3) marriage history, (4) contraceptive knowledge and use, (5) birth intervals and fertility preferences, (6) work history, and (7) current (last) husband's background.

It also had a cover sheet which contained information on identification and administrative and field controls.

i) Respondent's background

In this section information collected covered five major items: present and past residence, age and date of birth, education and literacy, ethnic origin, and religious affiliation. The information was to be used to construct variables considered to be explanatory with regard to fertility and contraceptive behaviour.

ii) Maternity history

Considerable modifications were made in the structure of the recommended questionnaire for this section. Instead of independent schedules for live births and other pregnancies separated by questions on breastfeeding of most recent birth and current pregnancy status, an integrated single pregnancy history schedule was adopted. This made it easier to relate the live births to the non-live births in temporal sequence. It also had the effect of ensuring a more complete enumeration of all pregnancies. Questions on breastfeeding of the most recent birth were also transferred to Section 5.

Information obtained in this section consequently covered:

i) live births, by sex and date of occurrence;

ii) incidence of mortality and age of death;

iii) incidence and type of pregnancy wastage, and

iv) women currently pregnant, with expected date of birth and sex preference.

iii) Marriage history

In this section a complete marriage history was obtained for each respondent including, for the ever-married, the date of the beginning and end of each union; and for those unions that were dissolved, the nature of the dissolution was obtained.

Since in the GFS eligible respondents were all women aged 15 to 49 years

regardless of marital status it was decided that this section should be brought forward as Section 3 to precede the section on contraceptive knowledge and use. This made it possible for the marital status of the respondents to be determined before they were asked questions on contraceptive knowledge and use that were appropriate for them. Also, unlike the procedure in the core questionnaire where the marital status of the respondent was determined straightaway, in the answer to the first question the GFS questionnaire took the respondent through a series of "check" questions before determining her marital status on a de facto basis.

iv) Contraceptive knowledge and use

Questions in this section sought to obtain information about the respondent's acquaintance with, and use of, contraceptive methods. First she was asked to name the contraceptive methods she knew. She was then asked if she had ever used the methods she mentioned. For those methods she could not mention spontaneously, a brief description of them was read to her and for each she was asked if she had ever heard of it. If she had, she was asked if she had ever used the method.

Those who knew some methods were asked also if they knew the outlets for contraceptive supplies or services and whether they themselves had visited the outlets they knew some time in the past or recently.

v) Birth intervals and fertility preferences

Besides the use or non-use of contraception, certain social, biological and cultural factors and practices also affect fertility. These include breastfeeding, post-partum amenorrhoea, regularity of menstruation, frequency of sexual relations, and post-partum abstinence from sexual relations. The questions in this section were directed to obtaining information on these other factors that can influence fertility.

vi) Work history

Questions in this section enquired about respondent's current or most recent work; if she had worked, the kind of work done, location of workplace, employment status, and total work experience in years. For those who had ever been married the questions related to work done after first marriage, and work done before first marriage, while the never-married were questioned about their current or most recent employment.

vii) Current (last) husband's background

Information was also collected about respondent's current spouse, if married, or about her last husband, if no longer married. The information sought here was similar to that obtained for the respondent in Sections 1 and 6.

2.5.3 Translation of the questionnaire

One of the assumptions of the WFS programme was that inaccurate responses in surveys are attributable partly to incorrect interpretation, on the part of the interviewers, of questionnaires prepared in foreign languages where the questionnaires are to be interpreted to respondents in local languages. It was therefore recommended that local language versions of the standard questionnaires should be developed by participating countries and used in the surveys.

In the GFS nine local languages were selected for this purpose. They were: (1) Asante-Twi, (2) Fante, (3) Nzema, (4) Ga, (5) Dangbe, (6) Ewe, (7) Dagbani, (8) Hausa and (9) Kasem. As stated in Section 1.8.1 there are over ninety primary ethnic groups in Ghana and there are as many local languages and dialects as there are ethnic groups. Nevertheless the nine selected local languages represented the main Ghanaian languages spoken in most of the regions, except Hausa and Kasem which were later found to be not so widely spoken in the regions (Northern and Upper) which the languages were intended for. One other major criterion for the selection of the nine local languages was the fact that they are "written" languages.

The translation of the questionnaire followed the procedure recommended by WFS. First a translation of the English version of the questionnaire was made into the local languages by a group of local language experts. These translations were then translated back into English by another group of experts working independently of the first translators. A review session was later convened for the two groups of translators and the survey technical staff to examine the first and the back translations with the view to resolving disagreements between them. In the review exercises several cases were found where the local language translation was correct and the translation back into English wrong; and there were also cases where the original English version and the back translation agreed but the local language translation was wrong. Examples of the latter cases were the following:

Q315

English version (original):

"How did the marriage end?"

Back translation (into English):

"How was the marriage ended?"

Asante-Twi (literally):

"What (rites)[1] were performed to end the marriage?"

Q511

English version (original):

"Who helped you to deliver the child?"

Back translation (into English):

"Who helped you to deliver?"

Asante-Twi (literally):

"Who cared for you (during the pregnancy) till the delivery of the child?"

In view of this shortcoming of the procedure whereby only the original English version and the back translation were to be compared to assess accuracy, all the translations - both ways - were examined during the review sessions whether or not there was agreement between the original English version and the back translation.

2.6 PRE-TEST

As mentioned in Section 2.2 the Pre-test was conducted to test the efficiency of the questionnaire as designed and to serve as a rehearsal for the main survey. More specifically it was to test the questionnaire regarding the logical sequence of the questions as well as the "filters" and the "skips", the adequacy of the precoded categories, and the efficiency of the translation into the local languages. It was to assess also the reaction of respondents to the questions asked, the average duration of an interview, and the average number of questionnaires an interviewer was capable of completing in a day. The latter two were to enable the survey planners to determine the workload to be assigned to an interviewer in the main survey.

Questionnaires of the six local languages which were not used in the 1975 Pilot Survey and the English version were used in the Pre-test and about fifty interviews were completed for each language.

2.6.1 Amendments to questionnaires

No changes were made in the content of the household schedule apart from positional rearrangement of parts of the schedule. With regard to the individual questionnaire, however, several changes were made after the Pre-test. These included the deletion of a direct question on the knowledge and practice of abortion (Q411). However a new question relating to whether a non-live birth was spontaneous or induced (Q243) was included. The format of the part of the questionnaire relating to outlets of contraceptive supplies and services and the means of getting to the outlets (Qs 434-439) was changed. The structure and content of questions relating to work history of respondent and occupation of respondent's partner were amended in several parts. Questions considered to be redundant (Q540 and Q541) were deleted and amendments were also made in the "filters" and "skips" to correct errors and illogical or impossible situations.

The interviewer and supervisor manuals were accordingly amended to reflect the changes made in the questionnaire.

2.6.2 Review of translations

In the Pre-test the interviewers were instructed to record errors in, or problems about, the translations on report sheets specifically designed for that purpose. Reports from the interviewers in respect of two of the languages were not efficiently done, and alternative translations of the parts which were in error were given by the interviewers where possible. With regard to the Hausa language it became evident from the reports that the written form of the language was the classical version originating from Northern Nigeria, and this version is not intelligible to the Ghanaian population who speak a local colloquial version. The translator of the Hausa version (from English into Hausa) with the assistance of the Pre-test interviewers then constructed an indigenous version of the classical Hausa, and copies of this were made to be used by the interviewers in the main survey as reference copies.

2.7 RECRUITMENT AND TRAINING OF FIELD STAFF

The quality of the results of a survey depends on the quality of the field staff who collect the basic data from respondents, and the efficiency of the staff, however well qualified they might be, depends on the adequacy of the training they receive before undertaking the assignment. With this in view the survey organisers considered the recruitment and the training of the field staff to be of paramount importance.

2.7.1 Recruitment

In small scale surveys the Central Bureau of Statistics uses its own statistical personnel in the regions as well as those at the head

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1) *Words and expressions in brackets were implied in the vernacular translations although not specifically stated.*

office in Accra for the fieldwork. In large scale operations such as population censuses and surveys requiring a large force of field personnel the Bureau uses the staff of the Department of Social Welfare and Community Development or school teachers from the Ministry of Education. The GFS was rated as a large scale operation and the field staff were to be recruited from either of the two agencies outside the statistical office. Since schools were then in session, school teachers could not be used and so the choice fell on personnel from the Department of Social Welfare and Community Development.

The department has branches at the district level and as such could provide personnel from the various districts of the sample areas and for the survey languages. The personnel are professionally trained for social and community development fieldwork, and as social field workers they have a high standing in the communities where they work. These qualifications have made the personnel from the department an automatic choice of government agencies for field assignments involving social contact.

A total of about eighty officers with basic formal education of ten years and above and equally divided between the sexes were to be released for the training course. They were to be in the departmental grades of Community Development Assistant or its equivalent (for interviewers) and Senior Community Development Assistant or its equivalent (for supervisors), and suitably qualified in terms of literacy and fluency in the survey languages. However, while qualified females were available in more than the required number for some of the languages there was deficiency of females for other languages. Also as most of the prospective female staff were mothers and housewives their household duties prevented many of them from participating in the survey which would have taken them away from home for long periods. Consequently the females consituted only about one-quarter of the officers who reported for the training course. The need to balance the sex composition of the field staff was however not considered to be very critical for the survey. In the 1975 Pilot Survey which investigated the belief that female respondents prefer female interviewers in a survey like the GFS which involved sensitive questions, the evidence in favour of respondents' preference for female interviewers was not overwhelming, and in the Pre-test the general finding was that the female respondents did not mind whether they were interviewed by male or female interviewers. The distribution by sex and education of the field staff trained and selected for the main fieldwork therefore was as given in table 2.1.

No limits were set regarding the ages of the staff to be recruited, but the average age of the supervisors was about 38 and that of interviewers about 29.

TABLE 2.1

NUMBER OF SUPERVISORS AND INTERVIEWERS AT THE START OF THE FIELDWORK BY SEX AND EDUCATION

Sex	Total	Supervisors		Interviewers	
		Secondary School	Middle School	Secondary School	Middle School
Total	78	8	14	17	39
Male	62	7	10	14	31
Female	16	1	4	3	8

2.7.2 Training

The training course was conducted centrally in Accra and was in two phases. The first phase was a two weeks course (15th - 26th January 1979) for the supervisors and the second lasting three weeks (29th January - 16th February 1979) involved both the supervisors and the interviewers. The training schedules and procedures followed were very similar in both courses and they involved classroom lectures, written and oral exercises in class, demonstration interviews in class, and interviewing practice in the field. After the treatment of a whole section of the questionnaire in class lectures, written exercises were given on the topics covered and a classroom demonstration interview was organised in respect of the section. A trainee acted as the interviewer and a trainer played the role of a respondent. The whole class however recorded the answers from the interview. After the entire questionnaire had been covered a series of classroom demonstration interviews involving respondents from outside were also organised, and in these every effort was made to bring in respondents with varied backgrounds so that all sections of the questionnaire and all the skip patterns could be involved.

In the course of these exercises the weaker trainees were identified and given special sessions after classses to upgrade their performance. At the end of the course special group sessions were organised for the study and the review of the local language versions of the questionnaire.

In addition to the content of the second (interviewer/supervisor) course which basically dealt with how to conduct good interviews, the supervisors' course covered also the organisational and supervisory role of the supervisor as outlined in the Supervisors' Manual. The strategy of training the supervisors first was adopted so that the supervisors would be able to assist in the training of the interviewers and supervise their practice field exercises.

2.8 MAIN FIELDWORK

2.8.1 Size and composition of teams

The fieldwork commenced in March 1979 immediately after the training course and it was organised to start and proceed in all the nine regions simultaneously. Consequently nine teams were raised, each comprising between two and four supervisors and between four and nine interviewers (see Table 2.2). The variations in the size of the teams and in the supervisor/interviewer ratios were due to regional differences in the number of selected sample households, language composition of the regional samples, and the relative availability of field staff for the languages.

During the household listing operation information about the main language spoken in the household was collected on the listing schedule, and this was partly to enable the survey organisers to determine the number of staff to be recruited for each survey language from each region. The listing operation was however not completed when the recruitment of staff was made. Information collected in the 1970 census on the main languages spoken in the sample EAs was therefore used as a guide.

However information from the household listing, which became available after the selection of the sample households and the commencement of the training course, showed that as many as 13.4 per cent of the sample households had non-survey languages listed as main languages spoken in the households, and these were predominantly in the Northern and Upper regions. These households constituted 48.6 per cent and 76.6 per cent respectively of the total sample households selected for the Northern and Upper regions.

In view of this situation six new officers who speak the non-survey languages were recruited while the main training course was in progress. They were given a one-week concentrated training course in Accra beginning immediately after main course. They augmented the teams for the Northern and Upper regions replacing four of the original staff for the two regions who were either consequently found to be redundant or did not do well in the main course.

Since the interviewers for the two regions could not work in any common local language their teams consequently could not move together. Each interviewer therefore worked in his/her own language area and the supervisors went round to visit them to check their work. The English questionnaire was used where a survey language questionnaire could not be administered.

2.8.2 The fieldwork

The field interviews commenced in the regions on different dates in the months of February and March 1979. There was no nationwide mass media publicity about the survey. However at the commencement of all phases of the survey work - namely, the mapping, household listing, and the main fieldwork - letters were issued to the administrative heads of the regions and the districts to inform them about the survey and ask for all the necessary assistance to be given to the field staff. Before the arrival

TABLE 2.2

DISTRIBUTION OF TEAMS BY SIZE AND REGION

Region	Percentage distribution of selected households	Size of teams			
		At start of fieldwork		At end of fieldwork	
		Supervisors	Interviewers	Supervisors	Interviewers
Western	9.5	2	5	2	4
Central	11.2	2	4	2	4
Greater Accra	13.5	2	5	2	4
Eastern	14.0	3	8	2	6
Volta	10.0	3	6	2	4
Ashanti	20.8	4	9	4	7
Brong Ahafo	9.2	2	5	2	4
Northern	5.5	2	7	2	5
Upper	6.3	2	7	1	5
All regions	100.0 (7,208)	22	56	19	43

of a team in a locality, the supervisors also made an advance visit to the locality to inform the chief or the local authorities about the survey and the impending visit of the team to the locality.

The fieldwork was carried out under the directing leadership of the supervisors. They made plans for the coverage of the sample areas, distributed workload among the interviewers, and checked the quality of the interviewers' work. The household and the individual interviews were conducted generally during a single visit to the household with the individual interview following after the household interview.

2.8.3 Quality control of data

The organisation of the fieldwork was such that checks on the quality of the data were carried out continuously throughout the field operation. Before the commencement of each day's work the supervisors met the interviewers to collect completed questionnaires and to discuss problems encountered during the previous day. Errors detected in the previous batches of completed questionnaires after they had been scrutinized were also discussed with the interviewers.

A number of other quality control and evaluation checks were also specified in the Supervisor's Manual to be undertaken by the supervisor. These included:

a) Spot-check - on a specified minimum nmumber of households to ensure that only eligible households and individuals were being interviewed;

b) Re-interview - also of a specified minimum number of completed interviews in specified sections of the questionnaire to assess the quality of the interviewer's performance; and

c) Consistency checks - involving the comparison of answers to specified questions in certain specified sections of the questionnaire with each other to ascertain consistency and reliability. Special consistency check forms were provided for this.

Supervisors were required to attend some of the interviews to observe the quality of interviewing.

The Survey Director and other professional staff from head office also made regular visits to the field to check the progress and quality of the fieldwork and to discuss any problems encountered by the field staff.

2.8.4 Organisational and logistical problems

Difficulties and delays experienced in the execution of the fieldwork were largely due to the inadequacy of the administrative and logistical provisions made for the GFS.

Organisational problems

Administrative support staff appointed for the GFS comprised only an accountant (who had to combine GFS schedules with his normal departmental duties), a typist and two statistical clerks. One of the statistical clerks was attached to the Sampling Expert and the other to the Survey Director to perform minor technical duties. There was no provision for an administrative assistant or a field officer. The severe staff constraints therefore precluded the assignment of specific technical and administrative schedules to specific officers, and assignment of duties had to be made largely on an ad hoc basis. Payment of salaries and allowances to the field staff was for instance made in the field monthly by the Survey Director and other staff from head office during their periodic field visits, and arrangements for accommodation for the field staff in the localities where they worked were made by the supervisors during their advance visits to the localities.

Logistical problems

Besides the adverse effects of the political disturbances and industrial crises in the country during the survey period, the major logistical problem of the GFS was that of transportation. Vehicles provided for the fieldwork were inadequate and very old, and not all that road-worthy. The teams therefore experienced frequent vehicular breakdown resulting in the field staff being left stranded in the field for many days or weeks.

2.9 RESPONSE RATE

2.9.1 Coverage of sample units

Interviews were conducted in all the selected 300 primary sample units. Table 2.3 shows that out of the total of 7208 households selected for the survey, 1088 could however not be contacted. Out of the 6120 contacted households, interview could not be conducted or completed in 119 of them for various reasons. The response rate for the coverage of the sample households was therefore 84.9 per cent while the response rate for the interview of households which were contacted was 98.1 per cent.

The 6001 households with completed interviews yielded a total of 6363 eligible respondents (females aged 15 to 49 years), giving a ratio of 1.07 eligible respondents per household. Out of the total eligible respondents interviews were completed for 6125 respondents, giving a response rate of 96.3 per cent (see Table 2.4). A total of 149 (2.3 per cent) were not found at home and five respondents refused to be interviewed. Interviews could however not be completed for

TABLE 2.3

HOUSEHOLD SURVEY RESPONSE RATES

Result	Number of households	%	%
Total households selected	7208	100.0	
Not contacted			
Dwelling vacant)			
Family away)	1088	15.1	
Household not found)			
Contacted	6120	84.9	100.0
Interview not completed	119	1.6	1.9
No respondent at home	66	0.9	1.1
Deferred	11	0.1	0.1
Refused	42	0.6	0.7
Interview completed	6001	83.3	98.1

TABLE 2.4

INDIVIDUAL INTERVIEWS RESPONSE RATES

Result	Number of households	%
Total eligible respondents	6363	100.0
Interview completed	6125	96.3
Interview not completed	238	3.7
No respondent at home	149	2.3
Deferred	4	0.1
Refused	5	0.1
Partly completed	1	0.0
Other causes and N.S.	79	1.2

77 respondents for other reasons. The reasons for non-interview in two other cases were not stated.

The analyses show that the problem of identifying or contacting the sample households was relatively greater than that of interviewing the households or the eligible respondents once they had been contacted. The high rate of non-contact of households was due to the following factors.

Definition of household

The definition of a "household" adopted in the GFS followed closely the definition employed for the conduct of national population censuses. A "household" was defined as consisting of a person or a group of persons who live together in the same house, have a common source of food or pool their resources together to be catered for as one unit. This definition of a household, which is very useful for controlling census enumeration coverage, tended, however, to break up households constituted as socio-economic units where members of such households live in different houses. This results in the creation of several single-person households as well as household units which are difficult to identify on second or subsequent visits; and the probability of missing single-person households is greater than that of missing multi-person households.

Protracted fieldwork

The household listing operation was completed in January 1979 and the fieldwork, which commenced in February 1979, ended in March 1980 - a time lapse of fourteen months between the end of the household listing and the end of the fieldwork. The protracted duration of the fieldwork contributed to many households not being found, especially in areas containing a large population of workers on projects such as road construction. Workers on such projects were not stationed permanently in the localities where their households were listed but moved camp when the segment of the projects in the localities was completed. This was found to be the case explaining the high rate of missing households in two regions, namely, the Central and Brong Ahafo regions.

2.9.2 Characteristics of interview situations

Five indices may be used to give an idea about the relative ease with which interviewers completed the individual interviews: number of visits made to the household, use of an interpreter in the interview, privacy of interview, length of the interview, and the co-operation of the respondent.

Number of visits

Table 2.5 shows that for the total country 93.5 per cent of the interviews were completed during the first visit. The proportion for rural and urban was 94.3 per cent in each sector while in the large urban areas the proportion was 89.3 per cent. As expected the completion of an interview in large urban areas required more visits to the household than did interviews in the rural and small urban areas.

Use of an interpreter

In spite of the recruitment of interviewers for the sample households which did not have

TABLE 2.5

PERCENTAGE DISTRIBUTION OF INDIVIDUAL INTERVIEWS BY NUMBER OF VISITS FOR URBAN/RURAL SECTORS

Urban/ Rural sector	Number of visits				
	1	2	3	Not stated	Total
Total country	93.5	4.6	1.8	0.2	100.0 (6125)
Rural	94.3	3.8	1.6	0.2	100.0 (4046)
Urban	94.3	4.5	1.1	0.1	100.0 (1019)
Large urban	89.3	7.4	3.1	0.2	100.0 (1060)

any of the survey languages as the main language spoken, interpreters had to be used in some of the interviews. This was largely due to the fact that the regional distribution of both the survey and non-survey languages was not perfectly homogeneous. In the Northern and Upper regions where the linguistic problems were greatest, an interpreter had to be used in 17.2 per cent and 13.1 per cent of the interviews respectively followed by Western region where the proportion was 10.7 per cent.

The percentages for other regions are given in Table 2.6.

Privacy of interviews

For the individual interviews the interviewer was instructed to try as much as possible to conduct the interviews in private since the presence of others might influence some of the respondent's answers. At the end of section 3 of the questionnaire therefore the interviewer was requested to indicate the presence of certain specified individuals and categories of persons at the interview for an evaluation of the likelihood of the information given in the section having been influenced by the presence of third parties. A summary of the interview situations in this regard is given in Table 2.7.

As shown in the table, information given in the section on marriage histories was obtained in complete privacy in 37.9 per cent of the interviews. In 7.1 per cent, only children under 10 years of age were present. In 22.4 per cent the husband only or together with other persons was present, and in the remaining 32.6 per cent of the interviews, other persons were present.

It should be pointed out here that, except in the case of very sensitive questions, the presence of others at interviews may not necessarily affect adversely the respondent's responses since they often help the respondent to remember certain facts. The presence of others in some cases may even prevent the respondent from deliberately giving false answers to questions. In the Ghanaian situation it is even not uncommon for a respondent in an interview to call in relatives or other household or dwelling members for the purpose of checking with them the accuracy of specific information about her which she intended to give as answers to interviewer's questions. The large size and the openness of dwelling houses or compounds in most parts of the country also make it difficult to have interviews conducted in complete privacy within the house or compound. In these situations the presence of other persons at interview is a relative concept, subject to varying perception by interviewers.

Duration of interview

The mean duration of an interview was 44.5 minutes for the entire country. The figures

TABLE 2.6

PERCENTAGE DISTRIBUTION OF INDIVIDUAL INTERVIEWS BY USE OR NON-USE OF INTERPRETER IN INTERVIEW - FOR REGIONS

Region	Used interpreter	Did not use interpreter	Not stated	Total
Western	10.7	86.0	3.3	100.0
Central	0.6	98.7	0.6	100.0
Greater Accra	2.9	93.8	3.3	100.0
Eastern	7.2	92.4	0.4	100.0
Volta	4.0	95.3	0.7	100.0
Ashanti	1.4	97.8	0.9	100.0
Brong Ahafo	0.6	99.0	0.4	100.0
Northern	17.2	80.5	2.3	100.0
Upper	13.1	84.6	2.3	100.0
All regions	5.3	93.3	1.4	100.0

TABLE 2.7

INDIVIDUAL INTERVIEWS BY PERSONS PRESENT

Persons present	Number	Percentage
No one	2323	37.9
Children under 10 years only	438	7.1
Husband only	608	9.9
Husband and children	269	4.4
Husband and others	494	8.1
Other males only	213	3.5
Other males and children	107	1.7
Other females only	581	9.5
Other females and children	610	10.0
Various	463	7.6
Not stated	19	0.3
Total	6125	100.0

for rural, urban and large urban areas were 45.8, 43.0 and 40.8 minutes respectively, indicating longer duration of interview in the rural areas than in the urban areas (see Table 2.8).

Evaluation of interview

On the basis of the interviewer's evaluation of the degree of co-operation received from respondents, 79.7 per cent of the interviews were rated as good or very good while the remaining 18.1 per cent were described as poor or fair. The proportions of the interviews in the rural, urban and large urban areas rated as good or very good were 76.9, 84.2 and 86.1 per cent respectively. This showed that the co-operation of respondents was relatively better in the urban areas than in the rural areas. It must however be remembered that the evaluation was based on the interviewer's own subjective perception of the situation and therefore highly subject to interviewer variability.

2.10 MANUAL EDITING AND CODING

The manual editing and coding of the returns from the field were undertaken by a team of ten statistical clerks from the Central Bureau of Statistics under the direct supervision of a principal statistician who was a member of the directing staff of the survey. The team comprised one record receipt and control clerk, four editors and five coders. All the staff had worked in the statistical office for more than ten years as editors or coders of census and survey questionnaires and also in the preparation of statistical tables. They have also participated in various fieldwork as enumerators or interviewers. The staff were given a two-week training course on the design, structure, and content of the GFS questionnaires, general principles of questionnaire editing and coding, and the GFS editing and coding instructions as contained in the editing and coding manuals.

The main work of the record receipt and control clerk was preliminary checking of questionnaires received against the field control sheets for completeness of coverage of the selected sample units, and registration and shelving of the questionnaires by region and PSU code. Because of the frequent field visits made by headquarters staff to check the control records of the field supervisors very few cases of omission of selected sample units were detected by the receipt and control clerk.

TABLE 2.8

MEAN DURATION (IN MINUTES) OF INDIVIDUAL INTERIVEWS[a] FOR URBAN/RURAL SECTORS

Urban/Rural sector	Number of interviews	Mean duration (minutes)	Standard deviation
Total country	6072	44.5	20.9161
Rural	4000	45.8	20.3360
Urban	1016	43.0	19.4757
Large urban	1056	40.8	23.7312

[a] Data exclude 53 interviews for which duration was not stated.

The editing commenced in May 1979 immediately after the two weeks' training and it involved checking the questionnaire content to ensure that the information including identifications was complete, correct and consistent. In addition to the instructions and procedures outlined in the editing manual, the editors were provided also with copies of the consistency check forms used by the field supervisors during the fieldwork. The editors used these forms to do a second round of the consistency checks which the field supervisors were supposed to have carried out. The editors were also requested to list all the various types of response given to each of the open-ended and semi open-ended questions. The responses listed in respect of each question were then reviewed and verified one against the other, and this enabled mutually exclusive response variables or patterns to be derived. The most important questions requiring such treatment are:

a) Method of age estimation (Q110b)

b) Reasons for not expecting to resume sexual relations with husband in the future (Q321)

c) Reasons for not wishing to go to a contraceptive service/supply outlet in the future (Q447)

d) Number of children/additional children desired (QS568/573/576)

e) List of traditional contraceptive methods (Q423)

Following the verification of the responses, the traditional contraceptive methods mentioned were all found to be abortifacients and not preventive methods. They were consequently deleted. Cases which were not provided for in the questionnaire were also handled at the editing stage. An instance of this was the absence of a filter to identify respondents who had not yet experienced their first menstruation before the question, relating to whether menstruation periods came at regular intervals, was asked in Q559. There were 122 women (2 per cent of total of respondents) who had not experienced their first menstruation and an extra code box was provided for them in Q559.

The coders started work in July 1979 and this was when an adequate number of edited questionnaires had been available to ensure a continual flow of questionnaires to the coders. All the coding was done on the questionnaire itself in the code boxes provided.

In the editing and coding processes more difficult cases or problems on which the supervisor could not give immediate decisions were submitted on referral slips for discussion by the directing staff. Most of

the decisions taken or solutions arrived at were however the result of group discussion involving also the editors and coders who were found to be very resourceful - particularly in their knowledge of traditional contraceptive methods and practices.

Both the editing and the coding operations were completed in April 1980, but three of the editing and coding staff were retained to do corrections that came up during the mechanical data processing stage.

2.11 MECHANICAL DATA PROCESSING

2.11.1 Punching

The punching of the questionnaire, which started in October 1979, was done at the Central Bureau of Statistics data processing centre. The late start of the punching was due mainly to logistical constraints, particularly shortage of punch cards. However the staff were able to catch up with the manual editing and coding and the punching was completed in June 1980.

2.11.2 Data validation and tabulation

Preparatory work for the data validation operation commenced in September 1978 with a visit by a WFS data processing expert to assess and evaluate the local facilities. Recruitment and briefing of the data processing personnel took place during this period, and work started in January 1979 with the installation of CONCOR software program.

Owing to the non-availability of data processing personnel at the Central Bureau of Statistics for the work, the services of one systems analyst and two programmers from the University of Ghana were obtained, and the staff constituted the local counterparts of the WFS data processing expert who made periodic visits to Ghana to give guidance and assess progress of work. The computer facility of the Central Bureau of Statistics was used for the preliminary data editing operations and the facility of the Social Security and National Insurance Trust (SSNIT) was used initially as a back-up support. During the latter stages of the data

TABLE 2.9

IMPUTATION OF MONTHS FOR DATES OF EVENTS

Event	Form of reporting date of event								Proportion of dates with months imputed
	Month and year	Year only	Years ago	Age at event	Age at interview	Years interval or since previous event	No information	Total	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)=(1)÷(8)x100
Respondent's births	3,191	1,665	-	-	1,269	-	-	6,125	47.9
All pregnancies	12,047	3,944	2,953	-	-	4,678	3	18,959	36.5
First pregnancy	3,010	944	725	-	-	19	-	4,686	35.8
Next to last pregnancy	2,515	748	542	-	-	941	-	3,805	33.9
Last pregnancy	3,671	584	427	-	-	789	-	4,686	21.7
Beginning of all marriages	2,474	2,236	-	1,392	-	-	-	6,102	59.5
End of all marriages	638	616	-	-	-	412	-	1,666	61.7
Beginning of first marriage	1,992	1,754	-	1,197	-	-	-	4,943	59.7
Beginning of current marriage	1,937	1,506	-	993	-	-	-	4,436	56.3

+ Horizontal cells do not add up to total due to multiple entries.

processing, however, greater use was made of the SSNIT facility on account of its bigger memory capacity and greater reliability.

Preparation of clean data tapes

In the preparation of clean tapes the data were checked and corrected for format and structure errors, out-of-range codes, and inconsistent entries. The computer was used to locate errors and error print-outs were produced. The errors were then verified by reference to entries on the original questionnaire and necessary corrections were made by the coding staff on special up-date forms.

After the data cleaning, imputation of months by computer was undertaken in respect of dates of important events for which the month and year were not given. As shown in table 2.9 the dates of many important events reported in the survey were not given in month and year of occurrence and the months of the dates - or of the estimated calendar years - had to be imputed. Of the 6125 respondents in the individual survey, only 52.1 per cent could give their date of birth in month and year and an additional 27.2 per cent could give the year of birth only.

The extent of imputation of the months of dates of birth of the respondents and of dates of other important events is given in column 9 of Table 2.9.

The data validation work started in April 1980 with format/structure editing. The range, skip, filter and consistency checks were done in September 1980 when COCENTS program was also installed. This was followed by the installation of a date edit program (DEIR) in November 1980 and a re-installation of the programme in April 1981. The date edit was completed in August 1981.

Variable recoding and tabulation

An attempt to do the variable recoding on the local facility was unsuccessful and the data tape was taken to London where this was successfully done. The final version of the tabulation was worked on in London between September 1981 and February 1982, put on tape and sent back to Ghana for the tables for the first country report to be run locally.

2.12 TIMETABLE

Preparation of the project agreement was completed in December 1977, and in the project document the survey fieldwork was to take three and a half months to complete - to be completed by the middle of December 1978 - and the publication of the first report of the survey was to be in December 1979. The execution of the survey programme, however, fell in a period of economic and political crises in Ghana and these caused hold-ups in the execution of the various programmes of the survey, particularly the mapping and the main fieldwork.

The economic crises and the resulting frequent changes of government fiscal and financial policies also frequently threw out of balance the approved survey budgets, and negotiations for budgetary revisions naturally could not be completed promptly. The logistical problems mentioned in Section 2.8.4 affected the pace of the fieldwork, and the lack of efficient data processing facilities - in personnel and hardware - at the Central Bureau of Statistics and shortages of essential inputs such as punch cards, as mentioned in Section 2.11, also contributed to the delay in the early completion of the mechanical processing and tabulation of the data.

Given below therefore is the timetable for the survey showing the planned and the actual periods during which the various phases of the survey were executed.

TIMETABLE OF OPERATIONS

Activity	Planned	Actual
1. Determination of sample design	Nov-Dec 1977	Nov-Dec 1977
2. Preparation of questionnaires, manuals and translations for Pre-test	Nov 77 - Jan 78	Nov 77 - March 78
3. Pre-test: training and fieldwork	Feb-Mar 1978	April-May 78
4. Evaluation of Pre-test and finalisation of questionnaires, manuals	March-April 78	May-July 78
5. Mapping: office and fieldwork	Jan-May 1978	Jan-Nov 1978
6. Printing of questionnaire, manuals	May-July 1978	July78-Jan 79
7. Households listing: training, fieldwork and sample households selection	June-Aug 1978	Sept 78 - Jan 79
8. Training: supervisors/ interviewers	July-Aug 1978	Jan-Feb 1979
9. Fieldwork	Sept-Dec 1978	Feb 79 - Mar 80
10. Manual editing	Sept-Dec 1978	May 79-April 80
11. Manual coding	Sept-Dec 1978	July79-Apr 80
12. Punching	Dec 78-Feb 79	Oct 79-June 80
13. Machine editing	Feb - July 79	April 80-July 81
14. Variable recoding and tabulation		Aug 81-Feb 82
15. Report writing	June-Sept 79	July-Nov 1982
16. Printing	Oct-Dec 1979	Nov 82-Dec 82

CHAPTER 3

BACKGROUND CHARACTERISTICS OF SURVEY RESPONDENTS

3.1 INTRODUCTION

As has been stated earlier in this report the main objective of the GFS was to assess the fertility levels and characteristics of women in Ghana. This involved the measurement of the fertility performance of the women and the assessment of their attitudes to childbearing as well as practices that affect fertility. Apart from direct measurement and direct assessment of the levels of these, attempts are made, in reporting the survey results, to explain the levels and differentials in terms of the socio-economic characteristics of the women, which essentially constitute explanatory variables. In this chapter, therefore, we shall define these variables as used in the survey and assess the strength of their interrelationships.

Besides the socio-economic variables, data from the household survey also provide a contextual frame for the analysis of data from the individual interview. Discussion of the household data therefore precedes that of the socio-economic background variables. As mentioned in Chapter 2, however, the scope of information collected in the household survey was very much limited, covering essentially only two main items of demographic interest, namely, sex and age. The discussion therefore relates principally to the sex and age composition of the household population.

3.2 POPULATION ENUMERATED IN THE SURVEY

3.2.1 Sex and age composition of the household population

The total population enumerated in the household survey was 28,671, made up of 13,987 males and 14,684 females. The sex ratio was therefore 95.3 males per 100 females. Compared to the sex ratios of 98.5 obtained in the 1970 census and 102.2 obtained in the 1960 census the ratio in the GFS is quite low. The breakdown of the population into broad age groups given in Table 3.1 also shows that compared to figures from the last two censuses the proportion of the population under 15 years old is still becoming larger although the rate of increase between the 1970 census and the GFS is not as high as the rate of increase between the 1960 and the 1970 censuses (1.5 per cent as against 4.5 per cent). The higher proportion of the population aged less than 15 years in fact appears to be an artifact of the deficiency in the male population, particularly in the age group 15-44. This deficiency can be seen in the age-sex pyramid comparing the 1970 census and the GFS household population (Figure 3.1). While the proportion of females aged less than 15 years was lower in the GFS than in the 1970 census (46.0 per cent as against 46.3 per cent), the proportion of males aged less than 15 years was substantially higher in the GFS than in the census (49.4 per cent as against 47.6 per cent). The relative deficiency in the adult male population may be largely explained by the high rate of emigration of adult males from the country in recent years.

3.2.2 Age reporting

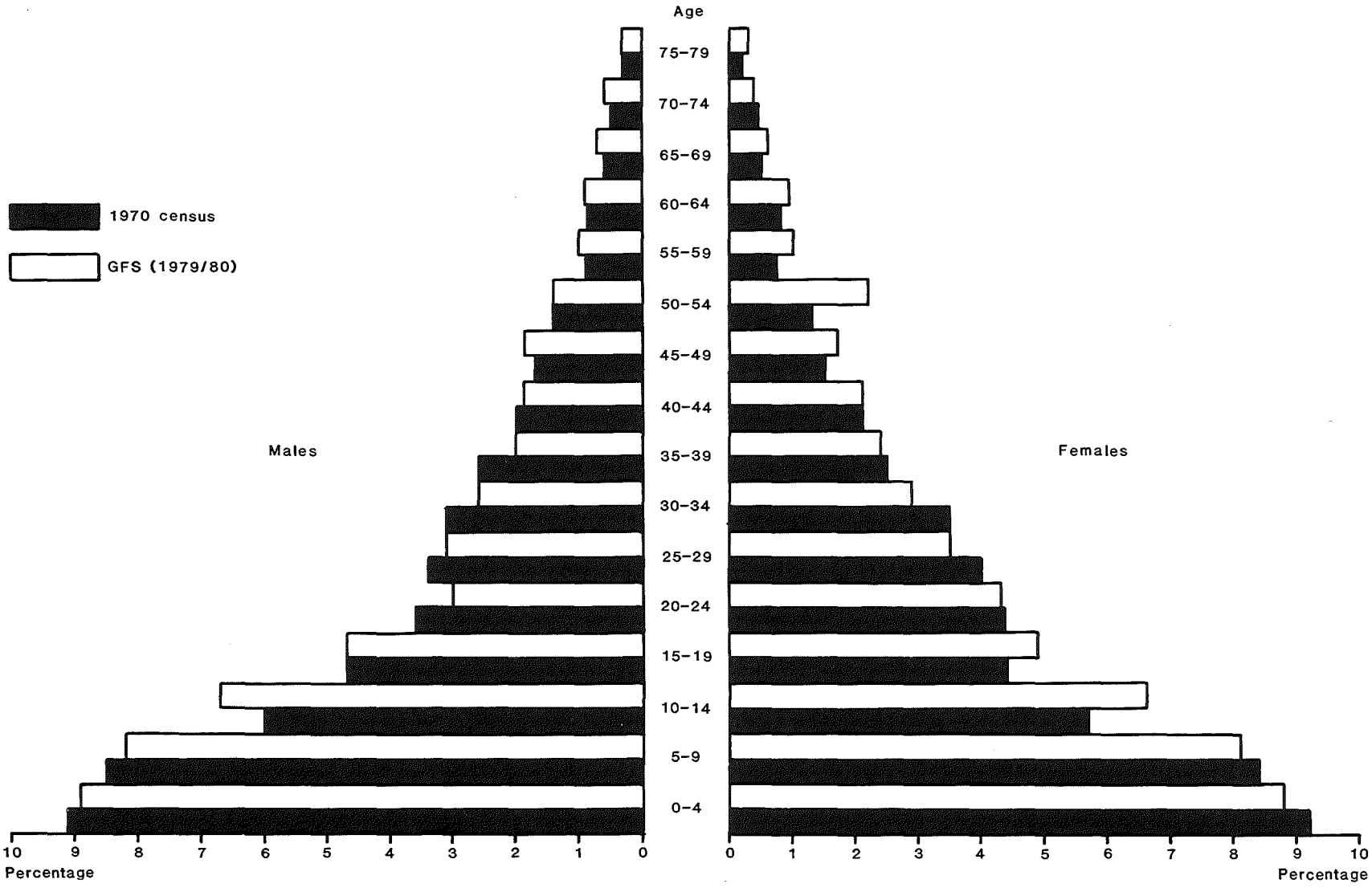
A common characteristic of demographic data from developing African countries where the vital registration system has not been well developed is distortions in the age data, which arise mainly from age misstatement and digit preference in the statement of ages; and although attempts were made in the GFS to minimise these phenomena the age data from the survey still show irregularities resulting particularly from digit preference.

As shown in Figure 3.2 the age distribution of the household population by single years shows unusually large proportions of the population with ages ending in 0 or 5 and in even numbers. The heaping of the ages at these digits is more pronounced from age 20 upwards and increases with age. On the basis of Myers' index of digit preference, however, the extent of digit preference in age statement was relatively less pronounced in the GFS than in the 1970 census, the index for the GFS data being 22.7 as against 31.0 for the 1970 census data.

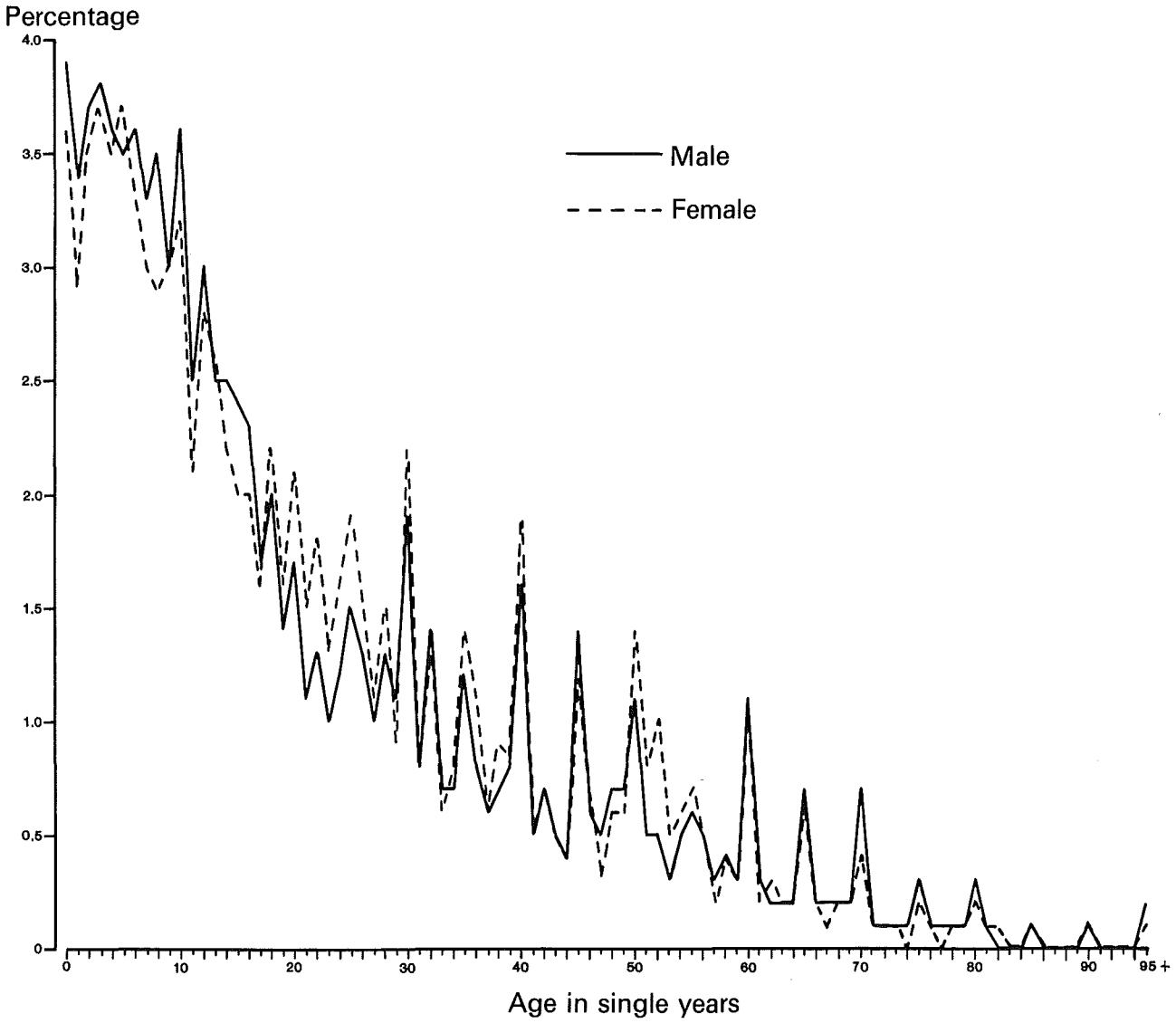
TABLE 3.1

PERCENTAGE DISTRIBUTION OF POPULATION ENUMERATED IN THE 1960 AND 1970 CENSUSES AND IN THE GFS BY AGE AND SEX

Source of data	Age group					
	0-14	15-29	30-44	45-59	60+	Total
Total						
GFS	47.6	23.5	14.0	9.2	5.7	100.0
1970 census	46.9	24.4	15.8	7.5	5.4	100.0
1960 census	44.6	25.5	17.5	7.5	4.8	100.0
Male						
GFS	49.4	22.2	13.3	8.8	6.3	100.0
1970 census	47.6	23.4	15.5	8.0	5.5	100.0
1960 census	44.6	24.2	17.8	8.2	5.2	100.0
Female						
GFS	46.0	24.9	14.6	9.5	5.0	100.0
1970 census	46.3	25.4	16.0	7.1	5.2	100.0
1960 census	44.5	26.9	17.2	6.9	4.5	100.0



3.1 Age-sex population pyramid - 1970 census and GFS compared



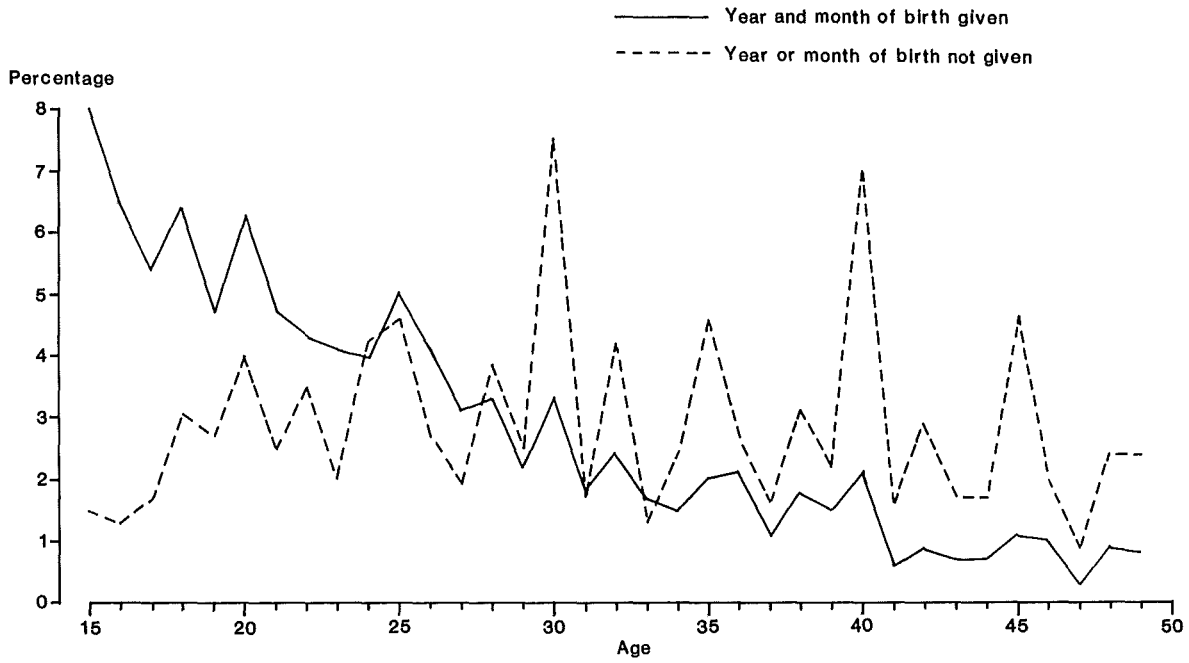
3.2 Percentage distribution of household population enumerated in GFS (1979/80) by sex and single years of age

In the household survey the date of birth and age of household members were both asked and in most of the cases the information was supplied by the person responding for the household, who was usually the head of household. It is not possible to determine from the data the proportion of the population for whom the year and month of birth were given. This information is however available for the women in the individual interview. Of the total women, 52.1 per cent gave the year and month of their birth, and 27.2 per cent gave only the year of their birth. In the cases where the respondent did not know her date of birth or her age, various procedures were adopted to obtain an estimate of her age. The procedures included the use of an historical calendar of national, regional and local events, and demographic facts about the respondent such as the number of children ever born.

As shown in Figure 3.3, however, age heaping on the preferred digits still persisted to a significant degree in the data for women who knew their date of birth although not to the same extent as in data for those who did not know their date of birth. To minimise the effects of age heaping on the preferred digits the conventional five and ten year age groupings have been used in most of the analyses contained in this report.

3.2.3 Age misstatement

Besides the errors of age heaping there are other types of age misstatement which result in the transfer of persons from one age category to another. As can be seen from the household data in Table 3.2 and Figure 3.4, there was a deficiency of females in the age group 45-49 and a relatively higher proportion in the next age group 50-54 (3.3 per cent



3.3 Percentage distribution of women aged 15-49 by single years of age and format of birth date

compared to 4.2 per cent respectively). The sex ratios on the other hand showed tremendous excesses of males over females in the ages 60 and above, indicating, more likely, the tendency for old women to report themselves as younger. In view of this, the apparent deficiency of women aged 45-49 relative to the proportion aged 50-54 is more likely due to over-estimation of ages by the interviewer, possibly a deliberate act to transfer out

TABLE 3.2

PERCENTAGE DISTRIBUTION OF GFS HOUSEHOLD POPULATION BY SEX AND AGE

Age group	Total	Male	Female
0-4	17.8	18.3	17.2
5-9	16.3	16.9	15.8
10-14	13.5	14.2	12.9
15-19	9.6	9.7	9.6
20-24	7.3	6.2	8.4
25-29	6.6	6.3	6.9
30-34	5.5	5.3	5.7
35-39	4.5	4.1	4.8
40-44	4.0	3.9	4.1
45-49	3.6	3.8	3.3
50-54	3.6	2.9	4.2
55-59	2.1	2.1	2.0
60-64	1.9	2.0	1.9
65-69	1.3	1.4	1.2
70-74	1.0	1.3	0.7
75-79	0.6	0.7	0.5
80+	0.9	0.9	0.7
All ages	100.0	100.0	100.0

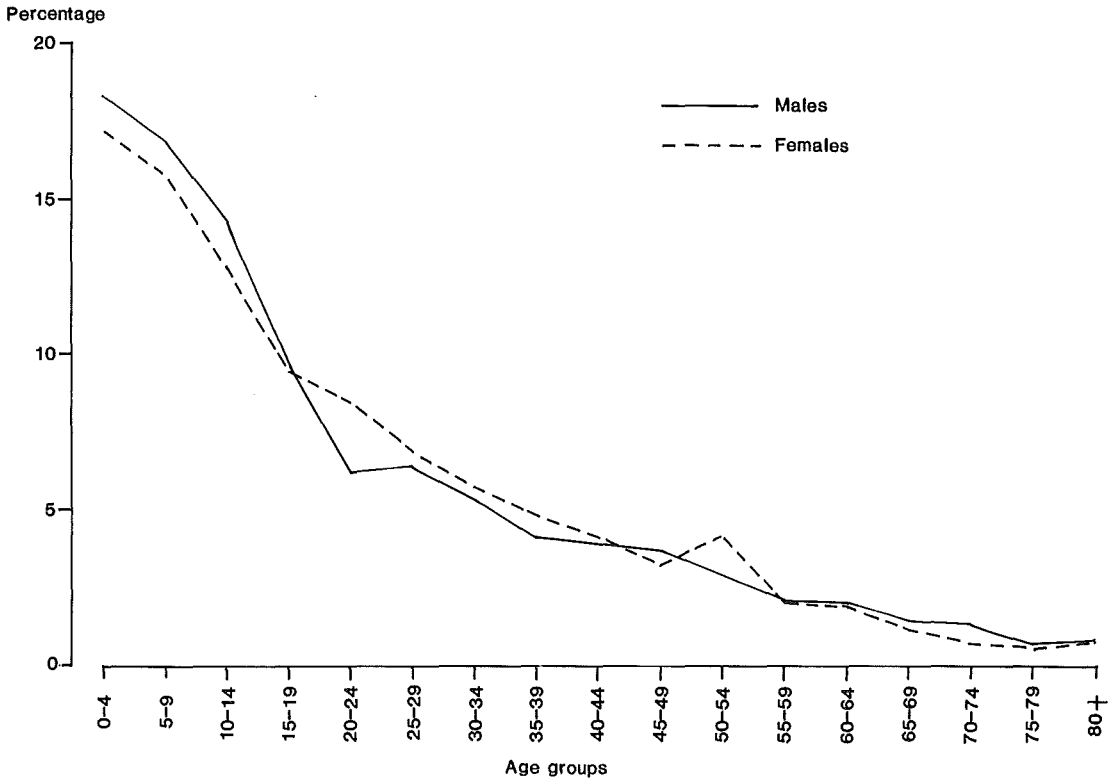
women eligible for the individual interview in order to cut down on interviewer workload. The possibility of age misstatement by the women themselves and heaping on age 50 cannot however be ruled out. In later evaluation studies of the GFS data the extent and the implications of these and other age errors in the data will be more fully assessed.

3.3 DESCRIPTION OF BACKGROUND VARIABLES AND THEIR INTERRELATIONSHIPS

In addition to age, geographic and socio-economic variables used as explanatory variables in the GFS data tabulations include region of residence, current and childhood type of place of residence, ethnic origin, level of education, religion, and occupational characteristics.

3.3.1 Region of residence

The region is the first major administrative subdivision of the country. There are at present nine regions of approximately equal size, with seven of them constituting between 8.5 and 11.1 per cent of the total population in 1970. The other two, namely, Eastern and Ashanti regions, constituted 14.7 and 17.3 per cent of the population, respectively. As discussed in Chapter 1, the regions differ to some extent in climatic and vegetational characteristics as well as in economic potential and activities. The regional units used in the GFS survey are coterminus with administrative regions, and in view of regional variations in the social and economic characteristics of the population, the region has been a very important unit of analysis in all major statistical enquiries. Presented in



3.4 Percentage distribution of the GFS household population by five year age-groups for males and females

Table 3.3 is the regional distribution of the population enumerated in the GFS household survey and in the 1970 census, and as can be seen from the table the relative population sizes of the regions in the two sources are quite comparable.

3.3.2 Rural/urban classification

In spite of the disagreement among social scientists on the essential attributes of "urbanism" and "ruralism", it is generally recognised that significant differences in social and economic characteristics exist between populations living in small-sized localities and those living in large-sized localities, generally defined respectively as "rural" and "urban" populations. Demographers have consequently been interested in studying differentials in demographic characteristics of the rural and urban populations. In major demographic enquiries in Ghana, therefore, information on type of locality of residence is obtained, and for most of the analyses, this variable is broken down into two categories, namely, rural for localities with a population of less than 5000, and urban for localities with a population of 5000 or more.

In the GFS, however, three categories have been provided by splitting "urban" as defined above, into urban and large urban - the former referring to localities with a population of between 5000 and 10,000, and the latter to localities with a population of 10,000 and above and also to localities which are regional capitals. The variable is however used in two contexts: "type of place of residence" and "childhood type of place of residence". In the former, reference is to locality of current residence, while in the latter, reference is to the type of place the respondent was living in while growing up, to about age twelve. It must be pointed out here that the urban/rural classification of localities in the GFS was based on the classification from the 1970 census, which

TABLE 3.3

PERCENTAGE DISTRIBUTION OF POPULATION ENUMERATED IN THE 1970 CENSUS AND IN THE GFS BY REGION

Region	De facto population	
	1970 census	GFS Household survey
Western	9.0	8.1
Central	10.4	8.0
Greater Accra	9.9	10.5
Eastern	14.7	16.6
Volta	11.1	11.2
Ashanti	17.3	20.5
Brong-Ahafo	9.0	8.3
Northern	8.5	7.0
Upper	10.1	9.8
All regions	100.0	100.0

could not be updated for the GFS. The classification for childhood type of place of residence is also a more subjective measure, based on respondent's own impression of the type of place she lived in while growing up.

However, as shown in Table 3.4, about two-thirds (66.1 per cent) of the total women interviewed lived in rural areas while 16.6 and 17.3 per cent lived in urban and large urban areas respectively. The region with the highest proportion of women living in rural areas is the Upper region (91.4 per cent) while Greater Accra had the lowest proportion of women living in rural areas. All the other regions had more than 50 per cent of their women living in rural areas. Also, of the total women whose childhood place of residence was rural, 90.4 per cent were currently living in rural areas while 3.8 and 5.8 per cent were living in urban and large urban areas, respectively, at the time of the survey. Only 41.2 per cent of those who grew up in urban areas were living in urban areas while 73.2 per cent of those who grew up in large urban were living in such areas at the time of the survey.

3.3.3 Ethnic origin

As discussed in Chapter 1, a total of not less than ninety primary ethnic groups were identified during the 1960 census, and these were further constituted into seventeen major groups. The ethnic groups are identified primarily by common language or dialect, geographical affinity, and similarities of social system and cultural practices, and in spite of the effects of population mix and interregional migration over the years the ethnic groups still exhibit social and cultural differences which have bearing on demographic behaviour and attitudes. For this reason, and in spite of official efforts to de-emphasise identification of Ghanaians by their ethnic origin, information was collected on the ethnic origin of the women. The definition and classification of ethnic groups in the GFS followed the classification system adopted in the last two censuses. In the data tabulation a classification of seven of the major tribes were individually identified, with the rest constituting a residual group.

The distribution of the women by ethnic origin given in Table 3.5 shows the high regional concentration of the ethnic groups. While the Fante constitute 66.4 per cent of the population of the Central region, the Twi constitute the majority of the populations of Brong Ahafo (83.1 per cent), Ashanti (78.5 per cent) and Eastern (57.4 per cent) regions. Mole-Dagbani are in the majority in Upper (76.5 per cent) and Northern (53.6 per cent) regions, while Ewe constitute 73.1 per cent in the Volta region. Greater Accra, Eastern, and Western are the only regions which have more than ten per cent each of not less than three ethnic groups.

TABLE 3.4

PERCENTAGE DISTRIBUTION OF WOMEN ACCORDING TO TYPE OF PLACE OF RESIDENCE BY REGION, CHILDHOOD TYPE OF PLACE OF RESIDENCE, AND ETHNIC ORIGIN

Background variables	Type of place of residence				
	Rural	Urban	Large urban	Total	Number of women
Region of residence					
Western	69.8	16.2	14.0	100.0	457
Central	56.0	31.5	12.5	100.0	464
Greater Accra	11.7	14.8	73.5	100.0	729
Eastern	71.7	24.7	3.6	100.0	1,011
Volta	88.0	9.0	3.0	100.0	599
Ashanti	66.6	15.5	17.9	100.0	1,473
Brong Ahafo	76.7	19.8	3.5	100.0	486
Northern	76.5	7.2	16.3	100.0	349
Upper	91.4	6.8	1.8	100.0	557
Childhood place of residence					
Rural	90.4	3.8	5.8	100.0	3,511
Urban	37.1	41.2	21.7	100.0	2,017
Large urban	18.3	8.5	73.2	100.0	564
Ethnic origin					
Fante	52.2	22.8	26.0	100.0	584
Twi	67.5	18.3	14.2	100.0	2,519
Other Akan	80.6	12.3	7.1	100.0	211
Mole-Dagbani	73.5	13.9	12.6	100.0	804
Ewe	72.2	10.6	17.2	100.0	745
Ga-Adangbe	47.6	18.0	34.4	100.0	460
Guan	45.7	37.1	17.2	100.0	186
Others, N.S.	71.6	9.6	18.8	100.0	616
All sample	66.1	16.6	17.3	100.0	6,125

Source: Volume II, Tables 0.1.4B, 0.1.4E and special table

3.3.4 Religion

Religion, like ethnic origin, is a background characteristic which in many settings presents a variety of differences in attitudes, practices, and behaviour relating to demographic factors. Religious tenets and practices can affect the system and conditions of marriage, attitudes to fertility and fertility-related practices, and dietary habits and health practices. For this reason information was collected on the religion of the respondent in the survey.

As in the censuses, the information collected relates to the professed religion of the respondent, and the classification system adopted followed the system used in the censuses. As can be seen from Table 3.6 the religious groups also have high regional concentration and ethnic group affiliation. Christians were in the majority in all the regions - constituting more than 60 per cent of the population of each region - except in the Northern and Upper regions where they constituted 3.1 and 15.8 per cent respectively of the population of the two regions. For Upper region as many as 14.7 of the 15.8 per cent Christians were Catholics. Muslims constituted 30.9 per cent of the total women in Northern region while in the rest of the regions they constituted less than 15 per cent in each region. Three regions also have very high proportions of the women professing

TABLE 3.5

PERCENTAGE DISTRIBUTION OF WOMEN ACCORDING TO ETHNIC ORIGIN BY REGION OF RESIDENCE

Background variables	Ethnic origin									Number of women
	Fante	Twi	Other Akan	Mole-Dagbani	Ewe	Ga-Adangbe	Guan	Other, N.S.	Total	
Region of residence										
Western	13.8	26.9	38.3	5.7	5.9	1.1	2.2	6.1	100.0	457
Central	66.4	14.0	0.4	1.3	0.6	1.9	10.8	4.5	100.0	464
Greater Accra	11.7	21.9	0.4	3.2	17.0	31.8	2.6	11.4	100.0	729
Eastern	5.8	57.4	0.6	1.5	11.3	18.9	2.7	1.9	100.0	1,011
Volta	0.0	2.7	0.0	0.7	73.1	0.2	2.7	20.7	100.0	599
Ashanti	4.3	78.5	0.6	6.2	1.7	1.2	1.4	6.0	100.0	1,473
Brong Ahafo	0.6	83.1	0.2	5.3	2.5	0.8	1.2	6.2	100.0	486
Northern	0.3	3.2	4.3	53.6	0.3	0.0	10.6	27.8	100.0	349
Upper	0.2	0.5	0.0	76.5	0.2	0.0	0.2	22.4	100.0	557
All sample	9.5	41.1	3.4	13.1	12.2	7.5	3.0	10.1	100.0	6,125

Source: Volume II, Table 0.1.4C

TABLE 3.6

PERCENTAGE DISTRIBUTION OF WOMEN ACCORDING TO RELIGION BY REGION OF RESIDENCE AND ETHNIC ORIGIN

Background variables	Religion							Number of women
	Catholic	Other Christian	Muslim	Traditional	No religion	Other, N.S.	Total	
Region of residence								
Western	26.3	51.9	7.4	0.9	13.3	0.2	100.0	457
Central	12.9	64.4	10.6	4.5	7.5	0.0	100.0	464
Greater Accra	12.8	63.8	13.7	4.5	5.1	0.1	100.0	729
Eastern	14.9	58.8	3.0	8.9	14.4	0.0	100.0	1,011
Volta	34.1	33.2	9.2	20.9	2.5	0.2	100.0	599
Ashanti	21.2	55.0	12.4	4.3	7.0	0.1	100.0	1,473
Brong Ahafo	24.3	47.3	8.6	6.6	13.2	0.0	100.0	486
Northern	1.1	2.0	30.9	57.6	8.0	0.3	100.0	349
Upper	14.7	1.1	10.8	72.9	0.5	0.0	100.0	557
Ethnic origin								
Fante	13.5	70.4	7.2	2.6	6.2	0.2	100.0	584
Twi	22.2	62.8	2.6	3.7	8.6	0.0	100.0	2,519
Other Akan	31.3	46.0	3.3	7.6	11.8	0.0	100.0	211
Mole-Dagbani	11.7	1.0	30.8	51.2	5.2	0.0	100.0	804
Ewe	31.4	35.8	0.9	22.7	9.1	0.0	100.0	745
Ga-Adangbe	6.5	72.8	3.9	10.2	6.5	0.0	100.0	460
Guan	8.6	44.6	17.7	15.1	13.4	0.5	100.0	186
Other, N.S.	10.7	10.2	39.0	31.7	8.1	0.3	100.0	616
All sample	18.7	46.5	10.8	15.9	8.0	0.1	100.0	6,125

Source: Special tables

traditional religions. They are Upper (72.9 per cent), Northern (57.6 per cent) and Volta (20.9 per cent) regions. The proportions in the other regions are less than 10 per cent. The distribution according to religions for ethnic groups closely follows the distribution by region.

3.3.5 Level of education

In the GFS, level of education refers to years of regular attendance in formal educational institutions where a person spends at least four hours a day receiving general education in which the emphasis is not on vocational

training. The information was obtained at two levels. First, the highest cycle of education attained - in terms of primary, middle, secondary or university - was asked, followed by a question on the grade or stage reached in the cycle. These gave the total number of years' schooling the respondent has had. As in the censuses the definition of education excluded private tuition, correspondence courses, night school, and ungraded schools like nurseries.

Table 3.7 shows the levels of education of the various socio-economic groups of women. Of the total, 51.6 per cent have had no schooling; 10.6 per cent have had schooling up to the primary level; 33.5 per cent have had up to the middle school level while only 4.3 per cent have had secondary or higher education. In the distribution by age group, the proportion who have had no schooling increases with age, from 26.7 per cent for the age groups 15-19 to 87.5 per cent for the age group 45-49. For the regions, however, the proportions of women who have had no schooling range from 28.5 per cent in Greater Accra to 94.8 per cent in Northern region. Upper region has the second highest proportion (91.5

TABLE 3.7

PERCENTAGE DISTRIBUTION OF WOMEN ACCORDING TO LEVEL OF EDUCATION BY CURRENT AGE, REGION OF RESIDENCE, TYPE OF PLACE OF RESIDENCE, ETHNIC ORIGIN AND RELIGION

Background variables	Level of education					Number of women
	No schooling	1-6 years	7-10 years	11+ years	Total	
Age						
15-19	26.7	11.3	58.7	3.3	100.0	1,371
20-24	33.9	12.3	47.9	6.0	100.0	1,220
25-29	46.8	11.1	34.1	8.0	100.0	1,011
30-34	65.2	11.1	19.8	3.9	100.0	802
35-39	76.4	10.1	11.8	1.7	100.0	703
40-44	81.9	8.6	7.1	2.4	100.0	579
45-49	87.5	4.8	6.6	1.1	100.0	439
Region of residence						
Western	58.4	12.6	26.2	2.9	100.0	457
Central	62.3	8.9	27.3	1.5	100.0	464
Greater Accra	28.5	12.8	40.6	18.1	100.0	729
Eastern	43.7	12.8	41.2	2.4	100.0	1,011
Volta	45.6	12.6	40.9	1.0	100.0	599
Ashanti	40.2	11.5	44.0	4.3	100.0	1,473
Brong Ahafo	52.1	12.6	33.7	1.7	100.0	486
Northern	94.8	1.1	3.7	0.3	100.0	349
Upper	91.5	3.3	4.0	1.3	100.0	557
Type of place of residence						
Rural	59.5	10.8	28.2	1.5	100.0	4,046
Urban	40.8	10.8	43.7	4.6	100.0	1,019
Large Urban	32.0	9.6	44.0	14.4	100.0	1,060
Ethnic origin						
Fante	53.9	10.2	29.9	6.0	100.0	584
Twi	36.3	12.5	46.4	4.8	100.0	2,519
Other Akan	68.7	8.5	19.9	2.8	100.0	211
Mole-Dagbani	88.0	4.1	6.5	1.4	100.0	804
Ewe	45.9	14.3	37.0	2.8	100.0	745
Ga-Adangbe	37.8	13.7	37.6	10.9	100.0	460
Guan	59.5	8.1	30.8	1.6	100.0	186
Other, N.S.	73.7	6.5	17.4	2.4	100.0	616
All sample	51.6	10.6	33.5	4.3	100.0	6,125

Source: Volume II, Tables 0.1.3A, 0.1.4A, 0.1.4D, 0.1.4F

per cent) of women who have had no schooling while the proportions for the rest of the regions range from 40.2 to 62.3 per cent. For type of place of residence categories, the proportion with no schooling decreases from 59.5 per cent for rural women to 32.0 per cent for large urban women while the proportion who have had 11+ years of schooling increases from 1.5 per cent for rural to 14.4 per cent for large urban. The ethnic and religious groups also show significant differences in levels of schooling.

3.3.6 Occupational characteristics

The system of occupational classification used in the GFS was one developed by WFS which comprises the following ten major groups:

1 - Professional, technical, administrative and related workers

2 - Clerical workers

3 - Sales workers

4 - Farmers, farm managers and supervisors, animal husbandry and forestry workers, fishermen and hunters (self-employed only)

5 - Non self-employed agricultural and animal husbandry workers

6 - Private household workers

7 - Service workers (Except private household workers)

8 - Production and transport workers (skilled and semi-skilled)

9 - Production and transport workers (unskilled)

0 - Not stated/never worked

While the respondent was asked questions about her occupations both before and after first marriage, information relating to the occupation of respondent's husband (or last husband if divorced or widowed) has been more extensively used in the data tabulations for the First Country Report. The information is used as a proxy for the determination of the socio-economic status of the couple.

The distribution of all husbands according to their occupation shows that agricultural work is still predominant in Ghana: 50.6 per cent are employed in this type of work. Nevertheless manual workers (skilled and unskilled) also constitute a substantial proportion (22.7 per cent) as does the combined professional, technical, managerial and clerical group (15.5 per cent).

The distribution of husbands by their occupation and current type of place of residence in Table 3.8 shows that the occupation variable is fairly strongly related to residence. Large urban and urban areas have a much higher proportion employed in high status jobs such as professional, technical, managerial and clerical; their proportion is also higher for service occupations, manual jobs, both skilled and unskilled, and to some

TABLE 3.8

PERCENTAGE DISTRIBUTION OF EVER-MARRIED WOMEN ACCORDING TO CURRENT RESIDENCE AND EDUCATION, BY THEIR HUSBAND'S OCCUPATION (EXCLUDING NOT STATED CASES)

Residence/ education	Occupation							Number of women
	No work	Prof/ clerical	Sales	Self-empl. agric.	Agric. employees	Service	Manual	
A. Current residence								
Rural	0.4	10.9	3.6	57.1	8.8	2.8	16.4	3,313
Urban	0.3	22.4	8.0	21.2	6.5	8.0	33.5	784
Large urban	0.8	28.0	14.4	7.9	1.0	9.7	38.4	787
B. Wife's education								
No schooling	0.3	6.4	4.5	58.5	7.5	4.0	18.8	2,938
1-6 years	0.2	14.4	6.7	34.0	7.1	5.8	31.9	521
7-10 years	0.7	31.5	9.1	17.2	7.1	6.0	28.3	1,260
11+ years	0.0	63.0	9.1	1.9	2.6	6.5	16.9	154
All sample	0.4	15.5	6.1	43.4	7.2	4.8	22.7	4,873

Source: Volume II, Tables 0.1.5A and 0.1.5C

extent sales jobs also, which are all occupational groups that we expect to dominate in urban areas. In contrast nearly two-thirds of rural husbands are employed in agricultural jobs, mainly self-employed; the sales or service occupations are relatively unimportant in rural areas, while, unexpectedly, as many as 10.9 per cent of rural husbands are employed in professional/clerical jobs.

The relationship between wife's education and husband's occupation is also strong (Table 3.8). Most women with secondary or higher education have husbands employed in professional/clerical jobs (63 per cent), or manual jobs (16.9 per cent). The proportion in agricultural employment increases as wife's education falls, from only 4.5 per cent among the highest educated group of women to 66.0 per cent among the least educated. Interestingly, women with 1-6 and 7-10 years of education are most likely to have husbands employed in manual jobs, while both highest and lowest educated groups are much less likely to do so.

3.4 SUMMARY

The discussion in this chapter attempts to put into perspective the substantive results of the following chapters by briefly reviewing the quality of the data collected, particularly on age, and secondly by pointing out the major socio-economic characteristics of the population, as recorded by the survey. The increasing level of education among younger women shows the extent of change in educational attainment in Ghana over the past 30 years or so. The basic data presented here show that Ghana is still mainly a rural and agricultural country, but with great diversity in religion and ethnicity, and with rapid change occurring in some spheres, in particular, education. The strong inter-relationship between background variables, such as religion and region of residence, ethnic origin and region of residence, region of residence or type of place of residence and level of education, and husband's occupation and residence should also be borne in mind when interpreting cross-tabulations by single variables, in later chapters.

CHAPTER 4

NUPTIALITY

4.1 INTRODUCTION

In many African countries childbearing is not wholly confined to marriage. Pre-marital births do occur and children of such births do not carry any social stigma. However the numbers of births that occur outside marriage are proportionally very small. Marriage therefore remains an important social institution within which most births occur. For this reason analysis of data relating to nuptiality or the marriage system is very important for an understanding of one of the major social mechanisms which regulate the levels of fertility in Ghanaian society. In this chapter therefore we discuss the composition of the women in the survey according to marital status, the age at which they first enter into marriage, duration of their marital life, the prevalence of polygamous marriages, stability of marriages and other related topics.

Information relating to the above topics was obtained mainly from a marriage schedule in respect of each respondent in the individual interview. In the schedule were recorded the dates of start and end of all marital unions and the reason for the dissolution of the union if it had been dissolved. In the marriage section supplementary questions, including a question on the number of other wives which the husband of the respondent has, were also asked.

4.2 PROPORTION EVER MARRIED

In the survey, "marriage" was defined as a more or less stable cohabitation between a man and a woman irrespective of whether or not any validating legal, religious or customary rites or ceremonies had been performed; under this definition of marriage about 81 per cent of the respondents reported themselves as having ever been married. The proportion ever married rises from a low level of 30.9 per cent for the age group 15-19 to 97.0 per cent for the age group 25-29; and at age 34, practically all the women (99.2 per cent) had ever been married.

A comparison of the proportions ever married obtained from the GFS with corresponding data from the 1971 Supplementary Enquiry (survey) given in Table 4.1 shows that the proportions by age group are very close, with the GFS data showing slightly higher levels in all the age groups, except for the age group 15-19 of which the proportion ever married is 30.9 per cent in the GFS as against 31.8 per cent in the 1971 survey. However the proportion of the total females aged 15-49 who are ever married is 80.7 per cent in the GFS as against 82.6 per cent in the 1971 survey, presumably because of slightly different age-distributions. In general it appears from this comparison that there has been little change in the age pattern of first marriages since 1971.

TABLE 4.1

PERCENTAGE OF WOMEN EVER MARRIED BY AGE AT THE TIME OF GFS AND 1971 SUPPLEMENTARY ENQUIRY

Source of data	Age of female							
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	Total
GFS 1979/80	30.9	84.6	97.0	99.1	99.2	99.5	99.8	80.7
1971 survey	31.8	84.0	96.5	98.6	99.1	99.3	99.5	82.6

4.3 AGE AT FIRST MARRIAGE

The age at which a woman enters into marriage is determined largely by socio-economic factors and cultural norms. In most societies, however, most women enter their first marriage within a rather narrow age range, and to avoid the effects of "outliers" (a few unusual cases with age at first marriage lying far away from the narrow range) the median is in some ways preferable to the arithmetic mean as a measure of central tendency. An additional advantage of the median is its ability to summarize the age at marriage for younger cohorts, some of whose members are not yet married. Accordingly this has been used in this section to estimate the average age at first marriage. In Volume II of this report where, however, the *mean* is used, the population in most of the tabulations has been restricted to women who married before age 25.

The median age at first marriage for all the women in the survey (aged 15-49) is 18.1 years, and as shown in Table 4.2 there is practically no variation in the median ages for the age groups in the age range 20-49. [1)]

The medians range between 17.4 and 17.8 years for the age groups but do not show any trend with age. The mean ages are also given for purposes of comparison and these too do not

1) *Figures for the age group 15-19 are not shown in Tables 4.2 and 4.3 because the median point has not yet been reached.*

TABLE 4.2

PERCENTAGE DISTRIBUTION OF ALL WOMEN ACCORDING TO AGE AT FIRST MARRIAGE, BY CURRENT AGE

Current age	Age at first marriage						Not yet married	Total	Median	Mean	Number of women
	<15	15-17	18-19	20-21	22-24	25+					
15-19	5.8	21.0	4.1	-	-	-	69.1	100.0	-	-	1371
20-24	9.3	38.4	24.6	9.8	2.5	-	15.4	100.0	17.7	17.7	1220
25-29	10.5	35.6	23.2	13.6	11.5	2.7	3.0	100.0	17.8	18.5	1011
30-34	14.1	36.4	20.7	12.1	11.5	4.3	0.9	100.0	17.5	18.4	802
35-39	13.9	37.4	20.8	11.9	8.4	6.6	0.9	100.0	17.4	18.5	703
40-44	10.7	37.3	20.2	14.3	7.9	9.0	0.5	100.0	17.7	19.0	579
45-49	8.7	36.9	25.7	11.6	10.0	6.8	0.2	100.0	17.8	18.8	439

Source: Volume II, Table 1.1.1 and special table

show any significant variation among the age groups or any trend with age. The mean values, which range between 17.7 and 19.0 years, are however higher than the corresponding medians for all the age groups, except the 20-24 age group for which the mean and the median ages are the same.

4.4 DIFFERENTIALS IN AGE AT FIRST MARRIAGE

Differentials in demographic phenomena such as age at first marriage may be examined more appropriately in a cross classification of sets of socio-economic factors or background characteristics which are themselves related to each other and are therefore jointly related to the phenomenon of age at marriage. Such an analytical approach is however beyond the scope of this publication and in the limited frame of analysis followed in this report we consider the factors or variables individually as if they operate in isolation from others in their relatedness to age at first marriage. The variables discussed are the socio-economic characteristics of level of education, current and childhood place of residence, region of residence, ethnic origin, and religious affiliation. We present in Table 4.3 the median age at first marriage according to these background characteristics of women in the survey.

As can be seen from the table, age at first marriage is significantly related to level of education. The median age for all the women aged 15-49 rises from 17.2 years for women with no schooling, through 18.0 years for women with 1-6 years' education, and 19.9 years for those with 7-10 years' education, to 24.6 years for those with 11+ years of education. That is, whereas half of women with no schooling had been married by the age of 17 years, half of women with 11+ years of education will not have been married until the age of 24.6 years. This positive relationship between education and age at marriage is maintained consistently within all the various age groups although the variation by age within each educational category does not show any significant variation or trend. The relationship between age at marriage and level

TABLE 4.3

MEDIAN AGE AT FIRST MARRIAGE, BY CURRENT AGE AND BACKGROUND CHARACTERISTICS

Background characteristics	Current age						
	20-24	25-29	30-34	35-39	40-44	45-49	Total (15-49)*
Level of education							
No schooling	16.8	17.0	17.1	17.1	17.5	17.6	17.2
1-6 years	17.1	17.7	18.4	17.9	17.5	18.0	18.0
7-10 years	18.1	18.2	18.5	18.2	18.4	19.8	19.9
11+ years	**	22.3	21.8	21.5	24.5	23.0	24.6
Type of place of residence							
Rural	17.3	17.5	17.2	17.3	17.4	17.6	17.8
Urban	17.9	17.8	17.9	17.6	18.4	17.8	18.5
Large urban	18.6	18.8	18.3	17.6	19.1	19.3	19.2
Region of residence							
Western	17.5	17.3	17.0	17.4	17.0	17.9	17.6
Central	17.3	17.8	18.5	17.8	18.8	17.9	18.2
Greater Accra	18.9	19.1	18.3	17.9	19.3	19.8	19.6
Eastern	18.5	18.2	18.1	17.6	17.8	18.4	19.0
Volta	17.7	18.0	17.8	17.4	18.3	17.8	18.5
Ashanti	17.4	17.9	17.6	17.3	17.5	17.9	18.2
Brong Ahafo	17.0	17.3	16.9	18.3	16.3	17.4	17.6
Northern	17.3	16.6	17.1	17.0	17.9	17.5	17.5
Upper	16.4	16.5	16.5	16.8	17.4	16.4	16.7
Ethnic origin							
Fante	17.4	18.3	18.6	18.4	18.9	18.0	18.6
Twi	17.8	18.0	17.4	17.2	17.1	17.9	18.3
Other Akan	17.3	17.0	16.8	17.2	16.0	17.2	17.2
Mole-Dagbani	16.9	16.6	16.7	17.0	17.7	16.9	17.0
Ewe	18.1	18.6	18.2	17.9	18.7	18.4	19.0
Ga-Adangbe	18.5	19.3	18.0	17.3	19.3	18.2	19.2
Guan	18.1	16.8	18.8	16.8	18.8	16.2	18.1
Other, N.S.	17.0	17.4	17.8	16.8	18.0	17.5	17.5
Religion							
Catholic	17.8	18.4	17.3	17.9	18.1	18.0	18.6
Other Christian	18.0	18.2	18.0	17.6	17.7	18.1	18.8
Muslim	16.9	17.6	17.3	16.9	18.0	17.5	17.3
Traditional	16.9	16.6	16.8	17.2	17.4	17.0	17.1
No religion	18.0	17.3	18.2	17.3	17.4	18.1	17.8
Total	17.7	17.8	17.5	17.4	17.7	17.8	18.1

* The figures for the age group 15-19 are not shown because the median point has not yet been reached.
** Less than 50% of women ever married.
Source: Special table

of education is explained not only by the postponement of marriage because of attendance at school. Education in fact places a woman in a social situation in which early marriage is not attractive.

There are also differences in median age at first marriage among the rural and urban categories, but the differences are not large. The median for women in rural areas is 17.8 years while the medians for women in urban and large urban areas are 18.5 and 19.2 years respectively. Regional differences, however, have a wider range. The medians range from 16.7 years for Upper region to 19.6 years for Greater Accra. Three regions, namely Northern, Brong Ahafo and Western, have a median of about 17.5 years each while the Ashanti and Central regions have 18.2 years each. Volta has a median age of 18.5 years while Eastern has 19.0 years. The differences among the ethnic groups follow the regional pattern very closely. The Mole-Dagbanis who live mostly in the Northern and Upper regions have the lowest median age at first marriage, 17.0 years, while the Ga-Adangbe who also live mostly in Greater Accra and Eastern regions have the highest median age of 19.2 years. The Fante and the Twi occupy the middle range with median ages of 18.3 and 18.6 years respectively. The latter two constitute the majority of the population respectively of Central and Ashanti regions which also fall in the middle range of the regional differentials.

Religious groups on the other hand do not exhibit any marked differences. Women who profess the traditional religions have the lowest median age of 17.1 years compared to the highest median age of 18.8 for the "other Christian" category.

Like the education variable, differences among the age groups within each category of the variables discussed do not show any consistent trend or pattern. This confirms the observation that age at first marriage has not changed much over the years and any future trend will depend largely on changes in the level of education of the female population.

4.5 MARITAL STABILITY

Besides the proportion of women ever married and the age at first marriage, the stability of marriage can be an equally important variable in the study of the relationship between nuptiality and fertility. In this section, therefore, we examine the various indices of marital stability, namely, the status of first marriage, the extent of remarriage, the proportion of time spent in the married state, and current marital status.

4.5.1 Status of first marriage

Of the 4943 ever married women 72.7 per cent were still in their first marriage at the time of the survey, 3.7 per cent had had their first marriage dissolved by death of husband,

TABLE 4.4

PERCENTAGE DISTRIBUTION OF ALL EVER-MARRIED WOMEN ACCORDING TO STATUS OF FIRST MARRIAGE BY YEARS SINCE LAST MARRIAGE

Years since first marriage	Undis-solved	Dissolved by			Total	Number of women
		Husband's death	Divorce/ separation	Total		
<5	85.6	0.5	13.9	14.4	100.0	1,117
5-9	75.9	0.9	23.2	24.1	100.0	1,084
10-14	72.8	2.5	24.7	27.2	100.0	820
15-19	68.3	4.2	27.5	31.7	100.0	718
20-24	61.8	6.4	31.8	38.2	100.0	630
25-29	61.1	12.1	26.8	38.9	100.0	409
30+	53.9	15.2	30.9	46.1	100.0	165
Total	72.7	3.7	23.6	27.3	100.0	4,943

Source: Volume II, Table 1.2.1

and 23.6 per cent had had theirs dissolved by divorce or separation. As shown in Table 4.4 the proportion of women whose first marriage had been dissolved increases steadily with duration of time since first marriage - from 14.4 per cent for women who were first married within the last 5 years to 46.1 per cent for women who were first married 30 or more years ago. The proportion whose marriage was dissolved by death of husband also increases with time since first marriage, rising from 0.5 per cent for those who married less than 5 years ago to 15.2 per cent for those who married 30 or more years ago. Dissolution by divorce or separation, however, does not show any systematic relationship with duration since marriage above the 0-4 duration group. While the proportion who were divorced or separated is about 14 per cent for those who were first married within the last 5 years, the proportions for all marriage durations of 5 years upwards are more than 20 per cent, varying irregularly between 23 and 32 per cent over the entire duration range of 5 years and above.

4.5.2 Remarriage and number of times married

It was shown in Table 4.4 that 27.3 per cent (1370) of all ever-married women had had their first marriage dissolved at the time of the survey. Of these women, 71.5 per cent had however remarried. From a low proportion of 27.8 per cent for women who first married within the last 5 years (Table 4.5), the remarriage rate increases systematically with duration of time since first marriage to 84.3 per cent for women who first married 15-19 years ago. Thereafter the proportion falls gradually to 71.1 per cent for women who first married 30 or more years ago.

Eighty per cent (80.2 per cent) of all the ever-married women have married only once; about 17 per cent (16.8 per cent) have married twice, and only 3.1 per cent have married 3 times or more. Of those who first married less than 5 years ago, 96 per cent had married once compared to the proportion of 67.3 per cent for women who first married 30 or more years ago.

TABLE 4.5

PERCENTAGE DISTRIBUTION OF ALL EVER-MARRIED WOMEN ACCORDING TO NUMBER OF TIMES MARRIED, AND OF THOSE WOMEN WHOSE FIRST MARRIAGE WAS DISSOLVED, PERCENTAGE WHO RE-MARRIED, BY YEARS SINCE FIRST MARRIAGE

Years sipce first marriage	Number of times married				Number of women	Women whose first marriage was dissolved	
	1	2	3+	Mean		Number	Per cent who remarried
<5	96.0	3.9	0.1	1.04	1,117	162	27.8
5-9	82.7	16.2	1.0	1.18	1,084	268	69.8
10-14	77.4	19.5	3.0	1.26	820	230	80.4
15-19	73.0	22.7	4.3	1.32	718	230	84.3
20-24	69.7	25.1	5.2	1.37	630	243	78.6
25-29	69.7	21.5	8.8	1.41	409	161	77.0
30+	67.3	24.2	8.5	1.42	165	76	71.1
Total	80.2	16.8	3.1	1.23	4,943	1,370	71.5

Source: Volume II, Tables 1.3.1, 1.3.2

4.5.3 Proportion of time spent in married state

The next indicator of marital stability to be discussed is the proportion of time spent in married state, which is obtained by summing the duration of all marriages and dividing by the total duration since first marriage up to the time of the survey. The proportions, expressed as percentages, summarise the net effects of marriage dissolution and remarriage, and are presented in Table 4.6 by current age of women and age at first marriage.

For all ever married women, the average percentage of time since first marriage which has been spent in the married state is 93.6 per cent. This means that on the average only 6.4 per cent of the total time duration since first marriage had been spent in a state of marital dissolution. The average percentage of time spent in the married state, given in the table, does not show any trend or relationship with current age of women. The data also do not show any significant trend with age at first marriage, apart from the lower proportions for women who first married below the age of 15, and also except for the younger women in the age groups 15-34 for whom the average percentage of time rises moderately with age at first marriage. The lower proportions for women whose age at first marriage is less than 15 years is not unexpected since within each age group these women would generally have had a longer duration since first marriage and would therefore have had their marriages exposed longer to the risk of dissolution.

TABLE 4.6

AVERAGE PERCENTAGE OF TIME SINCE FIRST MARRIAGE WHICH HAS BEEN SPENT IN THE MARRIED STATE BY ALL EVER-MARRIED WOMEN BY AGE AT FIRST MARRIAGE AND BY CURRENT AGE

Current age	Age at first marriage						Number of women
	<15	15-19	20-24	25-29	30+	Total	
<20	92.0	95.4	-	-	-	94.2	424
20-24	89.8	93.3	97.5	-	-	92.9	1,032
25-29	93.9	95.2	96.0	97.7	-	95.1	981
30-34	91.0	93.6	95.8	96.3	*	93.5	795
35-39	91.9	94.8	94.7	97.3	*	94.4	697
40-44	90.0	93.2	93.2	99.4	*	93.1	576
45+	90.1	92.9	92.1	93.0	*	92.5	438
Total	91.3	93.9	94.2	96.9	93.1	93.6	4,943
Number of women	610	3,184	958	165	26	4,943	

* Cases were less than 10 in each cell.

Source: Volume II, Table 1.4.1

4.5.4 Current marital status

In the preceding sub-sections, various indicators of marital stability (or instability), namely status of first marriage, rate of remarriage, and number of times married, were discussed; in this sub-section, we present the net effects of these on the current marital status of the ever married women at the time of the survey. Under "marital status" women are classified into three categories: currently married, widowed, and divorced or separated.

As given in Table 4.7, 89.7 per cent of all ever-married women were currently married at the time of the survey. About 2 per cent (1.9 per cent) were widowed, and 8.4 per cent were divorced or separated. When the proportion of currently married (89.7 per cent in Table 4.7) is compared with the proportion whose first marriage had not been dissolved (72.7 per cent in Table 4.4) the excess 17 per cent represent the proportion remarried after the dissolution of first marriage.

For women who first married less than 5 years ago, the proportion currently married is 89.5 per cent; after rising to 92.3 per cent for women who first married 10-14 years ago the proportion decreases systematically with increasing time duration since first marriage to 81.2 per cent for women who first married 30 or more years ago. The proportions widowed however increase, as expected, with increasing time duration since first marriage; and the proportions divorced or separated decrease

TABLE 4.7

PERCENTAGE DISTRIBUTION OF ALL EVER-MARRIED WOMEN ACCORDING TO CURRENT MARITAL STATUS BY YEARS SINCE LAST MARRIAGE

Years since first marriage	Currently married	Not currently married			Total	Number of women
		Widowed	Divorced/ separated	Total		
<5	89.5	0.4	10.1	10.5	100.0	1,117
5-9	91.2	0.7	8.1	8.8	100.0	1,084
10-14	92.3	1.3	6.4	7.7	100.0	820
15-19	91.6	1.3	7.1	8.4	100.0	718
20-24	87.6	3.7	8.7	12.4	100.0	630
25-29	84.6	6.4	9.0	15.4	100.0	409
30+	81.2	7.3	11.5	18.8	100.0	165
Total	89.7	1.9	8.4	10.3	100.0	4,943

Source: Volume II, Table 1.5.1

from a high level of 10.1 per cent for women who first married less than 5 years ago to 6.4 per cent for those who married 10-14 years ago, but thereafter the proportions (divorced or separated) rise again over the time durations to 11.5 per cent for women who first married 30 or more years ago.

The high proportions of the divorced or separated among women who first married much more recently may be explained by the fact that the marriage dissolutions are so recent that the women have not had much time to get remarried, while the combined effects of higher rates of widowhood and divorce or separation at higher time durations since first marriage coupled with diminishing chances of remarriage on account of age may also explain the falling proportions of currently married women with increasing time duration since first marriage.

4.5.5 Differentials in marital stability

In Table 4.8 we present by way of a summary some selected indicators of marital stability for the various socio-economic categories of ever married women. As shown in the table, education and rural/urban residence do not appear to be linearly related to marital stability as measured by the rate of dissolution of first marriage and the rate of remarriage, although among themselves the categories of the variables show significant differences in the indicators. Among the regions Upper and Northern show the lowest proportions of dissolved first marriages and the highest rates of remarriage while the Central region shows the highest proportion of dissolved first marriages and the second lowest rate of remarriage. Among the ethnic groups the Mole-Dagbani stand out more distinctly as having the lowest proportion of dissolved first marriages (12.2 per cent compared with 46.7 per cent and 40.6 per cent for the other Akan and Fante respectively) and having the highest rate of remarriage (85.4 per cent as against 67.3 per cent for the Twi). The religious groups also show significant differences. Muslims and the traditional religion group have the lowest proportions of dissolved first marriages (17.1 per cent and 19.0 per cent) and the highest rates of remarriage (78.2 per cent and 77.9 per cent) while the Catholics have the lowest proportion of dissolved first marriages and the lowest rate of remarriage.

TABLE 4.8

SOME INDICATORS OF STABILITY OF MARITAL UNIONS BY SELECTED BACKGROUND CHARACTERISTICS

Background characteristics	Percentage of all ever-married women whose first marriage was dissolved	Of those whose first marriage was dissolved the percentage who remarried	Percentage of all ever-married women currently married
Level of education			
No schooling	26.7	75.9	90.9
1-6 years	34.0	66.5	86.5
7-10 years	29.5	64.9	87.6
11+ years	10.2	75.0	96.8
Type of place of residence			
Rural	27.5	70.6	89.8
Urban	30.3	72.9	88.5
Large urban	26.3	74.2	90.7
Region of residence			
Western	39.3	76.3	87.9
Central	42.0	66.9	79.9
Greater Accra	27.3	78.0	92.7
Eastern	29.6	75.6	90.5
Volta	35.6	75.4	89.5
Ashanti	27.2	60.9	86.1
Brong Ahafo	22.4	68.2	90.3
Northern	13.5	82.2	97.6
Upper	12.6	81.3	97.2
Ethnic origin			
Fante	40.6	74.2	84.5
Twi	30.0	67.3	86.8
Other Akan	46.7	68.2	82.4
Mole-Dagbani	12.2	85.4	97.9
Ewe	29.4	78.4	92.4
Ga-Adangbe	33.9	72.5	89.5
Guan	29.5	69.8	89.7
Others, N.S.	16.4	68.9	93.6
Religion			
Catholic	28.6	66.5	88.2
Other Christian	33.8	70.4	87.0
Muslim	17.1	78.2	94.9
Traditional	19.0	77.9	94.7
No religion	28.9	73.8	88.8
All	27.7	71.5	89.7

4.6 PREVALENCE OF POLYGAMOUS MARRIAGES

One of the popular beliefs among Ghanaians is that polygamy is a universal practice in Ghanaian society. Demographers and other social scientists have also sought part of the explanation for fertility differentials in Ghana in the polygamous system of marriage. Consequently an attempt was made in the GFS to inquire about the prevalence of polygamy in the Ghanaian marriage system. In the survey all currently married women were therefore asked whether their husband had other wives, and if so, how many wives including herself the husband had. Data from the survey, presented in Table 4.9, however, indicate that polygamy is not a commonplace practice in Ghana. As shown in the table, as many as 65.5 per cent of the currently married women did

TABLE 4.9

PERCENTAGE DISTRIBUTION OF ALL CURRENTLY MARRIED WOMEN ACCORDING TO NUMBER OF CO-WIVES BY CURRENT AGE OF WOMAN

Current age	0 co-wife	Polygamous marriages: 1 co-wife	2 co-wives	3+ co-wives	Total	Total	Mean number of wives	Number of women
<20	83.2	12.1	3.3	1.4	16.8	100.0	1.2	368
20-24	73.8	21.3	3.1	1.8	26.2	100.0	1.3	926
25-29	67.0	25.0	6.4	1.6	33.0	100.0	1.4	916
30-34	60.2	29.6	7.0	3.2	39.8	100.0	1.6	734
35-39	57.1	30.0	9.2	3.7	42.9	100.0	1.6	632
40-44	57.9	32.4	6.6	3.1	42.1	100.0	1.6	498
45+	58.0	31.2	6.4	4.4	42.0	100.0	1.6	362
All	65.5	26.0	6.0	2.5	34.5	100.0	1.5	4,436

Source: Volume II, Table 1.5.4

not have any co-wives in their marriage, while 26.0 per cent had one co-wife. Six per cent (6.0 per cent) of them had two co-wives in their marriage while 2.5 per cent had three or more co-wives. The proportion of women in a polygamous marriage, which is 34.5 per cent, increases systematically, however, from 16.8 per cent for women aged under 20 years to 42.9 per cent for women aged 35-39. The proportion then stabilizes - with a slight decline - at 42 per cent for the higher age groups. This trend by age may indicate that polygamous marriage is less attractive to the younger generation of women. Alternatively, it may be caused by a life-cycle effect, whereby older women are more likely than younger women to be joined by co-wives.

4.7 DIFFERENTIALS IN PREVALENCE OF POLYGAMOUS MARRIAGE

Data on socio-economic background differentials in the prevalence of polygamous marriage presented in Table 4.10 show that polygamy is significantly related to level of education. About 39 per cent (39.4 per cent) of women with no schooling were in polygamous marriages as against 15.1 per cent for women with 11+ years of education. The rural areas also have a higher proportion of women in polygamous marriages (35.8 per cent) than large urban areas have (30.1 per cent).

With regard to regional differentials Upper, Volta and Northern are conspicuous as regions with the highest proportion of women in polygamous marriages (56.3 per cent, 43.2 per cent and 40.2 per cent respectively). They are followed by the middle group regions, namely, Western, Ashanti and Central which have respectively 33.5, 30.5 and 30.0 per cent of the women in polygamous marriages, with Brong Ahafo, Eastern and Greater Accra regions constituting the lower group with 28.2, 27.4 and 26.7 per cent respectively of their women in polygamous marriages. Among the ethnic groups the Mole-Dagbani have the highest proportion (48.7 per cent) in polygamous marriages, while the Guan, Twi and the Fante with 21.4, 27.4 and 28.7 per cent respectively have the lowest proportions.

Religion also appears to be related to polygamy. Muslims and women professing traditional religion have the highest proportions - 46.9 and 45.0 per cent respectively - of their members in polygamous marriages while Catholics and other Christians with 27.3 and 29.0 per cent respectively have the lowest proportions of women in polygamous marriages.

The differentials by husband's occupation also seem to indicate that wives of men in sales, service and self-employed agricultural occupations are more likely to be in polygamous marriages than their counterparts married to men in the professional, clerical and manual occupations.

TABLE 4.10

PERCENTAGE OF CURRENTLY MARRIED WOMEN IN POLYGAMOUS UNIONS BY SELECTED BACKGROUND CHARACTERISTICS

Background characteristics	Number of women	Percentage in polygamous unions
Education		
No schooling	2686	39.4
1-6 years	456	28.5
7-10 years	1133	27.8
11+ years	152	15.1
Type of place of residence		
Rural	3012	35.8
Urban	702	33.0
Large urban	722	30.1
Region of residence		
Western	340	33.5
Central	310	30.0
Greater Accra	509	26.7
Eastern	689	27.4
Volta	428	43.2
Ashanti	988	30.5
Brong Ahafo	354	28.2
Northern	326	40.2
Upper	492	56.3
Ethnic origin		
Fante	404	28.7
Twi	1670	27.4
Other Akan	150	38.0
Mole-Dagbani	713	48.7
Ewe	538	35.5
Ga-Adangbe	317	31.5
Guan	131	21.4
Others, N.S.	513	44.8
Religion		
Catholic	757	27.3
Other christian	1870	29.0
Muslim	561	46.9
Traditional	857	45.0
No religion	387	32.3
Husband's occupation		
Did not work	18	27.8
Professional and clerical	662	23.9
Sales	269	46.1
Agric. self-employed	1911	39.8
Agric. employee	314	31.5
Service	214	37.4
Manual	1004	29.0
Total	4436	34.4

Source: Volume II, Table 1.5.5

4.8 AGE DIFFERENCES BETWEEN HUSBAND AND WIFE

In the GFS data on the socio-economic background characteristics - including age - of husbands were collected from respondents in the individual interview. However, since in most of the cases the information was not furnished by the man himself the degree of error in the data, particularly on husband's age, can be expected to be high. With this possible source of error in mind, we present, in Table 4.11, data on the age differences between husband and wife; these show that in Ghana, as elsewhere, men marry women who are usually younger than themselves. For about 26 per cent of the women, the husband was older by up to 4 years while for about 58 per cent of the women the husband was older by up to 9 years; and while the median age difference falls within the 5 to 9 year interval, the proportion of women whose husbands were 10+ years older than themselves was quite high, about 40 per cent for each age group. It is also interesting that little change has occurred from older to younger women: the proportions of women in the different age-difference groups are generally uniform across the age groups. The only notable exception is the decline in the proportion of women who marry men younger than themselves, over time. Given the possible problems with the quality of the data, and the necessity for some imputation of ages, however much weight cannot be placed on this result.

TABLE 4.11

PERCENTAGE DISTRIBUTION OF EVER-MARRIED WOMEN ACCORDING TO DIFFERENCE IN AGE BETWEEN WIFE AND HUSBAND *

Current age of wife	Husband's age - Wife's age in years						Number of women
	Negative	0-4	5-9	10-14	15-19	20+	
15-19	0.8	16.2	42.3	19.4	9.6	11.7	376
20-24	0.9	22.3	37.7	18.2	9.6	11.3	918
25-29	1.4	29.7	28.5	18.3	10.0	12.2	880
30-34	3.9	22.8	30.7	18.6	11.8	12.1	710
35-39	4.4	22.4	30.0	18.6	10.0	14.5	607
40-44	8.0	18.6	27.6	18.6	12.6	14.6	485
45-49	5.6	22.4	26.4	21.6	10.4	13.6	375
All	3.2	23.0	31.9	18.8	10.5	12.7	4351

* Omitting 592 not stated cases

Source: Volume II, Table 1.5.6

4.9 SUMMARY

Data from the GFS on the levels and characteristics of marriages show that women in Ghana enter married life at an average age of about 17.5 years (median) or 18.5 years (mean) with little variation among age groups. This indicates that age at first marriage has on the whole not changed much over the years. There is, however, a significant relationship between age at marriage and level of education, with age at first marriage rising with increasing level of education.

Marriages in Ghana have also been shown to be stable. Out of the 4943 ever-married women covered in the survey about 72 per cent had their first marriage undissolved at the time of the survey, and of those whose first marriage had been dissolved, the greater proportion had remarried, resulting in about 90 per cent of the ever married women being married at the time of the survey.

Contrary to popular belief, polygamy is also not a universal practice in Ghana since only about 35 per cent (about one-third) of the currently married women were in a polygamous marriage.

CHAPTER 5

FERTILITY AND CHILD MORTALITY

5.1 INTRODUCTION

The Ghana Fertility Survey is the most comprehensive fertility survey ever undertaken in Ghana to collect detailed fertility data. The fertility data used in this analysis were derived from birth and pregnancy histories collected from females aged 15-49 years. In order to minimise omission errors characteristic of retrospective survey data, female respondents were first asked to state the number of sons and daughters (i) who lived in the household, (ii) who lived elsewhere and (iii) who had died.

Respondents were then asked detailed questions about each of their live births, beginning with the first live birth. The questions included the name, sex, date of birth, whether the child was living, and if dead the age at death.

Any discrepancies between the total number of children obtained from the introductory questions and the total number in the maternity history schedule were reconciled.

Pregnancy wastages (non-live births) were dealt with in a similar way. The total number of such pregnancies was obtained first, then further questions on the date of occurrence and duration of each of them were asked. For any pregnancy that lasted 7 months or more, a probe question on whether the issue showed any sign of life was asked to ascertain whether it was really a still birth or a live birth. Very few live births were detected by this probe. Further questions were also asked about pregnancies that lasted less than 7 months to determine whether the pregnancy loss was the result of a spontaneous or an induced abortion. The discussion in this chapter however focuses more on live births.

Retrospective birth histories are liable to suffer from reporting errors such as omission of births, particularly births by older women in their early reproductive period, and misstatement of the dates of births. These errors may be compounded by errors in the recorded ages of the respondents themselves. Evaluation measures for detecting these reporting errors are too complex to be undertaken in this report. The results reported here must therefore be treated as preliminary and subject to adjustments in a later evaluation of the data.

In this chapter the analysis of the fertility behaviour of Ghanaian women focussed essentially on the general levels of fertility in terms of cumulative and current fertility, initial levels, and socio-economic differentials in fertility levels. Trends in fertility are also reviewed, and infant and child mortality is briefly treated at the end of the chapter.

5.2 CUMULATIVE FERTILITY

Table 5.1 shows the distribution of all women according to the number of children ever born by current age. The mean for all women aged 15-49 was 2.97 children. While this table shows that fertility is quite high in Ghana (6.71 children for each woman aged 45-49), the rate of childbearing is not extremely high at young ages. For example 78.7 per cent of

TABLE 5.1

PER CENT DISTRIBUTION OF ALL WOMEN ACCORDING TO NUMBER OF CHILDREN EVER BORN BY CURRENT AGE

Current age	Number of women	Number of children ever born											Total	Mean ever born	Mean surviving
		0	1	2	3	4	5	6	7	8	9	10+			
15-19	1371	78.7	18.6	2.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100	0.24	0.22
20-24	1220	24.1	34.6	26.8	10.2	3.6	0.7	0.0	0.0	0.0	0.0	0.0	100	1.37	1.20
25-29	1011	7.7	13.7	26.0	24.9	15.4	8.1	3.0	0.7	0.4	0.0	0.0	100	2.69	2.37
30-34	802	4.4	5.9	10.0	19.2	21.6	15.8	11.6	8.1	2.5	0.7	0.2	100	4.04	3.51
35-39	703	1.6	2.3	6.3	10.2	16.4	16.2	15.4	14.1	9.8	4.3	3.6	100	5.36	4.62
40-44	579	2.6	2.2	5.7	6.7	10.2	12.4	13.5	14.2	12.8	9.8	9.9	100	6.12	5.10
45+	439	2.3	2.1	4.6	6.4	8.4	6.6	13.2	13.2	14.4	12.5	16.4	100	6.71	5.37
All	6,125	24.8	14.7	13.1	11.0	9.5	7.1	6.0	5.1	3.8	2.4	2.5	100	2.97	2.54

Source: Volume II, Tables 2.2.1C and 2.3.1C

TABLE 5.2

PER CENT DISTRIBUTION OF ALL EVER-MARRIED WOMEN BY NUMBER OF CHILDREN EVER BORN AND CURRENT AGE

Current age	Number ever married	Number of children ever born												Mean for currently married
		0	1	2	3	4	5	6	7	8	9	10	11+	Mean	
<20	424	37.3	54.5	8.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.71	0.68
20-24	1032	12.3	39.2	31.4	12.0	4.3	0.8	0.0	0.0	0.0	0.0	0.0	0.0	1.59	1.59
25-29	981	5.8	13.5	26.7	25.6	15.9	8.4	5.7	0.7	0.4	0.0	0.0	0.0	2.76	2.77
30-34	795	4.2	5.7	10.1	19.2	21.8	16.0	11.6	8.1	2.5	0.8	0.3	0.0	4.06	4.11
35-39	697	1.0	2.3	6.3	10.2	16.5	16.4	15.5	14.2	9.9	4.3	2.4	1.0	5.39	5.47
40-44	576	2.6	1.9	5.6	6.8	10.2	12.5	13.5	14.2	12.8	9.9	6.6	3.3	6.14	6.13
45+	438	2.1	2.1	4.6	6.4	8.4	6.6	13.2	13.2	14.4	12.6	9.4	7.1	6.73	6.90
All ages	4943	8.2	17.2	16.1	13.5	11.8	8.7	7.4	6.3	4.7	3.0	2.0	1.2	3.66	3.67

Sources: Volume II, Tables 2.2.1A and 2.2.1B

15-19 year-olds and 24.1 per cent of 20-24 year-olds were childless. On the other hand the rate of childbearing increases sharply at age 30-34 and remains fairly high at ages 30-44. Thus by age 45-49, about 30 per cent of women have had 9 or more children. About 70 per cent had 6 or more children, and only 15.4 per cent had 3 or fewer children. Primary infertility and sub-fecundity are very low with only 2.3 per cent of the 45-49 age group being childless and 2.1 per cent having only one child.

Table 5.2 also shows the distribution of all ever-married women by number of children ever born, therefore excluding a large proportion of the non-exposed women (i.e. the never-married) from Table 5.1. It is evident from this table also that among ever-married women, primary sterility is at a low level in Ghana: only 8.2 per cent of all ever-married women aged 15-49 have not had a child. About 63 per cent of ever-married 15-19 year-olds had at least one child, while only 2.1 per cent of 45-49 year-olds never had a child. As we expect, the mean number of children ever born increases consistently with age. It rises from 0.71 for women under age 20 and increases sharply to 4.1 among women aged 30-34, attaining a peak of 6.7 among women aged 45 years or more. The distribution by parity shows that more than 53.4 per cent of women aged 45 years or more were at parity 6-9 while 16.5 per cent have had 10 or more children. The pattern is the same for the currently married except that the mean number of children ever born is slightly higher: 6.9 as compared with 6.7 for ever-married women.

Table 5.3 presents the mean number of children ever born to currently married women reported in the various surveys conducted in Ghana. It is important to note that different methods were used in collecting data and hence the results should be interpreted with caution. Moreover the samples of the 1960 and 1971 surveys were relatively larger. In the 1960 Post Enumeration Survey (PES) parity was ascertained by two questions on living children and one on dead children. The 1971 Supplementary Enquiry method was the same as that of 1960 except that information on parity was collected according to sex. The 1979 GFS not only broke the question on number of children ever born into five components (four on living children and one on dead children) but also obtained a complete birth and pregnancy history. Notwithstanding the methodological differences and differences in sample sizes, the figures consistently show that Ghana is characterised by high fertility. For instance, in all three enquiries women aged 45-49 had borne at least 6 children.

A comparison of the 1971 and 1979 figures shows close agreement for only the first age

TABLE 5.3

MEAN NUMBER OF CHILDREN EVER BORN TO CURRENTLY MARRIED WOMEN AT SPECIFIED AGES, GHANA: 1960-1979

Age group	1960 PES	1971 SE	1979 GFS
15-19	1.53	0.69	0.68
20-24		1.77	1.59
25-29	3.67	3.18	2.77
30-34		4.74	4.11
35-39	5.56	5.77	5.47
40-44		6.55	6.13
45-49	6.22	6.79	6.90

Sources: 1960 Population Census of Ghana Volume VI. The Post Enumeration Survey (PES), 1971 Supplementary Enquiry (unpublished data) and Table 2.2.1A.

group, after which mean parity was relatively higher in the 1971 survey - except for the 45-49 age group where the 1979 GFS was slightly higher.

The 1971 Enquiry shows a more rapid tempo of childbearing between ages 20-24 to 40-44, with a mean number of 6.55 children born by age 40-44, compared to 6.13 for the GFS. The differences between the two sources were widest at age 30-34, the difference being 0.6 child, compared to differences ranging between 0.2 and 0.4 child for the other age groups in the age range 20-44 years. From 6.13 children at age 40-44 the GFS mean increased by 0.77 child to 6.90 children for the age group 45-49 while the 1971 Enquiry showed a modest rise of only 0.24 child, reaching a lower mean of 6.79 children for the age group 45-49. The differences in the cross-sectional measures of the tempo of childbearing may be due to misreporting in one or both sources though a genuine decline in fertility may have contributed to the contrast between the two sets of findings.

5.3 CURRENT FERTILITY

Two measures are employed to analyse current fertility: age-specific fertility rates, and proportion of women who were pregnant at the time of the survey. It may again be mentioned that age-specific fertility rates - as well as other fertility rates estimated from the survey data - are subject to errors due to possible understatement of the number of births and misreporting of dates. The GFS data are in particular subject to a relatively higher degree of sampling errors and sampling fluctuations due to the overall sample size, and for the latter reason estimates of the current level of fertility are derived by directly averaging age-specific fertility rates over the three years prior to the GFS in 1979. These estimates and estimates from the 1971 Supplementary Enquiry are shown in Table 5.4 and Figure 5.1

TABLE 5.4

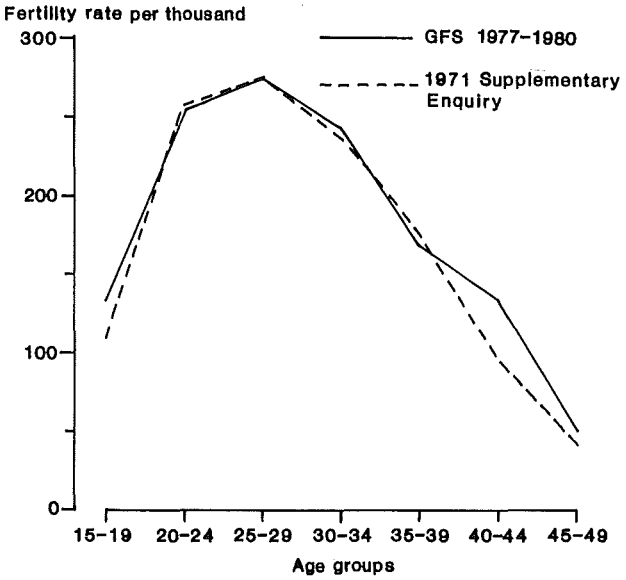
AGE-SPECIFIC FERTILITY RATES, FOR ALL WOMEN (ASFR) AND FOR PERIODS WITHIN MARRIAGE (MASFR), GHANA: 1971 AND 1977-1980

	ASFR		MASFR
	1971 Supplementary Enquiry [1] (unadjusted)	GFS [2] 1977-80	GFS [2] 1977-80
15-19	0.110	0.132	0.344
20-24	0.259	0.257	0.309
25-29	0.266	0.266	0.284
30-34	0.236	0.242	0.259
35-39	0.176	0.169	0.185
40-44	0.097	0.135	0.148
45-49	0.041	0.050	0.058
Total fertility rate	5.92	6.26	(7.94)[3]

1) Births in the last 12 months.

2) Average of births during the 3 years before the survey.

3) A hypothetical rate, which would be achieved only if all women married at age 15 and remained continuously married up to age 49.



5.1 Age-specific fertility rates for 1971 (Supplementary Enquiry) and for 1977-1980 (GFS)

It is important to note that the age-specific fertility rates for 1971 were derived from births occurring within the twelve months preceding the survey whereas that of the GFS were based on birth history data. Despite the differences in methodology and the possible effect of sampling errors some general remarks can be made. As can be seen from the table, there is close agreement between the two sources at ages 20-39 and 45-49. The two sources disagree substantially only at ages 15-19 and 40-44 where the GFS is higher, by .022 and .038 points respectively.

Figure 5.1 also shows that the two fertility curves display a general uniformity of pattern with the highest rates reported for the 25-29 age group which is typical of many developing countries. Since childbearing in Ghana is relatively early it is expected that the fertility distributions should peak at a relatively early age. The age-specific fertility rates should however be regarded as preliminary pending a thorough evaluation of the quality of the data.

The final column of Table 5.4 shows marital age-specific fertility rates (MASFRs) for the 3-year period before the survey. The base of these rates is the woman-years spent in the married state over the 3 years prior to the survey while the numerator is births that occurred to the women during those years. As expected, these rates are usually much higher than fertility rates for all women, and the difference between MASFRs and ASFRs is a measure of the effect of entering marriage after age 15 and of marriage dissolutions. For example, if a woman married at age 15 and was continuously married until age 49 she would on the average bear 7.94 children if she experienced the current marital fertility rates, compared to the actual average of 6.26

births when woman-years of non-exposure were included in the base for the calculation of the rates.

With regard to the second indicator of current fertility, namely, the proportion of women reporting a current pregnancy, it must be borne in mind that this measure is subject to under-reporting (of current pregnancies) by women in the first months of pregnancy. However, this is true for women of all ages and the relative levels of current pregnancy are therefore not expected to be unduly affected by this situation. The percentages of currently married women and of all women reporting a pregnancy are presented in Table 5.5.

As shown in the table, 13.8 per cent of currently married women and 10.3 per cent of all women aged 15-49 reported a current pregnancy. An especially striking figure in this table is the 25.3 per cent of currently married 15-19 year-olds who are currently pregnant. For all women, however, the peak rates of current pregnancy, as of current fertility, are at ages 20-29.

The proportions currently pregnant may be compared to the current fertility rates in Table 5.4 by scaling all three sets of measures so that they sum to 1.0, as shown in Table 5.6. The correspondence among all the three sets of data is very close, and this agreement among the sources increases our confidence in the fertility patterns described. Any errors in dating of recent births that may be present appear to affect the age groups equally, and the pattern of fertility, if not its level, does not appear to have been affected by any bias from this source.

TABLE 5.5

PERCENTAGE OF ALL WOMEN AND OF CURRENTLY MARRIED WOMEN REPORTING A CURRENT PREGNANCY

Current age	Per cent pregnant	
	Currently married	All women
<20	25.3	7.4
20-24	18.3	14.3
25-29	15.9	14.4
30-34	13.9	12.8
35-39	9.8	9.2
40-44	6.6	5.7
45+	2.2	1.8
Total	13.8	10.3

Source: Volume II, Tables 2.4.5 and 2.4.6

TABLE 5.6

RELATIVE AGE-SPECIFIC FERTILITY AND PREGNANCY RATES ESTIMATED FROM GFS AND 1971 SUPPLEMENTARY ENQUIRY

Age	1971 Supplementary Enquiry	1979 GFS 3-year ASFRs	1979 GFS Current pregnancy rates
15-19	0.093	0.106	0.113
20-24	0.219	0.205	0.218
25-29	0.224	0.213	0.220
30-34	0.199	0.193	0.195
35-39	0.149	0.135	0.140
40-44	0.082	0.108	0.087
45-49	0.035	0.040	0.027
Total	1.000	1.000	1.000

Sources: 1971 Supplementary Enquiry (unpublished data) and Volume II, Table 2.4.6

5.4 NUPTIALITY AND FERTILITY

5.4.1 Pre-marital births

Childbearing before first marriage is relatively low in Ghana, compared to Kenya, for example (Kenya Country Report 1980). Only about 8 per cent of ever-married women who had been married for 5 or more years reported a pre-marital birth, compared to about 20 per cent in Kenya. The differentials by age at first marriage are however high. As expected, a greater proportion of women who married late than of women who married early reported a pre-marital birth (Table 5.7). Among all ever-married women who married 5 or more years ago, about 16 per cent of those who married at age 22-24 reported a pre-marital birth, while 19.8 per cent of those who married at age 25 years or older reported a birth before marriage. These proportions contrast with 3-8 per cent for women who married under age 22. The mean number of children born before first marriage therefore ranges between 0.3 and 0.4 child per woman who married at age 22 or older, compared to about 0.1 child or less for women who married at younger ages. The differentials in pre-marital births clearly affect measures of fertility, particularly in the first five years of marriage since pre-marital births are not included.

5.4.2 Age at first marriage and fertility

In human populations where contraceptive practice is virtually non-existent, a principal factor which influences fertility is the age at first marriage. This is because, all things being equal, women who marry early are exposed to a relatively longer period of childbearing. This holds true for Ghana, and as shown in Table 5.8 - which presents the mean number of children ever born for all women by age at first marriage cross-classified by current age - the mean number of children ever born is negatively associated with age at first marriage. This inverse relationship obtains generally in all age groups. For instance, among women aged 45 years or more (i.e. those who have completed their childbearing), those who married under

TABLE 5.7

PRE-MARITAL AND EARLY MARITAL FERTILITY OF ALL WOMEN WHO FIRST MARRIED AT LEAST 5 YEARS AGO AND OF WOMEN WHO FIRST MARRIED 5-9 YEARS AGO, BY AGE AT FIRST MARRIAGE

Age at first marriage	Percentage reporting a pre-marital birth		Mean number of births reported before first marriage		Mean number of births within first five years of marriage		Number of women	
	All	Married 5-9 years ago	All	Married 5-9 years ago	All	Married 5-9 years ago	All	Married 5-9 years ago
<15	3.3	1.9	0.04	0.03	1.53	1.49	553	107
15-17	7.2	4.0	0.08	0.05	1.64	1.62	1590	446
18-19	8.0	6.3	0.10	0.06	1.66	1.61	841	255
20-21	7.9	3.9	0.12	0.06	1.63	1.64	417	129
22-24	15.5	11.8	0.31	0.20	1.95	1.72	278	102
25+	19.8	(20.0)	0.42	(0.29)	1.98	(1.74)	147	45
All	7.9	5.7	0.11	0.07	1.66	1.62	3826	1084

Source: Tables 2.1.1, 2.1.2, 2.1.3

Figures in parentheses are based on 20-50 cases.

TABLE 5.8

MEAN NUMBER OF CHILDREN EVER BORN TO ALL WOMEN BY CURRENT AGE AND AGE AT FIRST MARRIAGE

Current age	Age at first marriage						All ever married	Never married	Total
	<15	15-17	18-19	20-21	22-24	25+			
15-19	1.04	0.68	0.40	-	-	-	0.71	0.05	0.24
20-24	2.50	1.88	1.25	0.75	(0.43)	-	1.59		1.37
25-29	4.11	3.26	3.62	2.11	1.43	(0.93)	2.76	(0.81)	2.69
30-34	5.15	4.50	3.98	3.38	3.10	(1.63)	4.06		4.04
35-39	5.95	5.97	5.05	5.21	4.54	(3.42)	5.39	*	5.36
40-44	7.24	6.86	5.85	5.53	(5.26)	4.27	6.14		6.12
45-49	(7.66)	7.19	6.96	5.90	(5.89)	(4.81)	6.73	*	6.71
Total	4.44	3.79	3.42	3.33	3.19	3.19	3.66	0.09	2.97

Source: Volume II, Tables 2.2.4B and 2.2.6

Figures in parentheses are based on 20-50 cases and an asterisk indicates fewer than 20 cases.

age 15 have 2.9 more children than their counterparts who married at age 25 or above. This is so in spite of the more rapid tempo of childbearing during the early years of marriage for women who marry late.

5.5 INITIAL FERTILITY AND AGE AT FIRST BIRTH

Two measures of early marital fertility, namely, the average length of the interval between the first marriage and the first birth, and the mean number of births during the first five years of marriage, are presented in Table 5.9. Although the data fluctuate somewhat, the general tendency, seen best in the total (i.e. all marriage durations) columns, is for the mean length of the first birth interval to decrease as the age at marriage rises, and for the average number of children born in first 5 years to rise correspondingly with age at first marriage. The joint effect of two factors may explain the observed patterns. Women who marry at very young ages, particularly under age 15, but to a lesser extent at ages 15-17 also, experience what has been termed "adolescent sterility" when their menstrual and ovulation frequency on the average are still sufficiently irregular to lower their probability of conception. At the same time women who marry at older ages tend to have a higher tempo of childbearing in the first

TABLE 5.9

MEASURES OF EARLY FERTILITY BY AGE AT MARRIAGE AND MARRIAGE DURATION

Age at marriage	Mean length of first birth interval (months) by marriage duration				Mean number of births in first 5 years of marriage by marriage duration			
	Marriage duration				Marriage duration			
	5-9	10-19	20+	All	5-9	10-19	20+	All
<15	22.6	30.8	32.6	30.0	1.49	1.48	1.61	1.53
15-17	20.5	23.8	30.8	25.3	1.62	1.65	1.66	1.64
18-19	18.6	23.7	29.9	24.1	1.61	1.68	1.67	1.66
20-21	21.6	25.5	34.1	26.4	1.64	1.69	1.51	1.63
22-24	17.3	18.8	15.4	17.6	1.72	2.13	1.98	1.95
25-29	20.7	18.3	21.9	19.3	(1.62)	2.05	*	1.97
30+	11.0	23.4	-	18.8	*	*	-	*
All ages	20.1	24.4	30.4	25.1	1.62	1.69	1.66	1.66

Sources: Volume II, Tables 2.1.1 and 2.1.2

Figures in parentheses are based on 20-50 cases and an asterisk indicates fewer than 20 cases.

years of their marriage, to compensate for their late start.

The mean length of the first birth interval for women who had been married for 20 years or more was 30.4 months whereas the corresponding figure for those who had been married for a period of 5-9 years was 20.1 months. This difference may however be due to errors in reporting either the date of the first marriage or the date of the first birth and need not reflect a real trend towards postponement of first births.

The mean age at first birth does not measure the rate of early fertility. It is however an important aspect of childbearing, since the higher it is, the lower the potential completed fertility. Table 5.10 therefore shows the distribution of all women by age at first birth. We may compare age groups above age 29, since all of these groups had 4 or less per cent of the women without a birth. Both the distribution and the summary measure, the mean, indicate a decline in the mean age at first birth, the mean falling from 20.6 for the age group 45-49 to 19.5 for the 30-34 age group. This trend would however be spurious if older women understated the age of their first born child. Further analysis of these apparent trends is therefore required.

5.6 DIFFERENTIALS IN FERTILITY

5.6.1 Fertility in early married life

In this sub-section we look at the number of children born in the first five years of marriage and at the median age at first birth, for different socio-economic groups of Ghanaian women. As presented in Table 5.11, there is virtually no fertility differential by childhood place of residence for the most recent marriage cohort, whereas for women who had married 10-19 or 20+ years ago and whose childhood place of residence was urban, the mean number of children was about 1.80 as compared with about 1.60 and 1.70 for their counterparts in rural and large urban areas respectively.

Type of place of current residence categories show the same pattern. It is possible, however, that the low fertility in rural areas may be due to data errors (e.g. omission or misdating of early births).

The fertility differentials according to region of residence show that Western, Central, Eastern and Brong Ahafo regions have the highest initial fertility, while Upper, Northern and Greater Accra regions have the lowest fertility. Volta and Ashanti occupy an intermediate position. This pattern remains virtually unchanged when duration of marriage is controlled. However, women in Western

TABLE 5.10

PER CENT DISTRIBUTION OF ALL WOMEN ACCORDING TO AGE AT FIRST BIRTH, BY CURRENT AGE

Current age	Age at first birth						No birth	Total	Median+	Mean
	<15	15-17	18-19	20-21	22-24	25+				
15-19	1	14	6	0	0	0	79	100	*	16.8
20-24	3	26	27	16	4	0	24	100	19.0	18.1
25-29	4	24	23	20	16	5	8	100	19.4	19.3
30-34	7	25	19	18	17	10	4	100	19.4	19.5
35-39	8	25	21	16	14	14	2	100	19.1	19.7
40-44	4	23	21	15	16	18	3	100	19.7	20.5
45-49	5	22	19	18	17	17	2	100	19.9	20.6
Total	4	22	19	13	10	7	25	100	20.1	19.3

Source: Volume II, Table 2.1.4 and special table

+ Computed from single-year distribution.

* Median not yet reached.

TABLE 5.11

MEAN NUMBER OF CHILDREN BORN WITHIN FIRST FIVE YEARS OF MARRIAGE BY YEARS SINCE MARRIAGE AND SELECTED BACKGROUND VARIABLES

Background variables	Years since marriage			
	5-9	10-19	20+	All
Childhood type of place				
Rural	1.63	1.65	1.59	1.62
Urban	1.61	1.80	1.83	1.75
Large urban	1.62	1.65	1.70	1.65
Type of place of residence				
Rural	1.64	1.69	1.63	1.65
Urban	1.60	1.81	1.80	1.74
Large urban	1.57	1.62	1.73	1.63
Region of residence				
Western	1.86	1.89	1.97	1.91
Central	1.84	1.78	1.62	1.75
Greater Accra	1.51	1.60	1.80	1.62
Eastern	1.75	1.92	1.85	1.85
Volta	1.64	1.92	1.71	1.78
Ashanti	1.54	1.62	1.78	1.64
Brong Ahafo	1.73	1.91	1.79	1.82
Northern	1.51	1.24	1.00	1.24
Upper	1.42	1.39	1.20	1.33
Level of education				
No schooling	1.60	1.67	1.62	1.64
1-6 years	1.64	1.74	1.97	1.76
7-10 years	1.66	1.76	1.80	1.72
11+ years	(1.50)	(1.68)	*	1.65
Status of current marriage				
Monogamous	1.64	1.74	1.68	1.69
Polygamous	1.58	1.59	1.56	1.58

Source: Volume II, Table 2.1.2

Figures in parentheses are based on 20-50 cases and an asterisk indicates fewer than 20 cases.

region who married 20 or more years ago, and women in Eastern, Volta and Brong Ahafo regions who married between 10 and 19 years ago registered the highest fertility. These preliminary findings should be interpreted with caution pending more in-depth analysis which will control for the effect of confounding factors such as level of education and type of place of residence.

Fertility differences according to level of education are generally quite small, especially for the groups who married 5-9 and 10-19 years ago. Among the group who married 20 or more years ago, however, women with no schooling had only 1.62 children in the first 5 years, compared to 1.97 for women with primary education and 1.80 for women with 7-10 years of education, indicating a higher tempo of initial fertility among the educated. Whether this is a real difference (due, for example, to shorter breastfeeding by the educated) or whether it is caused by differences in the quality of reporting births will be determined in a detailed evaluation of the quality of the data.

Irrespective of duration of marriage, women in monogamous marriages experienced higher fertility than those in polygamous marriages, and as can be seen in Table 2.1.2 (Volume II) differences in age at marriage are not accountable for the observed fertility differential. Among the most recent marriage cohort, polygamous women who married under age 18 have relatively higher fertility than their monogamous counterparts.

Table 5.12 shows variations in the median age at first birth by four major background variables. We may use one age group, 25-29 year-olds, as an example in studying these differentials. The median age for all women aged 25-29 is quite low. By age 19.4, half of this group had had their first child. The median age increases gradually as education rises, up to 19.5 for the group with 7-10 years of schooling, and then shoots up to 24.7 for the group with the highest level of

TABLE 5.12

MEDIAN AGE AT FIRST BIRTH AMONG WOMEN CURRENTLY AGED 25-29, BY SELECTED BACKGROUND CHARACTERISTICS

Level of education

None	1-6	7-10	11+	All
18.8	19.2	19.5	24.7	19.4

Type of place of residence

Rural	Urban	Large urban
19.1	18.9	20.7

Region of residence

Western	Central	Greater Accra	Eastern	Volta	Ashanti	Brong Ahafo
18.3	18.9	21.2	19.2	19.0	19.6	19.1

Northern	Upper
19.2	18.8

Ethnic origin

Fante	Twi	Other Akan	Mole-Dagbani	Ewe	Ga-Adangbe	Guan	Other, NS
19.5	19.4	(18.2)	19.0	19.6	20.8	(18.5)	19.2

Source: Special table

Figures in parentheses are based on 20-50 cases.

education. Rural and urban residents have almost the same median, 19.1 and 18.9 years, but in large urban areas residents have their first birth at a substantially older median age of 20.7 years. Among the regional and ethnic groups, only three fall much below a median age of 19.0: the Western region (18.3), and the other Akan and Guan ethnic groups (18.2 and 18.5, respectively). A few groups have noticeably older medians - the Greater Accra region (21.2) and the Ga-Adangbe ethnic group (20.8).

5.6.2 Cumulative fertility

The mean number of children ever born to ever-married women for selected socio-economic background variables is also presented in Table 5.13. For all marriage durations large urban areas have consistently lower fertility. The fertility of urban areas occupies an intermediate position.

The fact that rural residents have the highest level of cumulative fertility suggests that the reverse situation which was observed in early fertility differentials was either short term only or was in fact due to reporting errors among rural women, concerning their early reproductive period.

However, this inverse relationship between fertility and size of place of residence becomes somewhat less clear when educational attainment is controlled (Volume II, Table 2.2.7A). For the most recent marriage cohort, women with no formal education in urban areas have higher fertility than their counterparts in both rural and large urban areas; the mean number of children ever born is 1.89 as compared with 1.70 and 1.50 for rural and large urban areas respectively. Women with no education in the group with a marriage duration of 10-19 years show the same relationship. However among women with a marriage duration of 20 years or more and no education, the urban group has the lowest level of fertility.

These results imply that while size of place of residence has a negative effect on fertility for women with some education, the opposite appears to be true for women with no education, at least for the two more recent marriage cohorts.

Regional fertility differentials in cumulative fertility are clearly evident in Table 5.13. The mean number of children for women who were married for 20 or more years was highest in the Brong Ahafo, Western, Central, Ashanti and Eastern regions, the range being 6.7 to 7.2 children. Volta had 6.35 children while the Upper, Greater Accra and Northern regions had the lowest fertility, 5.6 to 5.9 children. This pattern remains essentially unchanged when level of education is controlled. Considering women with no education and marriage durations of 20 years or more, Brong

TABLE 5.13

MEAN NUMBER OF CHILDREN EVER BORN TO EVER-MARRIED WOMEN BY YEARS SINCE FIRST MARRIAGE AND SELECTED BACKGROUND CHARACTERISTICS

Background variables	Years since marriage			
	<10	10-19	20+	Total
Type of place of residence				
Rural	1.68	4.46	6.57	3.82
Urban	1.64	4.39	6.29	3.52
Large urban	1.46	4.02	6.03	3.14
Region of residence				
Western	1.81	5.07	7.01	4.12
Central	1.82	4.48	6.80	3.94
Greater Accra	1.53	3.84	5.63	2.97
Eastern	1.71	4.64	6.67	3.95
Volta	1.81	4.57	6.35	3.88
Ashanti	1.54	4.28	6.69	3.41
Brong Ahafo	1.65	4.62	7.24	4.06
Northern	1.53	4.21	5.94	3.56
Upper	1.48	4.01	5.57	3.58
Level of education				
No schooling	1.70	4.54	6.53	4.35
1-6 years	1.69	4.35	6.62	3.40
7-10 years	1.58	3.95	5.81	2.39
11+ years	1.37	(3.34)	*	2.13
Occupation of wife				
Did not work	1.13	3.99	5.69	2.09
Prof. & clerical	1.38	3.46	*	2.29
Sales	1.75	4.29	6.31	3.73
Agric. self-employed	1.83	4.62	6.75	4.29
Agric. employees	1.73	(4.21)	*	2.93
Service	(1.62)	(3.85)	*	(3.02)
Manual	1.68	4.23	6.05	3.41
Recent work status				
Not worked	1.13	3.99	5.69	2.09
Self/family empl.	1.79	4.45	6.54	4.01
Someone empl.	1.51	3.79	5.63	2.54

Source: Volume II, Table 2.2.7

Figures in parentheses are based on 20-49 cases and an asterisk indicates fewer than 20 cases.

Ahafo, Western, Central, Eastern and Ashanti still had the highest fertility while Upper, Northern and Greater Accra registered the lowest fertility (Volume II, Table 2.2.7B).

Turning to fertility differences in cumulative fertility according to educational attainment, it is seen in Table 5.13 that, in general, increasing level of education is associated

with a fall in fertility. Women with no education and with marriage durations of between 10 and 19 years have 1.2 more children than their counterparts who have had 11 or more years' education. However, for this marriage duration cohort, the fertility of women with no education is roughly the same as that of those with primary education. When narrower duration groups are considered, we find that the primary education group occasionally has higher fertility than the group with no schooling:

Education	Duration since first marriage (years)			
	<5	5-9	10-14	15-19
No schooling	0.88	2.38	3.90	5.14
1-6 years	1.07	2.28	3.91	5.10
7-10 years	1.03	2.30	3.67	4.44
11+	0.71	(2.20)	(2.74)	(4.29)

NB: Brackets indicate that the mean is based on or 10-50 women.

The cohort with a marriage duration of under 5 years shows the strongest reversal, with even the 7-10 years' education group having higher fertility than the "no schooling" group - again reflecting the higher tempo of initial fertility for educated women.

The phenomenon observed among the educational categories may be partly explained in terms of differences in breastfeeding practices and the use of contraception. The mean length of full breastfeeding was higher among women with no education than among their counterparts with primary education. However more women with primary education (24.4 per cent compared with 11.2 per cent of women with no education) were reported as using an efficient contraceptive method. It seems that this proportion of women with primary education using contraception is not large enough to compensate for their shorter breastfeeding in the case of the subgroup with a marriage duration of under five years, but does sufficiently compensate for the groups with a duration of above five years.

It is contended that combining the roles of mother and worker interferes with a woman's fertility performance. This is to be expected particularly in a situation where a woman's job takes her away from home. For all marriage durations women whose occupation was self-employment in agriculture and women whose most recent work status was that of family or self-employment have the highest fertility. In contrast, women in the modern labour force have lower fertility. The pattern of association between fertility and wife's occupation persisted when level of education is controlled (special table). Sales workers have relatively higher fertility than professional and clerical workers. It could well be that the nature of professional and clerical occupations is incompatible with the maternal role. Interestingly, women who did not work had relatively low fertility.

5.6.3 Current fertility

Current fertility, or fertility within the recent past, is often of even greater interest than cumulative or initial fertility; and in discussing the socio-economic differentials in current fertility, we present in Table 5.14 two sets of measures. The first, indexed 'A', are data on births during the past five years, summarised from Table 2.4.3C in Volume II, which give an estimate of the fertility of the hypothetical woman who experienced the current five-year fertility rates throughout her reproductive life (ages 15-44, here, because of the sample restriction). The second measures in the table, indexed 'B', show differentials in recent fertility after removing the effect of age at marriage and

TABLE 5.14

A. Estimated five-year average total fertility rates (over ages 15-44)

B. Estimated mean number of children that would be born between fifth and twenty-fifth year of marriage to women continuously married during this period, at current fertility levels

Level of education

	None	1-6	7-10	11+	All
A	6.75	6.61	5.58	3.94	6.31
B	5.19	5.20	4.76	3.56	5.12

Type of place of residence

	Rural	Urban	Large urban
A	6.65	5.96	5.36
B	5.29	5.02	4.50

Region of residence

	Western	Central	Greater Accra	Eastern	Volta	Ashanti	Brong Ahafo
A	7.13	7.11	5.18	6.26	6.32	6.04	6.65
B	5.96	5.81	4.61	5.29	5.30	5.05	5.11

	Northern	Upper
A	7.86	5.75
B	5.67	4.27

Ethnic origin

	Fante	Twi	Other Akan	Mole-Dagbani	Ewe	Ga-Adangbe	Guan	Other, NS
A	6.32	6.07	7.29	6.40	6.37	6.42	6.35	6.56
B	5.37	5.16	5.48	4.72	5.32	5.13	5.08	5.11

Most recent work status

	Not worked	Self/family emp.	Someone emp.
B	4.93	5.23	4.05

Status of current marriage

	Monogamous	Polygamous
B	5.19	5.00

Source: Tables 2.4.3B and 2.4.3C

marital dissolution. It is also based on Table 2.4.3B in Volume II which shows the mean number of births for women continuously married during the past five years by years since the first marriage. The sum of the mean number of births from duration 5-9 to duration 20-24 gives an estimate of the fertility of a hypothetical woman between the fifth and twenty-fifth year of marriage if she experienced the rates of the recent five-year period and was continuously married for the whole period. The purpose of including this second measure is to see whether "controlling" for the age at marriage and marital dissolution changes the differentials.

The results bear out the pattern of differentials observed earlier. Fertility steadily declines as education rises, but mainly for education above the primary level. The level of current fertility also declines with size of place of current residence. The regions with especially high fertility are Northern, Western and Central, all with over 7 children per woman while only Greater Accra and the Upper regions have noticeably low levels - 5.18 and 5.75 respectively. Other regions are intermediate with 6 to 6.65 children per woman. Among the ethnic groups only two stand out - Other Akan with 7.29 children and Twi with 6.07 - while all others cluster around 6.4 children per woman. Women in monogamous and polygamous marriages do not differ greatly in their recent levels of fertility. As observed earlier, self or family-employed women have the highest level of fertility, higher even than those who did not work. However, the group "employed by someone else" had much lower recent fertility than women who did not work, which was not evident from cumulative fertility measures.

The marital fertility measures show about the same pattern as the all-woman measures given above. In the case of the education and type of place of residence categories, the small difference between the groups with no schooling and 1-6 years of education is cancelled and the rural and urban groups are relatively closer after exposure is controlled. A few larger changes also occur among ethnic and regional groups once exposure is controlled, although the sample size of some subgroups probably contributed as well. For example Northern region had by far the highest fertility, in terms of the all-woman rate, but dropped to the third highest once exposure was controlled - the implication being that in this region women spend less time outside marriage, compared to other regions. A similar argument could be made for the Mole-Dagbani ethnic group, while the opposite situation holds for the Twi group, which moved from the lowest fertility to the fourth highest group, after exposure is controlled.

The more usual measure of current fertility - age-specific fertility rates - are presented in Table 5.15 for types of place of residence, educational levels and regions, and the differentials generally support earlier findings in terms of cumulative fertility.

The total fertility rate is inversely related to size of place of residence, and there is also no difference between the fertility of women with no formal education and that of women with primary education as measured by the total fertility rate. Women with more than primary education (7+ years) have lower fertility, and in general, the pattern of regional differences as measured by the total fertility rate conforms to regional differences in cumulative fertility. The Northern region however registered the highest total fertility rate for the period 0-4 years preceding the survey, but this finding must be interpreted with caution in view of the relatively small cell sizes.

5.7 TRENDS IN FERTILITY

In the assessment of trends in fertility, evidence is sought from two sources: comparison with external estimates for earlier points in time, and internal estimates of period rates. The external estimates used are based on data from the 1960 Post Enumeration Survey (PES) and the 1971 Supplementary Enquiry (SE). As given in Table 5.3, comparative estimates of children ever born to currently married women aged 45-49 years obtained from the last two post census surveys were 6.22 and 6.79 respectively for the 1960 PES and the 1971 SE, compared with the estimate of 6.90 from the GFS. Estimates of the total fertility rates were also 5.92 for the 1971 SE and 6.31 for the GFS - the latter being the average of rates for the last three calendar years of the survey. Both sets of measures indicate a rise in fertility.

Internal evidence from the GFS, however, tends to suggest that differences in the quality of the data from the sources may possibly be the reason for the apparent rise in fertility. Table 5.16 based on the birth history data, shows estimates of fertility for each 5-year period before the survey up to the last 35 years as well as the total fertility rates for the last four 5-year periods. [1)]

As can be seen from the table, the rates increase as we go back in time, from 6.47 for the 0-4 years before the survey to 7.27 for the period 15-19 years before the survey, which is approximately the early 1960s. Another set of 3 calendar years estimates of total fertility rates for up to 1967 given in Table 5.17 also shows a generally decreasing trend from a high level of 6.99 for the years 1967-1969 to 6.31 for the years 1976-1978.

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1) *Estimates for the missing cells are obtained from their closest equivalent period.*

TABLE 5.15

AGE-PERIOD SPECIFIC FERTILITY RATES FOR THE PERIOD 0-4 YEARS PRECEDING THE SURVEY, BY SELECTED BACKGROUND CHARACTERISTICS

Background variable	Age at maternity							
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	TFR
Type of residence								
Rural	0.156	0.273	0.284	0.253	0.197	0.136	0.062	6.80
Urban	0.120	0.239	0.275	0.239	0.172	0.118	0.095	6.29
Large urban	0.087	0.211	0.245	0.222	0.165	0.122	(0.027)	5.39
Level of education								
No schooling	0.172	0.272	0.281	0.253	0.195	0.136	0.063	6.86
1-6 years	0.177	0.272	0.283	0.252	0.158	(0.154)	(0.072)	6.84
7+ years	0.108	0.235	0.263	0.213	0.152	(0.064)	(0.038)	5.37
Region of residence								
Western	0.178	0.298	0.282	0.301	0.246	(0.088)	(0.024)	7.08
Central	0.175	0.251	0.285	(0.286)	0.216	0.178	(0.063)	7.27
Greater Accra	0.082	0.208	0.244	0.224	0.187	(0.074)	(0.000)	5.10
Eastern	0.131	0.242	0.305	0.233	0.175	0.141	(0.097)	6.62
Volta	0.135	0.302	0.296	0.239	0.174	(0.112)	(0.058)	6.58
Ashanti	0.136	0.257	0.273	0.260	0.175	0.099	(0.047)	6.24
Brong Ahafo	0.156	0.278	0.309	0.215	0.155	(0.157)	(0.077)	6.74
Northern	0.148	0.273	(0.306)	(0.283)	(0.258)	(0.202)	(0.092)	7.78
Upper	0.138	0.237	0.216	0.196	0.160	0.141	(0.074)	5.81

Source: Special tables

Rates based on a denominator of less than 250 woman-years are in parentheses.

The estimate for the 3 years enclosing the reference period in the 1971 SE (i.e. 1970-1972) is 6.90, compared with the estimate of 5.92 obtained from the Supplementary Enquiry.

While earlier indirect estimates of a stable total fertility rate of around 7.00 children per woman for the period between 1960 and the early 1970s are supported by the GFS data, there is evidence from the latter that some

TABLE 5.16

AGE-PERIOD SPECIFIC FERTILITY RATES FOR FIVE-YEAR PERIODS, GFS

Age at maternity	Period (years before survey)						
	0-4	5-9	10-14	15-19	20-24	25-29	30-34
15-19	0.136	0.141	0.134	0.148	0.150	0.120	0.112
20-24	0.255	0.268	0.269	0.268	0.249	0.263	-
25-29	0.276	0.281	0.295	0.281	0.292	-	-
30-34	0.245	0.266	0.272	0.286	-	-	-
35-39	0.188	0.211	0.245	-	-	-	-
40-44	0.132	0.166	-	-	-	-	-
45-49	0.061	-	-	-	-	-	-
Total fertility rate [1]	6.47	6.97	7.21	7.27	-	-	-

Source: Special tables

1) Computed by assigning values for adjacent period to missing age-specific rates.

TABLE 5.17

AGE-SPECIFIC FERTILITY RATES FOR 1967-1978, AVERAGED FOR 3-YEAR PERIODS, GFS

Age at maternity	Calendar year period			
	1967-69	1970-72	1973-75	1976-78
10-14	0.006	0.009	0.002	0.005
15-19	0.130	0.137	0.144	0.130
20-24	0.269	0.259	0.268	0.256
25-29	0.283	0.282	0.285	0.266
30-34	0.267	0.266	0.262	0.236
35-39	0.229	0.212	0.207	0.176
40-44	-	0.155	0.143	0.133
45-49	-	-	-	0.59
Total fertility rate [1]	6.99	6.90	6.85	6.31

Source: Special table

1) Computed by assigning values for adjacent period to missing age-specific rates.

TABLE 5.18

MEAN NUMBER OF CHILDREN BORN BY EXACT SPECIFIED AGES FOR BIRTH COHORTS OF WOMEN

Birth cohort (current age)	Exact age					
	20	25	30	35	40	45
20-24	.73	-	-	-	-	-
25-29	.69	1.99	-	-	-	-
30-34	.73	2.07	3.42	-	-	-
35-39	.77	2.11	3.57	4.83	-	-
40-44	.70	1.99	3.44	4.80	5.78	-
45-49	.66	1.96	3.38	4.71	5.83	6.53

Source: Special table

decline in fertility has occurred in the last 10 years or so. However, cumulated fertility rates for cohorts of women show remarkably little change. This picture of stability, shown in Table 5.18, augurs well for the relative quality of birth history data, nor is it necessarily inconsistent with the period rates of Table 5.16 which, in contrast to Table 5.18, includes births in the most recent five-year period when the major part of any fertility decline occurred.

In conclusion, data from the GFS suggest that fertility at the national level has remained more or less stable at about seven children per woman until at least the early to mid 1970s, but gives some indication of a small recent decline particularly in the last five years. A detailed evaluation of the data and further monitoring of fertility levels are however needed for more firm conclusions to be reached.

5.8 INFANT AND CHILD MORTALITY

In recent times a great deal of attention has been focussed on the relationship between the level of infant mortality and fertility in developing countries. It is contended that one of the necessary conditions of low levels of fertility through birth control is a substantial fall in infant mortality (Freedman, 1966).[2] Besides their usefulness for health planning, therefore, estimates of infant mortality are useful in analysing fertility in Ghana.

In the GFS, the survival status, at the time of the survey, of each live birth reported in the birth history by the respondents was asked, and for those children who had died the date of death was also obtained. This information, together with the information on date of birth of the live births, provides source data for estimating infant and child mortality rates; and given below are direct estimates of infant mortality for the period 1970-1977:

1970	1971	1972	1973	1974	1975	1976	1977
70.1	78.0	70.7	69.4	76.3	63.6	68.2	81.8

As can be seen from the figures the infant mortality rates for the period by single calendar years fluctuate between 64 and 82 infant deaths per 1000 live births and do not show any clear-cut trend during the period. Estimates for five-year calendar periods given in Table 5.19 however show a decrease in infant mortality from 111 in the early 1950s to about 79 in the early 1960s, but the rates thereafter again do not show any significant trend. The level of child mortality (i.e. deaths at age 1-4 years) was higher than the level of infant mortality in the early 1950s (114 compared to the infant mortality rate of 111.) It declined however at a faster rate to below the level of infant mortality in the late 1950s (78 as against infant mortality rate of 102) as a result of more effective control of infectious and parasitic diseases which are the main causes of child mortality.

The infant mortality rate of 78, compared to a direct estimate of 87 from the 1971 Supplementary Enquiry, does not deviate very much from the SE estimate but appears to be low when compared to the indirect estimate of about 121 for 1971. Omission of infant deaths

TABLE 5.19

PROBABILITIES OF INFANT AND CHILD DEATH, BY 5-CALENDAR YEAR PERIODS: 1949-1978

Period	Births	Deaths, by age of child at death			Probabilities of death *		
		<1	1-4	0-4	$_1q_0$	$_4q_1$	$_5q_0$
1949-53	512	57	52	109	.111	.114	.213
1954-58	1309	133	92	225	.102	.078	.172
1959-63	2316	182	153	335	.079	.072	.145
1964-68	3346	261	233	494	.078	.076	.148
1969-73	4526	301	233	534	.067	.055	.118
1974-78	5385	376	-	-	.070	-	-

* $_1q_0$ Probability of death between birth and first year of life.

$_4q_1$ Probability of death between first and fifth year of life.

$_5q_0$ Probability of death before age five.

2) *Freedman, Ronald (1966). The Transition from High to Low Fertility: Challenge to Demographers. Population Index 31, 4: 417-430.*

TABLE 5.20

PER CENT OF CHILDREN EVER BORN WHO ARE DEAD BY AGE OF MOTHER

Age of mother	Mean children ever born	Children dead	
		Mean number	Per cent
15-19	0.24	0.02	8.3
20-24	1.37	0.16	11.7
25-29	2.69	0.32	11.9
30-34	4.04	0.53	13.1
35-39	5.36	0.73	13.8
40-44	6.12	1.02	16.7
45-49	6.71	1.34	20.0
All women	2.97	0.44	14.8

Source: Volume II, Table 2.3.4

and other reporting errors may have affected the levels obtained by direct estimate from the 1971 SE and the GFS, although a possible overestimation by the indirect methods cannot be ruled out.

Another summary measure of levels of child mortality presented in Table 5.20 is the mean proportion of children dead per woman over her lifetime. For all women aged 15-49 years, 14.8 per cent of their mean 2.97 children ever born were dead at the time of the survey. The proportion of children dead increases with age, as expected, from 8.3 per cent for women aged 15-19 to 20.0 per cent for women aged 45-49. Table 5.21 also shows the percentage of women experiencing 0, 1, 2, 3 or 4 or more deaths classified by number of children ever born, and it is evident from Table 5.20 and Table 5.21 that experience of child-deaths is widespread in Ghana. For example, among women who have had four live births, only 66.1 per cent have not experienced any child-deaths. As many as 20.4 per cent have lost one child, and 12.2 per cent have lost two children, while 1.3 per cent have experienced three or more child-deaths. In other words, one-third of women with four live births have lost one or more children. Among women with nine or more live births only 33.6 per cent have not experienced any child-deaths; 25.3 per cent have lost one child while 41.1 per cent have lost two or more children. As the higher parities refer to older women and to births in the relatively distant past, the increase in the proportions of children dead with increasing parity is not unexpected.

TABLE 5.21

PER CENT DISTRIBUTION OF ALL WOMEN ACCORDING TO NUMBER OF DEAD CHILDREN AND NUMBER OF CHILDREN EVER BORN

Number of children ever born	Number of dead children				
	0	1	2	3	4+
1	90.9	9.1	-	-	-
2	81.8	16.4	1.7	-	-
3	74.5	20.9	4.5	0.1	-
4	66.1	20.4	12.2	1.0	0.3
5	55.1	28.7	11.3	3.9	0.9
6	52.6	23.4	14.4	6.3	3.3
7	36.0	29.6	18.6	10.9	4.1
8	30.9	29.1	19.6	11.7	8.7
9+	33.6	25.3	19.4	10.2	11.5

Source: Volume II, Table 2.3.3

5.9 SUMMARY

Data presented in this chapter show that the total fertility rate in Ghana was about 6.5 children per woman during the five-year period before the survey, and about 6.3 children during the last three years. Although a comparison with the direct estimate of 5.9 children for 1971 from the Supplementary Enquiry of that year suggests an increase in the level of fertility, data from the GFS estimate the total fertility rate in 1971 to be about 6.9, indicating undercoverage of births in the 1971 SE relative to the GFS. The estimates from the GFS therefore suggest some slight decline in fertility in recent years.

The data also show great differentials in fertility levels and patterns among the various geographic and socio-economic groups, with education being inversely related to fertility although the more highly educated show a more rapid tempo of early marital fertility.

CHAPTER 6

PREFERENCES FOR NUMBER AND SEX OF CHILDREN

6.1 INTRODUCTION

In this section data on the desire for additional children, the number of additional children wanted and the total family size desired are presented. Data on the desire for additional children were based on the 4027 currently married women who considered themselves physically capable of having more children.

These women were asked:

"Do you want to have another child (any children) at any time in the future?"

Women who did want additional children were then asked a question on their preferred spacing of birth:

"Would you rather have a baby in the next year or so, or would you prefer to wait for several years?"

The information from this second question is not discussed in any detail in this preliminary report, however, but it will be examined in the further analysis of GFS data.

Currently married women who considered themselves not capable of having additional children and widowed, separated and never-married women, were not asked this question. However, the following question on total family size desired was asked of all women, irrespective of their marital status and their physical ability to have children:

"If you could choose exactly the number of children to have in your whole life, how many children would that be?"

Information on preferences for children, by numbers, sex, spacing, and so on, may have a wider degree of uncertainty, because these questions are hypothetical and concern women's attitudes rather than concrete facts of behaviour. Nevertheless such information is important, since it provides a measure of motivation to restrict family size and therefore to use contraception. As such it is an invaluable input into a family planning programme.

6.2 DESIRE TO CEASE CHILDBEARING

Of all currently married, fecund women only 11.7 per cent wanted no more children. An additional 10.1 per cent were undecided, 77.5 per cent wanted more children and 0.7 per cent gave no answer. The proportions desiring to have no more children are very low and they vary positively with current age, family size and duration of marriage (Table 6.1). These proportions are based on all currently married fecund women, including the undecided because this group is more similar to the women who want more children. The undecided group has even lower knowledge and use of contraception than does the "want more" group (Volume II, Tables 5.1.1A and 5.2.1). The fact that less than one per cent of the women aged 15-19 wanted no more children lends credence to the theory that age is an important factor in the decision not to bear any more children. The increase in proportions with increasing age is quite small and at age 45 where most women should be thinking of not having any more children, only 38.1 per cent of the women wanted no more children.

Number of living children is also shown to be an important factor in the decision to stop childbearing. As is expected and duly shown in Table 6.1, less than one per cent of women with no child and only one per cent of those with one child did not want any more children. The table further shows that only 34.5 per cent of women with six living children wanted to limit their families. Furthermore it is only after having eight living children that 58.0 per cent of the women indicate the desire to stop having

TABLE 6.1

PERCENTAGE OF CURRENTLY MARRIED, FECUND WOMEN WHO WANT NO MORE CHILDREN BY CURRENT AGE, FAMILY SIZE AND YEARS SINCE FIRST MARRIAGE

Current age		Family size		Years since first marriage	
15-19	0.3	0	0.7	0-4	1.0
20-24	2.5	1	1.0	5-9	3.7
25-29	5.2	2	3.2	10-14	10.9
30-34	11.0	3	6.1	15-19	19.4
35-39	21.9	4	15.0	20-24	28.2
40-44	33.9	5	19.0	25-29	38.0
45-49	38.1	6	34.5	30+	38.3
		7	39.1		
All	11.7	8	58.0		
		9+	53.9		

Source: Volume II, Tables 3.1.1 and 3.1.2

children. Marriage duration reveals a similar trend. Only one per cent of the women who have been married for less than five years wanted no more children and 38.8 per cent of those married for 30 years and over wanted no more children. It is obvious from Table 6.1 that though current age and duration of marriage are important factors in the decision to limit family size, the number of living children is by far the most important factor in making this decision.

In Table 6.2 the proportion wanting no more children is cross-classified by current age and number of living children. The result shows that while a small relationship exists between wanting no more children and age within parity groups (see especially parities 5 and 6), the relationship with number of living children within age groups is stronger. Within each age group the proportion wanting no more increases as parity increases, with few exceptions. By parity 7 or higher, the proportion wanting no more stabilises across the relevant age groups, within each parity. Regardless of the age of a woman, more than half of each age-parity group want more children if their current family size is seven or fewer children, indicating either that the desire for a large family is nearly universal, or that women are not likely to admit it if they do not want more children.

Table 6.3 throws a little more light on this, since it presents the proportion of all currently married, fecund women who want more children but who do not want the next child soon. This table shows that although 88 per cent had either wanted additional children or were undecided (Table 6.1), almost half of these women (39.3 per cent) did not want the next child soon, but preferred to wait "for several years". This suggests that the desire for more children as measured by the simpler question on whether the respondent wanted more children or not must be qualified with respect to spacing.

6.3 DIFFERENTIALS IN THE PROPORTION OF WOMEN WANTING NO MORE CHILDREN

The proportions of women who want no more children by number of living children and selected background variables is shown in Table 6.4. These data are presented for the 25-34 age group, rather than for the total population, because answers by the oldest and youngest women are least reliable, and also because this age group would be of current interest in terms of need for family planning services.

Although proportions fluctuate somewhat, the data indicate that the proportion desiring no more children increases slightly with increases in level of education. The slightly lower proportions for those with seven or more years of education is unexpected. However the differences in the proportions between the three highest educational groups are quite small.

The size of the place of residence has some influence on the decision to limit family size, although only residence in large urban areas makes a difference. Rural and small urban areas are approximately the same.

TABLE 6.2

PERCENTAGE OF ALL CURRENTLY MARRIED, FECUND WOMEN DESIRING TO STOP CHILDBEARING BY CURRENT AGE AND FAMILY SIZE

Current age	Number of living children										Total
	0	1	2	3	4	5	6	7	8	9+	
<20	0	0	(0)	*	-	-	-	-	-	-	0
20-24	0	0	4	4	(18)	*	*	-	-	-	2
25-29	(0)	1	1	5	11	17	*	*	*	-	5
30-34	(0)	(0)	2	6	15	13	25	(35)	*	*	11
35-39	*	*	(6)	(9)	11	22	30	37	(58)	(45)	22
40-44	*	*	(13)	(15)	(24)	22	44	(48)	(65)	(58)	34
45-49	*	*	*	*	(32)	(36)	(44)	(36)	(61)	*	38
All	1	1	3	6	15	19	34	39	58	54	12

Source: Volume II, Table 3.1.1

Note: * = <20 cases
( ) = 20-49 cases
- = 0 women in that category

TABLE 6.3

PERCENTAGE OF ALL CURRENTLY MARRIED, FECUND WOMEN WHO DO NOT WANT THE NEXT CHILD SOON, BY NUMBER OF LIVING CHILDREN (INCLUDING ANY CURRENT PREGNANCY) AND BY CURRENT AGE

Current age	Number of living children[1]										Total
	0	1	2	3	4	5	6	7	8	9+	
<20	20	56	(47)	*	-	-	-	-	-	-	47
20-24	15	50	56	54	*	*	*	*	-	-	48
25-29	(7)	41	47	56	40	*	*	*	*	-	46
30-34	(9)	(31)	38	45	41	44	41	(35)	*	*	40
35-39	*	*	25	26	32	33	34	23	(27)	(20)	28
40-44	*	*	19	22	32	24	22	(10)	(19)	(11)	20
45-49	*	*	*	*	(14)	(36)	(15)	(11)	(19)	*	17
All	14	47	46	47	39	36	30	19	21	18	39

Source: Volume II, Table 3.1.1 B

Note: * = <20 cases
( ) = 20-49 cases
- = 0 women in that category

[1] Numbers in this table are percentages.

TABLE 6.4

PERCENTAGE OF CURRENTLY MARRIED, FECUND WOMEN (AGED 25-34) WHO WANT NO MORE CHILDREN BY NUMBER OF LIVING CHILDREN (INCLUDING ANY CURRENT PREGNANCY) AND BACKGROUND VARIABLES

Background variables	Number of living children[1]										Total
	0	1	2	3	4	5	6	7	8	9+	
Level of education											
No schooling	(0)	0	1	1	7	11	27	(24)	*	*	6
1-6 years	*	*	(0)	(8)	(24)	(25)	*	*	-	-	12
7-10 years	(0)	2	3	(8)	20	(17)	*	*	-	-	9
11+ years	*	(0)	(0)	(27)	*	*	-	-	-	-	10
Place of residence											
Rural	(0)	1	1	4	10	9	24	(26)	*	*	6
Urban	*	(0)	3	(6)	15	(11)	*	*	*	*	7
Large urban	*	(0)	1	9	(23)	(45)	*	*	*	*	13
Region of residence											
Western	*	*	(0)	(4)	(25)	*	*	*	*	-	11
Central	*	*	(3)	(5)	(8)	*	*	*	*	*	5
Greater Accra	*	(0)	3	14	(31)	*	*	*	*	*	16
Eastern	*	(0)	(0)	2	(7)	(16)	*	*	*	*	7
Volta	*	*	(2)	(8)	(19)	*	*	*	*	*	11
Ashanti	*	(2)	1	6	(8)	(12)	(15)	*	*	*	6
Brong Ahafo	*	*	*	(0)	(15)	*	*	*	*	*	8
Northern	*	*	(0)	(3)	*	*	*	*	*	*	2
Upper	*	(0)	2	(0)	(0)	(0)	*	*	*	*	1

Source: Volume II, Table 3.1.3

Note: * = <20 cases
( ) = 20-49 cases
- = 0 women in that category

[1] Numbers in this table are percentages.

However as observed with level of education, the differences in the proportions become larger with increasing family size. Among the women in large urban areas the proportion who want no more children is 23 per cent for women with four living children as compared to 15 per cent for those in urban areas and 10 per cent for those in rural areas.

Among the regions Greater Accra has the highest proportion of women not wanting any more children (16 per cent). It is followed by the Western and Volta regions, both with 11 per cent wanting no more. The regions with the lowest proportions are Northern and Upper and this is expected as these two regions are the least urbanised. However even in Greater Accra where the highest proportion was recorded it is only after having four living children that 31 per cent of the respondents expressed a desire to limit their families.

Among the various ethnic groups, a similar pattern can be seen (Volume II, Table 3.1.3). The Ga-Adangbe who inhabit Greater Accra region show the largest proportion at 14.3 per cent whilst the Mole-Dagbanis who live mostly in Northern and Upper regions have the lowest proportions at 1.5 per cent.

The status of current marriage has little effect on the desire to stop childbearing. The proportion of 25-34 year old women in monogamous marriages who want to limit childbearing is 7.9 per cent whilst that of women in polygamous unions is 7.6 per cent.

6.4 ADDITIONAL NUMBER OF CHILDREN WANTED

Women who said they wanted more children were then asked how many more children they desired. In calculating the average number of additional children wanted for subgroups, those who wanted no more were given a value of zero and those who were undecided were excluded, along with women who did not give a numeric answer. Altogether 19.5 per cent of the 4027 currently married, fecund women were excluded from these means; about half of these (10.1 per cent) were undecided and the rest either gave no answer or a non-numeric response. Table 6.5 summarises the average number of additional children wanted by current age group, family size and marriage duration.

The mean additional number of children wanted for all women is 2.66. Table 6.5 shows that with increasing age the mean number of additional children wanted decreases; women aged 15-19 wanted an average of 4.18 additional children but those aged 45+ wanted an average of only one child. The same observation is also true when mean additional number of children wanted is classified by number of living children and duration of marriage. However family size seems to have the greatest impact; women who have no living children desire an average of 5.11 children

TABLE 6.5

MEAN ADDITIONAL NUMBER OF CHILDREN WANTED BY CURRENTLY MARRIED, FECUND WOMEN

Current age		Family size		Duration of marriage	
15-19	4.18	0	5.11	0-4	3.83
20-24	3.45	1	3.75	5-9	2.99
25-29	2.74	2	2.92	10-14	2.25
30-34	2.36	3	2.45	15-19	1.90
35-39	1.72	4	1.95	20-24	1.58
40-44	1.39	5	1.58	25-29	0.93
45-49	1.00	6	1.14	30+	0.86
		7	0.84		
		8	0.44		
All	2.66	9+	0.34		

Source: Volume II, Tables 3.2.3 and 3.2.4

whilst the average woman with nine or more children wanted less than 0.5 child in addition. These decreases with increasing age, parity or marital duration reflect the increasing proportion who want no more.

When the mean additional number of children is cross-classified by current age and number of living children (Table 6.6), it becomes clear that with few exceptions the mean additional number of children wanted is about the same for each age group within the same number of living children group although, as expected, the mean declines as parity increases within each age group.

6.5 DIFFERENTIALS IN MEAN NUMBER OF ADDITIONAL CHILDREN WANTED

These differentials are presented for all women, by age group (Table 6.7). We expect that differentials by socio-economic subgroups in the mean number of additional children desired will be similar to differentials in the proportions wanting no more children.

Among all women, those who have had some education desire slightly fewer additional children than those who have not had any education (Table 6.7). However within age group, the differentials are more substantial, which may be expected, given the younger age distribution of the more educated.

Rural, urban and large urban differences are also very small for all women, and within each age group. Among the regions Greater Accra has the lowest average number of additional children desired (1.99), whilst Northern with 4.89 has the highest followed by Upper, with 4.10. This is consistent with the earlier observation on the proportion of women wanting to limit their families. The differences

TABLE 6.6

MEAN ADDITIONAL NUMBER OF CHILDREN DESIRED BY CURRENTLY MARRIED, FECUND WOMEN BY NUMBER OF LIVING CHILDREN (INCLUDING ANY CURRENT PREGNANCY) AND CURRENT AGE

Current age	Number of living children										Total
	0	1	2	3	4	5	6	7	8	9+	
15-19	5.77	3.83	(3.45)	-	-	-	-	-	-	-	4.18
20-24	5.10	3.86	(2.90)	2.58	(2.00)	*	-	-	-	-	3.45
25-29	(5.00)	3.55	2.98	2.37	1.83	(1.65)	*	*	-	-	2.74
30-34	(4.27)	(3.77)	3.17	2.39	1.89	1.80	1.65	*	*	*	2.36
35-39	*	*	(2.47)	2.69	2.25	1.28	1.12	(1.00)	(0.59)	*	1.72
40-44	*	*	(1.92)	(2.55)	1.86	(1.59)	0.96	(0.30)	(0.33)	(0.22)	1.39
45-49	*	*	*	*	(1.82)	(1.15)	*	*	(0.33)	*	1.00
All	5.11	3.75	2.92	2.45	1.95	1.56	1.14	0.84	0.44	0.34	2.66

Source: Volume II, Table 3.2.3

Note: * = <20 cases
( ) = 20-49 cases
- = 0 women in that category

TABLE 6.7

MEAN ADDITIONAL NUMBER OF CHILDREN DESIRED BY CURRENTLY MARRIED, FECUND WOMEN BY BACKGROUND VARIABLES AND BY CURRENT AGE

Background variables	<25	25-34	35-44	45-49	All
Level of education					
No schooling	4.5	2.9	1.7	1.1	2.8
1-6 years	3.4	2.3	1.3	*	2.5
7-10 years	3.1	2.3	1.0	*	2.6
11+ years	(3.4)	2.2	*	*	2.2
Place of residence					
Rural	3.8	2.7	1.7	1.0	2.8
Urban	3.2	2.5	1.4	*	2.5
Large urban	3.4	2.3	1.4	(1.0)	2.4
Region of residence					
Western	3.6	2.4	(1.3)	*	2.5
Central	3.7	3.2	2.5	*	3.1
Greater Accra	2.9	1.9	1.0	*	2.0
Eastern	3.4	2.3	1.2	(0.7)	2.3
Volta	3.1	2.3	1.2	*	2.2
Ashanti	3.6	2.5	1.4	(0.8)	2.7
Brong Ahafo	3.2	2.4	1.3	(0.4)	2.3
Northern	(6.3)	5.0	(3.3)	*	4.9
Upper	5.4	4.0	(3.3)	*	4.1

Source: Volume II, Table 3.2.5

Note: * = <20 cases
( ) = 20-49 cases
- = 0 women in that category

among the ethnic groups also follows a similar pattern. Mole-Dabganis mostly residing in the Northern region desired the largest additional number of children (3.95) whilst the Ga-Adangbes with 2.05 have the least average number of additional children wanted (Volume II, Table 3.2.5). These differentials persist among the age groups as well.

6.6 TOTAL NUMBER OF CHILDREN DESIRED

Data for this section were derived from responses to the question (asked to all women): "If you could choose exactly the number of children to have in your whole life, how many children would that be?". In a pronatalist country like Ghana where a large proportion of women think that children are God's gifts, it is most unlikely that most women would state a number which is less than the number they already have. Those who are quite young may answer in terms of what they foresee as their future expectations. In view of this these data should be viewed with care.

In fact about 10 per cent of all women do not give a numeric answer to this question. About 60 per cent of these women give as their desired family size "any number" that they may get, while most of the rest answer "any number that God gives". In this section we look only at those women who gave numeric answers.

The average Ghanaian woman desires about six children. The difference between the number desired by currently married women is only slightly more (6.07) than that desired by all women, 5.74 (Volume II, Table 3.3.1 B and C). Since the differences in the average number of children desired by both currently married women and all women are about the same, we will limit our comments to currently married women. About 25 per cent of currently married women stated four as the total number of children wanted whilst 69.1 per cent wanted totals of five or more children. Only a mere 5.8 per cent wanted three or less children. It is also significant to note that nobody

desired no children (Table 3.3.1 A) which shows that childlessness is clearly regarded as undesirable. Table 6.8 shows that (except those with no children) the average number of children desired increases as the number of living children increases. This observation holds true for all age groups.

The data also show that all women (with children) irrespective of age group or number of living children desire more children than their current family size. For those women with four or more children it seems as if they are only rationalising their past reproductive behaviour. However within living children groups the average number of children wanted is generally about the same for all age groups. The number stated by those women without children (especially those in the young age groups), however, gives some estimate of the future trend, and this is only about one child less than the average number of children desired by all currently married women.

6.7 DIFFERENTIALS IN TOTAL NUMBER OF CHILDREN WANTED

Table 6.9 shows differentials by background variables in the total number of children desired, for all currently married women. The data show that there is a fairly strong relationship between education and the number of children desired. Women with no schooling wanted a total of 6.77 children whilst those with 11 or more years of schooling wanted 4.37. Women with four living children who had no schooling desired 6.75 children whilst those with 11 years' or more education desired 4.40 children. There is an indication that the type of residence contributes relatively less to the total number of children desired. Women living in rural areas desire an average total of 6.34 children, urban residents 5.70 and large urban residents 5.39. The regional variation is, however, substantial. As expected the region with the highest total number of children desired is Northern, the mean being 8.68, and the region with the lowest number is Greater Accra (4.91). Ethnic groups differences follow earlier observations. The Mole-Dagbanis have the largest number (7.41) and the Ga-Adangbes the lowest (5.65) as shown in Volume II, Table 3.3.7 D.

Here again, and disregarding women with less than four living children, women of the various socio-economic categories indicate that they desire slightly more children than their current average number of living children. This reinforces the observations that women will generally not indicate that their desired family size is less than their actual size.

6.8 SEX PREFERENCES

In this section we examine the effects of sex composition of living children on the desire for more children. In Table 6.10 three sets of data are presented by sex composition: desire for another child, mean additional children wanted and mean total number of children desired.

The data in this table suggest that preferences for children are almost unaffected

TABLE 6.8

MEAN TOTAL NUMBER OF CHILDREN DESIRED BY CURRENTLY MARRIED WOMEN BY NUMBER OF LIVING CHILDREN (INCLUDING ANY CURRENT PREGNANCY) AND BY CURRENT AGE

Current age	Number of living children										Total
	0	1	2	3	4	5	6	7	8	9+	
15-19	5.85	4.98	(5.41)	*	-	-	-	-	-	-	5.20
20-24	5.20	5.05	5.13	5.60	5.96	-	*	-	-	-	5.19
25-29	(5.29)	4.79	5.24	5.57	6.06	6.62	*	*	*	-	5.50
30-34	(4.93)	(5.03)	5.54	5.77	6.28	6.90	7.72	(7.75)	*	*	6.30
35-39	*	*	(5.47)	5.92	6.35	6.55	7.43	7.78	(8.74)	*	6.86
40-44	*	*	(5.20)	(6.09)	6.55	7.45	*	8.00	(8.55)	(9.35)	7.21
45-49	*	*	(5.20)	(5.54)	(5.91)	(6.84)	(7.27)	(8.46)	(8.87)	(10.09)	7.32
All	5.34	5.00	5.25	5.69	6.24	6.87	7.42	8.03	8.75	9.78	6.07

Source: Volume II, Table 3.3.4 A

Note: * = <20 cases
( ) = 20-49 cases
- = 0 women in that category

TABLE 6.9

MEAN TOTAL NUMBER OF CHILDREN DESIRED BY CURRENTLY MARRIED WOMEN BY NUMBER OF LIVING CHILDREN (INCLUDING ANY CURRENT PREGNANCY) AND BY SELECTED BACKGROUND VARIABLES

Background variables	Number of living children										Total
	0	1	2	3	4	5	6	7	8	9+	
Level of education											
No schooling	5.89	5.74	5.91	6.22	6.75	7.06	7.56	8.09	8.79	9.73	6.77
1-6 years	(4.86)	5.07	4.91	5.34	5.56	(6.46)	(7.24)	(7.85)	*	*	5.76
7-10 years	5.00	4.44	4.69	5.00	5.54	6.27	(6.70)	(7.73)	*	*	5.02
11+ years	(4.25)	(4.15)	(3.91)	(4.55)	(4.40)	*	*	*	-	-	4.37
Place of residence											
Rural	5.63	5.27	5.45	5.88	6.50	7.15	7.63	8.07	8.68	9.63	6.34
Urban	(5.25)	4.49	5.08	5.37	5.85	(6.24)	(6.90)	(7.79)	*	*	5.70
Large urban	4.75	4.51	4.66	5.29	5.54	6.17	(6.98)	(8.08)	*	*	5.39
Region of residence											
Western	*	(4.63)	5.03	(5.35)	(5.97)	(6.31)	(6.77)	(7.75)	*	*	5.82
Central	(4.96)	4.92	5.46	(5.77)	(6.41)	*	(7.71)	*	*	*	6.27
Greater Accra	(4.11)	4.06	4.30	4.81	5.11	(6.23)	(6.77)	*	*	*	4.91
Eastern	(5.06)	4.66	4.90	5.30	5.88	6.40	7.31	(8.21)	(8.96)	(9.30)	5.96
Volta	*	4.93	4.94	5.51	6.34	(6.29)	(6.79)	(7.72)	*	*	5.82
Ashanti	5.75	5.05	5.01	5.36	5.84	6.77	7.43	(7.58)	(8.93)	(10.12)	5.92
Brong Ahafo	*	4.77	5.22	(5.84)	(5.94)	(7.08)	(7.94)	(8.24)	(8.52)	*	6.29
Northern	*	(8.00)	(7.79)	(8.60)	(9.69)	*	*	*	*	*	8.68
Upper	(6.24)	6.74	6.76	7.00	7.62	(8.58)	*	*	*	*	7.22

Source: Volume II, Table 3.3.7

Note: * = <20 cases
( ) = 20-49 cases
- = 0 women in that category

by the sex composition of the woman's existing family. Within parity groups the averages are much the same, regardless of sex composition. For example having a balanced family of boys and girls does not lead to a greater desire to stop childbearing or restrict family size, nor does there seem to be a preference for boys. Women who have three or more sons are no more likely, in general, to want fewer additional children, nor to stop childbearing; neither are women more likely to want larger families, or more additional children if they have no sons - the only small exception to this being the group with four children and no son, as compared to other women with four children. The conclusion from this table is that total number of living children, rather than their sex composition, has some relationship with preferences for children.

The mean additional number of children wanted and the mean number of total of children desired by those with boys only compared to those with only girls are not very different. Women with two children, only boys, wanted 3.16 more children whilst those with two girls wanted 2.87 more children. Those with four children, all boys, desired a total of 6.36 children whilst those with only girls wanted 6.65 children.

The data presented above seem to suggest that, for the Ghanaian women, sex composition of surviving children is not the prime motive for wanting another child. This may be due to the fact that in their desire to have a large family, they are most likely to have children of both sexes.

6.9 SUMMARY

The GFS data show that Ghanaian women prefer large families. The overall percentage of women who desire to stop childbearing is only 12 per cent. Even among women with eight or more living children, about half of them want more children. However, although education makes relatively little difference to the

TABLE 6.10

PERCENTAGE OF CURRENTLY MARRIED FECUND WOMEN BY (A) PERCENTAGE NOT WANTING ANOTHER CHILD, (B) ADDITIONAL NUMBER OF CHILDREN DESIRED AND (C) TOTAL NUMBER OF CHILDREN DESIRED BY NUMBER OF LIVING SONS

Number of living children/ Number of living sons	A	B	C
None	0.7	5.11	5.34
One child			
No son	0.9	3.91	5.18
One son	0.9	3.66	4.93
Two children			
No son	2.7	2.87	5.40
One son	3.7	2.81	5.18
Two sons	0.6	3.16	5.42
Three children			
No son	8.6	2.23	5.54
One son	4.8	2.65	5.90
Two sons	4.7	2.45	5.69
Three sons	12.5	2.37	5.68
Four children			
No son	(7.4)	(2.33)	(6.65)
One son	13.6	1.97	6.34
Two sons	17.3	2.07	6.31
Three sons	15.4	1.75	6.09
Four sons	(8.7)	*	(6.36)
Five or more children			
No son	*	*	*
One son	20.0	(1.39)	6.64
Two sons	21.8	1.42	6.89
Three sons	14.9	1.73	6.91
Four sons	(28.2)	(1.53)	(7.13)
Five or more sons	*	*	*

A - Percentage not wanting another child

B - Mean additional number of children desired

C - Mean total number of children desired

Sources: Volume II, Tables 3.4.1, 3.4.5 and 3.4.6

Note: * = <20 cases
( ) = 20-49 cases

proportion wanting more children and the mean number of additional children desired, it does have a stronger relationship with the total desired family size; as education rises, this total falls. This may mean that as education increases in Ghana, fertility will fall, if these preferences are maintained and are expressed in actual childbearing. Furthermore it is important to note that over half of the women who want more children do want to space them at intervals of a few years, and if this preference were also met, this could reduce fertility substantially.

CHAPTER 7

KNOWLEDGE AND USE OF CONTRACEPTION

7.1 NATIONAL POPULATION POLICY AND FAMILY PLANNING IN GHANA

The introduction of modern family planning activities in Ghana as a public welfare service dates back to the year 1961 when the Christian Council of Ghana [1] opened a Family Advice Centre in the capital (Accra) to offer advice on family planning and responsible parenthood to married couples. By 1967 the Council had established five such centres in the country. In March 1967 another voluntary organisation - the Planned Parenthood Association of Ghana - was also inaugurated, its objectives being to educate the public on the possibilities and benefits of family planning, and to offer modern family planning services. This organisation also established and operated family planning clinics in the country.

The promotional activities of these private organisations in the midst of a growing national consciousness about the population as a factor in national development culminated in the publication by the government of a national population policy in May 1969. [2] In the policy statement the government recognised the harmful effects which a high rate of population growth can have on individual and family welfare and on the national efforts towards social and economic development. Population programmes were therefore to be developed as integral parts of national development efforts. In pursuance of this objective a secretariat was established in 1970 to develop and operate a national family planning programme.

This secretariat - the Ghana National Family Planning Secretariat - manages the logistics of family planning clinics operated through the national health service delivery system, and undertakes family planning promotional activities through its own publicity and public education fieldwork and also through national agencies charged with publicity and public education work. The Secretariat also gives logistical support to the clinical activities of the private organisations, co-ordinates all family planning activities in the country, and serves as the major outlet for the procurement and distribution of contraceptive supplies to the clinics and retail shops.

Although the Secretariat has an Evaluation and Research Division, no machinery has yet been established for on-going evaluation of the programme's activites and services. The summaries of the GFS findings as contained in this section therefore provide information for assessing the current state of contraceptive knowledge and use among females in the reproductive age range and a basis for future evaluation.

7.2 KNOWLEDGE AND EVER-USE OF CONTRACEPTION

Data on this topic were obtained from all women, regardless of their marital status. Each woman was first asked to state any methods she knew which could be used to avoid or delay pregnancy. The question used was:

> "As you may know, there are various methods that women or men can use to delay or avoid pregnancy. Do you know of, or have you heard of, any of these ways or methods?"

Each of the methods in the questionnaire not mentioned spontaneously by the respondent was then briefly described and the respondent was asked whether she had heard of the method. For our purposes a woman is classified as knowing a method irrespective of whether she mentioned it spontaneously or after some probing. For each of the methods she has heard of, she was then asked if she had ever used that method. A final question was asked about "traditional methods including native methods" used by men or women. If the woman said she had never used any method, after all these specific methods had been mentioned, she was then asked the final check question: "... have you ever done anything or tried in any way to delay or avoid getting pregnant?"

In analysing the survey data a distinction is made between "efficient" and "inefficient" methods. Methods classified as efficient are the pill, intra-uterine device (IUD), condom, injection, other female scientific (foam tablets, diaphragm) and male and female sterilisation. Inefficient methods are abstinence, douche, rhythm, withdrawal, and folk or traditional methods.

As shown in Table 7.1, a substantial proportion of women have heard of some contraceptive

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1) *The Christian Council is a national association of the orthodox Protestant churches in Ghana.*

2) *'Population Planning for National Progress and Prosperity: Ghana Population Policy' - Ghana Government, May 1969.*

TABLE 7.1

PERCENTAGE OF ALL WOMEN WHO HAVE HEARD OF AND WHO HAVE EVER USED SPECIFIED CONTRACEPTIVE METHODS, INCLUDING STERILISATION

	Heard of	Ever used
No method	32.0	62.0
Inefficient method	8.7	20.3
Efficient method	59.3	17.7
Specific methods		
Pill	46.6	10.7
IUD	33.4	1.0
Female scientific	26.1	7.8
Douche	7.8	1.2
Condom	30.4	4.1
Rhythm	20.6	8.8
Withdrawal	18.5	4.5
Abstinence	45.6	25.8
Female sterilisation	29.4	0.4
Male sterilisation	4.0	0.0
Injection	22.0	0.4

Sources: Volume II, Tables 4.2.1 C and 4.3.1 C

method. Sixty-eight per cent (68 per cent) of them have heard of one or more methods, and of these women, 59.3 per cent have heard of one or more efficient methods, while 8.7 per cent have heard of inefficient methods only. The most well-known efficient method is the pill (46.6 per cent knew of it), but this is almost equalled by an inefficient method, abstinence, known by 45.6 per cent of all women. These are followed by three efficient methods, the IUD, condom and female sterilization, known by about one-third of the sample (33.4 per cent, 30.4 per cent and 29.4 per cent, respectively). The two least known methods are douche (7.8 per cent) and male sterilization (4 per cent). All other methods, female scientific, rhythm, withdrawal and injection, are moderately well known - about 18 to 26 per cent report having heard of these methods.

Although 68 per cent of all women had heard of some method, only 38 per cent had ever used a method, and of these more than half (20.3 per cent) had used inefficient methods. Abstinence was by far the most popular method (used by 25.8 per cent of all women). The pill had been used by 10.7 per cent, and the only others methods used by a noticeable proportion were rhythm (8.8 per cent) and female scientific (7.8 per cent).

Tables 7.2 and 7.3 give the levels of knowledge and ever-use of contraception by age of woman and by number of living children. A large proportion of women aged 20-29 have heard of an efficient method (about 68 per cent). Those aged less than 20 and those aged 45 and over have the lowest level of knowledge of efficient methods, about 50 per cent. The level of contraceptive knowledge is also slightly lower among those who have no living children, but there is no clear-cut pattern in contraceptive knowledge according to the number of living children. However ever-married women with seven or more living children have the highest level of knowledge.

The proportion of women who have ever used inefficient methods increases with age (except for age 45+). The same, however, cannot be said for efficient methods (Table 7.2). The age group with the highest proportion of ever-users of efficient methods is 20-34 while the lowest level of use of efficient methods is among those aged 45+. Among the specific methods the use of abstinence, which is

TABLE 7.2

PERCENTAGE OF ALL WOMEN WHO HAVE HEARD OF AND WHO HAVE EVER USED CONTRACEPTION BY CURRENT AGE

Current age	Heard of			Ever used		
	One or more efficient methods	Only inefficient methods	Any method	One or more efficient methods	Only inefficient methods	Any method
15-19	53.3	7.5	60.8	12.3	15.2	27.5
20-24	68.2	5.7	73.9	22.9	18.2	41.1
25-29	67.2	7.3	74.5	23.4	21.9	45.3
30-34	57.4	11.3	68.7	19.6	21.9	41.5
35-39	55.6	9.5	65.1	16.6	23.9	40.5
40-44	57.7	11.2	68.9	15.0	24.7	39.7
45-49	47.2	14.8	62.0	9.3	24.1	33.4

Source: Volume II, Tables 4.2.1 C and 4.3.1 C

TABLE 7.3

PERCENTAGE OF ALL EVER-MARRIED AND NEVER-MARRIED WOMEN WHO HAVE HEARD OF AND EVER USED ANY METHOD OF CONTRACEPTION, BY CURRENT AGE AND NUMBER OF LIVING CHILDREN

Current age	Ever-married		Never-married		Family size	Ever-married		Never-married	
	Heard of	Used	Heard of	Used		Heard of	Used	Heard of	Used
15-24	70.1	36.7	63.0	30.1	0	65.1	26.5	63.0	30.0
25-34	71.6	43.6	(89.2)	(43.2)	1(+)[1]	70.1	39.7	76.7	36.7
35-44	67.0	40.4	*	*	2	67.1	39.7		
45+	61.9	33.6	*	*	3	70.2	40.7		
					4	68.7	42.2		
All	69.1	39.9	63.7	30.4	5	66.8	41.5		
					6	70.5	44.6		
					7	72.5	43.5		
					8	79.1	49.3		
					9+	72.5	44.1		

[1] For never-married women all parities, one or higher, are grouped together.

Source: Volume II, Tables 4.2.2 and 4.3.2

practised by about 25 per cent of all women except those aged less than 20, increases with age (Volume II, Table 4.3.1 C). The use of the pill, which is the most widely used of all the efficient methods, is concentrated in the middle age groups, namely 20-24, 25-29, 30-34 and 35-39, while the peripheral age groups - the young (15-19) and the old (45+) - have the lowest proportions using the pill.

Both knowledge and ever-use is quite high among never-married women, almost the same as for ever married (Table 7.3), and at parity zero, never-married women are slightly more likely to have ever-used contraception than ever-married women (30 per cent, compared to 26.5 per cent).

Level of ever-use also increases slightly as the number of living children rises, but the data do not suggest any strong relationship. Among ever-married women with one to three children, about 40 per cent had ever used contraception, while around 42-45 per cent of women with four or more children had ever-used. The exception was the parity eight group, of whom 49 per cent had ever-used contraception.

Table 7.4 shows that the proportions of ever-users of efficient and inefficient methods for women with less than four children are about the same (17.9 and 17.8 per cent, respectively). For those with four or more children the proportion of ever-users of inefficient methods is higher (25.9 per cent) than that of ever-users of efficient methods (17.4 per cent). Abstinence is the most widely used method among those with four or more children and this is maintained through all the age groups. The proportion of women who ever used the pill is also higher for those with four or more children (13.1 per cent) than for those with less than four children (9.6 per cent). The IUD is also used more by those with four or more children than those with less than four children. However the use of female scientific methods is higher among women with less than four children (4.9 per cent) than among those with four or more children (2.3 per cent).

TABLE 7.4

PERCENTAGE OF ALL WOMEN WHO HAVE EVER USED SPECIFIED METHODS OF CONTRACEPTION BY FAMILY SIZE

Methods	Number of children ever born		Total women
	<4	4+	
No method	64.3	56.7	62.0
Inefficient method	17.8	25.9	20.3
Efficient method	17.9	17.4	17.7
Specific methods			
Pill	9.6	13.1	10.7
IUD	0.6	2.0	1.0
Female scientific	9.3	4.6	7.8
Douche	1.2	1.1	1.2
Condom	4.9	2.3	4.1
Rhythm	8.5	9.5	8.8
Withdrawal	4.7	4.0	4.5
Abstinence	22.9	32.2	25.8
Female sterilization	0.4	0.5	0.4
Male sterilization	0.0	0.0	0.0
Injection	0.2	0.8	0.4

Source: Volume II, Table 4.3.1 C

7.3 CURRENT USE OF CONTRACEPTION

The question on current contraceptive use was asked only of 'exposed' women, i.e. currently married, fecund, non-pregnant women. There

were 3414 such women, 12.4 per cent of whom are currently using a contraceptive method, and of these 5.2 per cent were using an inefficient method and 7.2 per cent an efficient method. The 423 women who are currently using constitute 8.6 per cent of all ever-married women, or about 9.5 per cent of the currently married women. This very low level of contraceptive use is unlikely to have any significant impact on the overall level of fertility of the total population.

Unlike women who have ever used a contraceptive method, current contraceptive users are more likely to use an efficient rather than an inefficient method (Table 7.5). Efficient contraceptive use is highest within the age group 25-34 and women aged 15-24 and 45+ have the smallest proportions of current users of an efficient method. The level of use of efficient methods is second highest among those aged 35-44 and lowest among those aged less than 25. The most frequently used contraceptive methods are abstinence (4.0 per cent), pill (3.1 per cent) and female scientific (2.1 per cent). Less than one per cent of women use each of the other methods (Table 7.5).

Table 7.6 shows the relationship between current use, family size and age among exposed women. Use is quite low among childless women (8 per cent), but the proportion of exposed women who are currently using a method rises with increasing age from six per cent at age 15-19 to 15 per cent at age 30-34, and then decreases slowly to 10 per cent at age 45+ (Table 7.6). No clear-cut pattern is discernible when current use is cross-classified by number of living children. While current use is greatest among those with eight living children (22 per cent), women who have nine or more children have the lowest level of current use (8 per cent). The extremely high proportion of current users at parity eight may be due to random fluctuation (n=86 women, compared to 63 women with nine or more living children) rather than being a rational response to larger family size.

TABLE 7.5

PER CENT DISTRIBUTION OF EXPOSED WOMEN ACCORDING TO CURRENT USE OF SPECIFIED CONTRACEPTIVE METHODS, INCLUDING STERILISATION

Methods	Current age of women				Total women
	<25	25-34	35-44	45+	
No method	90.8	85.2	87.1	89.9	87.6
Inefficient method	3.7	5.5	6.7	4.8	5.2
Efficient method	5.5	9.3	6.2	5.3	7.2
Specific methods					
Pill	1.3	4.8	2.8	2.1	3.1
IUD	0.3	0.4	0.5	0.5	0.4
Female scientific	2.5	3.0	0.6	0.5	2.1
Douche	0.0	0.1	0.0	0.0	0.0
Condom	1.3	0.8	0.5	0.0	0.8
Rhythm	0.7	1.2	0.5	1.1	0.9
Withdrawal	0.2	0.3	0.5	0.6	0.3
Abstinence	2.8	3.9	5.7	3.7	4.0
Female sterilization	0.1	0.1	0.0	0.0	0.1
Male sterilization	0.0	0.0	0.0	0.0	0.0
Injection	0.0	0.1	1.9	2.1	0.6

Source: Volume II, Table 4.4.1

TABLE 7.6

PERCENTAGE OF CURRENTLY MARRIED, FECUND NON-PREGNANT WOMEN WHO ARE CURRENTLY USING ANY METHOD OF CONTRACEPTION, BY CURRENT AGE AND NUMBER OF LIVING CHILDREN

Figures are rounded percentages

Current age	Number of living children										All
	0	1	2	3	4	5	6	7	8	9+	
15-19	5	6	(18)	*	-	-	-	-	-	-	6
20-24	15	10	10	6	*	*	-	-	-	-	10
25-29	(5)	16	17	17	9	(10)	*	*	*	-	15
30-34	(3)	(11)	13	17	19	14	13	*	*	*	15
35-39	*	*	(9)	14	14	8	17	(6)	(30)	*	13
40-44	*	*	(10)	(4)	11	14	16	(14)	(23)	(10)	13
45-49	*	*	*	*	(15)	(8)	(15)	(8)	(17)	*	10
All	8	11	13	14	14	11	15	11	22	8	12

Source: Volume II, Table 4.4.2

Note: * = <20 cases
( ) = 20-49 cases

7.4 INTENTIONS TO USE CONTRACEPTION IN FUTURE

Given that the level of current use of contraception is quite low, it is important to look at intentions of using contraception in the future. All currently married women who considered themselves capable of having more children, and who had never used contraception, were asked the following question:

> "Do you think you and your husband may use any method at any time in the future so that you will not be pregnant?"

Table 7.7 shows that only 30 per cent of those who have never used a contraceptive method intend to use one in the future. This proportion is very low but the figure should be regarded with caution because future behaviour is extremely unpredictable, and answers to this question are known to be unreliable. However,

TABLE 7.7

OF ALL CURRENTLY MARRIED, FECUND WOMEN WHO HAVE NEVER USED CONTRACEPTION, PER CENT WHO INTEND TO USE IN THE FUTURE BY CURRENT AGE

Current age	%
15-24	37.1
25-34	29.1
35-44	26.0
45+	13.4
All	30.4

Source: Volume II, Table 5.3.1

the data suggest that a comparatively larger proportion of younger than of older persons intend to use contraceptives in the future. The proportion intending future use decreases with increasing age from 37 per cent for the age group 15-24 until it reaches a low of 13 per cent for those aged 45+.

7.5 KNOWLEDGE AND USE OF SOURCES OF FAMILY PLANNING SUPPLIES

Most of the Family Planning Module questions were asked in Ghana; however the First Country Report contains only a few basic tables on knowledge and use of any source of supply. This information is relevant, since use of contraception may be related to women's perception of the availability of sources of supply. It is possible that sources of supply may be close and available, yet women may not know of them because of the lack of motivation to use the services.

Table 7.8 presents summary data on the knowledge and use of any source of family planning services. At the total level, knowledge of sources is moderate - about 43-44 per cent of all ever-married women know of one or more sources. The level of knowledge decreases with age however, especially among women with less than four children, who presumably are unlikely to want to use contraception. Knowledge is quite high even among older women when they have four or more children, suggesting that there is some relationship between knowledge and the need to use.

Attendance at a source within the last 12 months is, predictably, quite low - about five per cent of all ever-married women had attended a source of contraceptive supply. Interestingly, this proportion is about the same as the proportion currently using a method which required supplies - about 5.8 per cent of all ever-married women. Again, attendance in the last year rapidly drops off with age, especially if the number of living children is under four. Presumably attendance by the low-parity group, highest for the under-34 age group, is mainly for purposes of spacing, rather than stopping. Recent attendance is noticeably higher when the number of living children is four or more - 4.5 per cent of women aged 35-44 who had four or more children had attended, compared to only 2.4 per cent of those who had less than four children. In general, however, the proportion who recently used a source (about 5-5.5 per cent) is only a fraction of those who knew of a source (about 43-44 per cent).

7.6 CONTRACEPTIVE PRACTICE AS RELATED TO FERTILITY PREFERENCES

In this section we examine the relationship between contraceptive practices and fertility preferences. Table 7.9 gives a summary of desire for future births and current contraceptive use.

This table shows that use of inefficient methods is quite low among exposed women, and about the same (5-6 per cent) regardless of the desire for more children. Use of efficient methods of contraception is however distinctly higher among women who want no more children, with 16.9 per cent of them currently using, compared to only 6.5 per cent of women who want more children, and only 1.7 per cent of women who are undecided. Nevertheless, the fact remains that 77.3 per cent of exposed women who say they want no more children are not currently doing anything to prevent pregnancy.

Table 7.10 focusses on two subgroups of the population who would have the highest 'unmet need' for family planning services - namely, currently married, fecund women who want no more children, but who have either never used contraception, or who are not currently using. These two target groups are expressed as a percentage of the total population of currently married, fecund women in their particular age group, to give an idea of their significance. Clearly, the results in Table 7.10 show that unmet need for contraception, as measured by the GFS, is very low - only 2-6 per cent of the high reproductive age groups, 15-34, fall into these two groups. The percentage rises to 21 per cent for the 35-44 age group, and to 31 per

TABLE 7.8

OF ALL EVER-MARRIED WOMEN, THE PERCENTAGE WITH KNOWLEDGE OF ANY FAMILY PLANNING SOURCE, AND THE PERCENTAGE WHO VISITED A SOURCE WITHIN THE LAST YEAR BY CURRENT AGE AND FAMILY SIZE

Current age	Less than 4 children		4 or more children	
	Knowledge of any source	Recent visit to any source	Knowledge of any source	Recent visit to any source
<25	46.5	4.5	(55.2)	(6.9)
25-34	47.6	7.8	44.5	7.8
35-44	33.2	2.4	43.8	4.5
45+	16.8	0.0	36.0	2.1
All	44.4	5.4	42.8	5.1

Source: Volume II, Tables 4.2.2 B and 4.2.3 B

Note: ( ) indicate cell size = 20-49 cases

TABLE 7.9

PER CENT DISTRIBUTION OF EXPOSED WOMEN ACCORDING TO CURRENT CONTRACEPTIVE USE BY DESIRE FOR FUTURE CHILDREN

Desire for future births	Current contraceptive use			Number of women
	No method	Inefficient method	Efficient method	
Wants future births	88.3	5.2	6.5	2652
Wants no more	77.3	5.8	16.9	396
Undecided	93.1	5.2	1.7	347
Total	87.5	5.2	7.2	3395

Source: Volume II, Table 5.2.1

TABLE 7.10

OF ALL CURRENTLY MARRIED, FECUND WOMEN, THE PERCENTAGE WHO WANT NO MORE CHILDREN AND (A) HAVE NEVER USED ANY METHOD, AND (B) ARE NOT CURRENTLY USING, BY CURRENT AGE

Current age	A % want no more but never used	B % want no more but not currently using
15-24	0.5	1.2
25-34	3.0	3.4
35-44	9.9	11.2
45+	18.8	12.2
All	4.6	4.6

Source: Volume II, Table 5.3.1

cent at age 45-49, when women are probably unlikely to start using, in any case, because they may believe that they are unlikely to become pregnant. The main reason for these low proportions is that only a small proportion of all currently married, fecund women expressed a desire to limit family size (about 12 per cent). If the desire to space children were to be taken into account the level of unmet need would undoubtedly rise. In spite of this, the percentage of all currently married women who have never used, but who intend to use in the future, is quite high, 30 per cent (Table 7.11). Moreover, the intention to use in future is strongest when no additional children are wanted. Women who want more children, the great majority of the sample, also have quite a high proportion intending to use in future (32 per cent), presumably for spacing children.

TABLE 7.11

OF CURRENTLY MARRIED WOMEN WHO HAVE NEVER USED CONTRACEPTION, THE PERCENTAGE WHO INTEND TO USE, BY DESIRE FOR FUTURE CHILDREN AND CURRENT AGE

Desire for future birth	15-24	25-34	35-44	45+	All
Wanted	39.3	30.5	23.0	9.5	32.0
Not wanted	*	(68.9)	53.4	(27.0)	51.7
Undecided	(6.1)	5.2	12.0	*	7.6
All	37.1	29.1	26.0	13.4	30.4

Source: Volume II, Table 5.3.1

Note: ( ) indicate cell size = 20-49 cases
* indicates cell size <20 cases

7.7 DIFFERENTIALS IN CONTRACEPTIVE KNOWLEDGE AND USE

Details of the proportions of women who know of contraception classified by level of education, urban-rural residence and region of residence can be found in Volume II, Table 4.2.2 and are summarised in Table 7.12. Women who have had some education are more likely to have heard of a method than those who have never been to school. Furthermore knowledge of contraception increases with increasing education. Thus, as shown in Table 7.12, only 56.8 per cent of women with no schooling have heard of a method, while 76.2 per cent of those with 1-6 years of schooling and 80.1 per cent of those with 7-10 years of schooling know of a method and also 95.0 per cent of those with 11+ years of schooling know of a method. This observation holds true whether the women have ever been married or have never been married. However, the level of knowledge is consistently higher for the ever-married than for the never-married women. Type of residence has a significant relationship with level of contraceptive knowledge: while 78 per cent of women residing in large urban areas and 77.4 per cent of those in urban areas know of a method only 63.1 per cent of rural residents have heard of a method.

The table also shows that Volta region has the highest level of contraceptive knowledge (93 per cent), followed closely by Greater Accra, 90.1 per cent, while Northern and Upper regions have the lowest proportions with 22.3 per cent and 23.9 per cent respectively.

TABLE 7.12

PERCENTAGE OF ALL WOMEN WHO HAVE HEARD OF ANY CONTRACEPTIVE METHOD, INCLUDING STERILISATION, AND OF ANY FAMILY PLANNING SOURCE, BY SELECTED BACKGROUND VARIABLES

Variable	Ever married		Never married		Total	
	Method	Source	Method	Source	Method	Source
Level of education						
No schooling	57.5	28.2	45.7	13.7	56.8	27.3
1-6 years	79.1	52.8	52.9	29.8	76.2	48.5
7-10 years	88.2	70.3	66.3	42.0	80.1	59.9
11+ years	96.2	90.4	93.3	76.9	95.0	85.1
Residence						
Rural	63.8	38.3	59.4	34.2	63.1	37.6
Urban	79.2	53.3	71.2	46.9	77.4	51.9
Large urban	81.2	57.7	68.6	43.9	78.0	54.2
Region of residence						
Western	81.9	35.1	57.1	21.4	78.1	33.0
Central	76.0	44.3	84.2	55.3	77.4	46.1
Greater Accra	93.3	56.6	80.6	42.8	90.1	53.2
Eastern	86.9	56.5	78.8	48.4	84.9	54.5
Volta	95.6	48.5	82.6	33.1	93.0	45.4
Ashanti	64.9	58.3	41.5	37.8	59.7	53.8
Brong Ahafo	62.2	42.9	47.9	35.1	59.5	41.4
Northern	21.9	10.2	33.3	*	22.3	10.6
Upper	21.9	2.8	43.1	9.8	23.9	3.4

Source: Volume II, Tables 4.2.2 A and 4.2.2 B

Note: * indicates cell size <20 cases

As expected from the earlier analysis for the total number of women, knowledge of a source is lower than knowledge of methods, for all subgroups. However, the gap is increasingly narrower as level of education rises. Among women with no schooling, 57.5 and 28.2 per cent report knowing a method and knowing of a source of supply, respectively, but the proportions progressively rise, to 96.2 and 90.4 per cent respectively, among women with 11+ years of schooling. A similar pattern is observed as size of place of residence increases. Among the regions, a few cases stand out. Although women in Western, Greater Accra and Volta regions have very high knowledge of methods (considering ever-married women only, 82-96 per cent know a method), their knowledge of sources is quite low, varying from 35.1 per cent to 56.6 per cent. In contrast, Ashanti region has only a moderate level of knowledge of methods (65 per cent) but 90 per cent of these women also know a source. Upper region, which has one of the lowest levels of knowledge of methods (22 per cent), also has very low knowledge of sources (3 per cent).

While the levels vary slightly by age, usually with those aged under 25 or 45+ having slightly less knowledge, the pattern by subgroups is much the same across age groups as it is for the total number of women (Table 7.12).

Table 7.13 shows that the proportion of ever-users increases with the level of education. Among women with no schooling 28.8 per cent were ever-users, while 40.7 per cent of those with 1-6 years of schooling, 47.7 per cent of those with 7-10 years' schooling and 70.9 per cent of those with 11+ years of education had ever used. This relationship holds irrespective of age (Volume II, Table 4.3.2). Place of residence has some effect on the level of contraceptive use. Ever-married women residing in rural areas have a lower level of use than their counterparts in urban areas. The same however cannot be said for the never-married. Surprisingly, among the never-married, the proportion of users in rural areas is even slightly higher than the proportion of their counterparts in large urban areas. But whatever differences there are, they are rather slight. Regional differentials in ever-use follow a pattern similar to that of contraceptive knowledge. Volta region has the highest level of contraceptive use even though knowledge of sources was quite low, and Northern region has the lowest level of ever-use. Unexpectedly Greater Accra, with the second highest level of knowledge of methods, has a comparatively much lower level of ever-users.

Central region also has a large gap between knowledge of methods and sources (76 per cent and 44 per cent of ever-married women, respectively) and ever-use of any method (only 18 per cent). A contrasting case is Eastern region where 86 per cent of ever-married women know a method, and 56.5 per cent know a source, but 69.3 per cent have ever used a method.

Details of the proportions of women currently using a contraceptive method by background variables are summarised in Table 7.14. As shown in the table current use follows a pattern similar to that of ever-use. Current contraceptive use is highest among the most educated women (45.1 per cent) and decreases as the number of years spent in school decreases, until it reaches the lowest level for those with no schooling (7.7 per cent). Women living in large urban areas have a higher proportion of current users (20.1 per cent) than those living in urban areas (15.1 per cent) and those in rural areas (9.9 per cent). The regional variations follow the pattern described earlier. Women living in Accra have the highest level of current use, 25.6 per cent, followed by Eastern region, 20.7 per cent. As expected, Northern region has the lowest level of current users, with less than 1 per cent.

The pattern, by subgroups, of recent attendance at a source of supply of efficient contraceptives is similar to that of current use of methods for education and residence groups. However, a few unusual levels appear among the regional groups. For example, Eastern and Volta regions, with 19-20 per cent currently using, have only about four per cent recently attending a source. This could well be explained by higher use of inefficient methods in these regions, however. In almost all subgroups the percentage attending a source in the past year is less than the total per cent currently using, mainly because non-supply methods are used by nearly half of all current users.

TABLE 7.13

PERCENTAGE OF ALL WOMEN WHO HAVE EVER USED ANY CONTRACEPTIVE METHOD, INCLUDING STERILISATON, BY SELECTED VARIABLES

Variable	Ever married	Never married	Total
	%	%	%
Level of education			
No schooling	29.6	16.8	28.8
1-6 years	46.1	16.5	40.7
7-10 years	56.1	32.4	47.4
11+ years	76.0	58.7	70.9
Total	39.9	30.5	38.1
Residence			
Rural	38.2	29.6	36.7
Urban	42.7	36.3	41.3
Large urban	44.1	27.3	39.9
Region of residence			
Western	23.0	17.1	22.1
Central	18.0	25.0	19.2
Greater Accra	49.2	24.4	43.1
Eastern	69.3	51.6	64.9
Volta	91.4	77.7	88.6
Ashanti	35.5	11.7	30.3
Brong Ahafo	23.0	19.1	22.2
Northern	5.4	6.7	5.4
Upper	12.3	7.8	11.8

Source: Volume II, Table 4.3.2

TABLE 7.14

PERCENTAGE OF EXPOSED WOMEN WHO ARE CURRENTLY USING A CONTRACEPTIVE, INCLUDING STERILISATION, BY NUMBER OF LIVING CHILDREN AND PERCENTAGE OF CURRENTLY MARRIED WOMEN WHO ATTENDED A SOURCE IN PAST 12 MONTHS, BY BACKGROUND VARIABLES

Variables	Number of living children										Total	Recent attendance at source [1]
	0	1	2	3	4	5	6	7	8	9+		
Level of education												
No schooling	2.2	5.6	5.3	5.9	8.7	7.8	13.8	11.1	22.5	8.2	7.7	2.0
1-6 years	(8.0)	11.0	18.6	(19.6)	10.0	(20.0)	(15.0)	*	*	*	14.5	5.7
7-10 years	12.4	13.2	19.1	26.4	20.2	(18.9)	(21.7)	*	*	*	17.7	10.1
11+ years	(30.0)	(40.7)	(50.0)	(33.3)	*	*	*	-	*	-	45.1	30.3
Place of residence												
Rural	7.5	7.5	9.1	10.1	10.8	10.2	13.9	9.9	24.6	(6.3)	9.9	3.6
Urban	16.0	14.8	15.6	13.2	19.7	(9.8)	(17.2)	(11.5)	*	*	15.1	8.3
Large urban	3.3	19.3	27.6	26.9	19.2	(20.0)	(18.4)	*	*	*	20.1	10.7
Region of residence												
Western	(0.0)	(7.3)	9.8	(7.7)	(18.5)	(15.4)	(5.0)	*	*	*	9.1	6.5
Central	(4.3)	(0.0)	7.3	(8.8)	(3.1)	*	*	*	*	*	4.9	5.2
Greater Accra	(2.6)	24.0	29.6	33.8	31.0	(25.0)	(30.0)	*	*	*	25.6	9.4
Eastern	(25.7)	17.6	18.6	16.7	28.6	15.8	(22.7)	(15.4)	(40.9)	(16.7)	20.7	3.8
Volta	*	11.1	22.9	(24.5)	(10.6)	(18.5)	*	(25.0)	*	*	18.7	4.4
Ashanti	8.8	11.3	13.6	12.9	9.2	6.8	(4.4)	(4.5)	*	*	10.4	8.7
Brong Ahafo	*	9.1	(2.6)	(10.0)	(3.4)	(6.7)	(17.9)	*	*	*	9.2	5.6
Northern	(0.0)	(0.0)	0.0	1.9	(0.0)	(3.8)	*	*	*	*	0.8	0.6
Upper	(11.8)	0.0	1.1	0.0	1.8	(5.3)	*	*	*	*	2.1	0.6

Source: Volume II, Tables 4.4.5 and 4.3.4

Note: [1] The base here is all currently married women, while the base for current use is all exposed women.

* Less than 20 cases

( ) 20-49 cases

7.8 SUMMARY

From the foregoing it can be seen that even though contraceptive knowledge is quite high, ever-use and current use are comparatively very low for a country where an official contraceptive programme has been operating for about 10 years. Furthermore of those who have never used a method only a negligible proportion intend to use a method in the future. In addition knowledge of sources of family planning supplies is much lower than knowledge of methods of contraception, and actual attendance at such sources is even less prevalent.

This may be a reflection of the fact that the family planning programme has not been able to curb the traditional desire for large families. Only about 12 per cent of all currently married, fecund women expressed a desire to limit family size, and most of these were not currently using contraception.

However, there are substantial variations in contraceptive use for women with different levels of education, and for urban and rural residents. There is hope therefore that as Ghana becomes more modern, the level of efficient contraceptive use will become as widespread as the current level of contraceptive knowledge.

CHAPTER 8

NON-CONTRACEPTIVE FACTORS AFFECTING FERTILITY

8.1 INTRODUCTION

Besides the regulating functions of such social institutions as the marriage system, and the conscious use of contraceptive methods to prevent pregnancy, discussed respectively in Chapters 4 and 7, there are other biological, social, cultural and behavioural factors which regulate human reproduction; and the discussion of these other factors is the subject matter of this chapter. These factors, which relate largely to behaviour practices after childbirth, include breastfeeding, post-partum amenorrhoea, and post-partum sexual abstinence. Other factors discussed which are not related to parturition include age at menarche, fecundity status and terminal abstinence from sexual intercourse.

8.2 CHARACTERISTICS OF OPEN AND CLOSED BIRTH INTERVALS

Questions on post-partum amenorrhoea, post-partum abstinence and breastfeeding were asked in regard to two defined periods of the maternity history of the respondent: (a) "the last closed pregnancy interval" defined as the time between the last-but-one and the last pregnancy, and (b) "the open pregnancy interval", defined as the time since the last pregnancy. The main objective was to ascertain the effect of these factors on the length of inter-pregnancy intervals. By the definitions of "closed" and "open" pregnancy intervals, currently pregnant women did not have an open interval, and women with only one pregnancy did not have a closed interval. Analysis of the open interval was therefore confined to women with at least one pregnancy who were not currently pregnant while that of the closed interval was confined to women with at least two pregnancies including any current pregnancy. A respondent who had at least two pregnancies and was not currently pregnant had both a closed and an open interval and was therefore interviewed in respect of the two intervals.

As given in Table 8.1, 8.0 per cent of the women interviewed had a closed interval only; 56.1 per cent had both closed and open intervals, and 12.4 per cent had an open interval only. The proportion who had no birth interval was 23.5 per cent - comprising 21.2 per cent who had never been pregnant, and 2.3 per cent who were currently pregnant for the first time.

As shown further in Table 8.2, 93.2 per cent of the penultimate pregnancies resulted in a live birth. Out of this proportion 82.1 per cent were alive at the time of the survey and 11.1 per cent were dead. The remaining 6.8 per cent of penultimate pregnancies resulted in a non-live birth. With regard to the most recent pregnancy, 94.1 per cent resulted in a live birth; 87.3 per cent were alive and 6.8 per cent were dead at the time of the survey, with 5.9 per cent of the pregnancies resulting in a non-live birth. The higher proportion of deaths occurring among penultimate births as compared with those of last pregnancy births (11.1 per cent as against 6.8 per cent) is not unexpected because the former are on the average older.

Table 8.2 also shows that 66.8 per cent of women with closed intervals reported the date of termination of the penultimate pregnancy in calendar month and year, 19.3 per cent in

TABLE 8.1

DISTRIBUTION OF ALL WOMEN ACCORDING TO TYPE OF BIRTH INTERVAL

Type of birth interval	Number	Per cent
1. No birth interval	1439	23.5
Never pregnant	(1297)	(21.2)
Currently pregnant for first time	(142)	(2.3)
2. Had closed interval only	489	8.0
3. Had both closed and open intervals	3437	56.1
4. Had open interval only	760	12.4
All types	6125	100.0

Source: Special table

TABLE 8.2

CHARACTERISTICS OF PENULTIMATE PREGNANCIES IN CLOSED PREGNANCY INTERVAL AND OF LAST PREGNANCIES IN OPEN PREGNANCY INTERVAL

	Closed interval		Open interval	
	Number	%	Number	%
Interval starts with				
Live birth, child alive	3222	82.1	3664	87.3
Live birth, child dead	436	11.1	285	6.8
Non live-birth	268	6.8	248	5.9
Total	3926	100.0	4197	100.0
Date of start of interval stated in:				
Calendar month and year	2621	66.8	3318	79.1
Calendar year only	759	19.3	501	11.9
Years ago only	546	13.9	366	8.7
Multiple sources	-	-	12	0.3
Total	3926	100.0	4197	100.0

Source: Volume II, Tables 6.8.1, 6.8.2 and special table

calendar year only, and 13.9 per cent in terms of "years ago". Corresponding proportions in respect of the last pregnancy were 79.1 per cent in calendar month and year, 11.9 per cent in calendar year only, and 8.7 per cent in term of "years ago". Here again, since last pregnancies were on the average more recent than the penultimate pregnancies it is not unexpected that a greater proportion of the women could give the date in calendar month and year.

There is a high correspondence between the manner in which the dates of the last and last-but-one pregnancy were reported. Thus 82.8 per cent of women who provided calendar month and year of the last event also provided the same for the penultimate event. An equally high correspondence was found for the calendar year only and the "years ago" mode (see Table 8.3).

8.3 BREASTFEEDING

The study of breastfeeding patterns in societies is of considerable interest both to demographers and health workers. The interest of the latter in the subject of breastfeeding stems from the fact that breast milk is an unrivalled source of good nutrition for a child, while demographers' interest derives from the suppressing effects which lactation exerts on resumption of ovulation after childbirth. There is evidence that the duration and intensity of breastfeeding is related positively to the length of post-partum amenorrhoea and therefore to the length of the period the woman is physiologically not exposed to the risk of pregnancy.

In the GFS two aspects of breastfeeding duration were studied. The first, termed "duration of full breastfeeding", was the length of time the child was fed solely on breast milk without any other liquid or solid food as supplement to breast milk; and the second, termed "duration of breastfeeding", referred to the entire period during which the child was fed on breast milk with or without liquid or solid food supplements until the child was finally weaned. To obtain information relating to the latter the respondent was asked whether she breastfed the child, and, if so, for how many months. To obtain an estimate of the length of full breastfeeding the respondent was also asked the age of the child when she began giving the child liquid or solid food along with breastfeeding.

TABLE 8.3

PERCENTAGE DISTRIBUTION OF WOMEN WITH BOTH CLOSED AND OPEN INTERVALS ACCORDING TO FORM OF DATE GIVEN FOR END OF LAST PREGNANCY BY FORM OF DATE GIVEN FOR END OF PENULTIMATE PREGNANCY

Form of date of end of last pregnancy	Form of date of end of penultimate pregnancy			Total women
	Calendar month and year	Calendar year only	Years ago	
Calendar month and year	82.8	13.0	4.2	2662
Calendar year only	13.5	76.4	10.1	436
Years ago and month	1.2	0.6	98.2	327
Multiple sources	0.0	0.0	100.0	12
Total	66.0	19.8	14.2	3437

Source: Special table

8.3.1 Problems in analysis of breastfeeding data

Two types of problem arise in the analysis of data on duration of breastfeeding. The first relates to the stoppage of breastfeeding due to death of the child, and the second relates to what has been described as "circular causality" in the breastfeeding/fertility relationship, where breastfeeding is affected by the intervention of the next pregnancy, resulting in turn in hormonal action which leads to the cessation of flow of milk.

In the analysis of data on breastfeeding for the closed interval the first problem is obviated by restricting the analysis to women whose penultimate child survived for at least twelve months. About 7.0 per cent (257) of the women reported that their penultimate child died before the age of twelve months, and these cases have been excluded from the relevant data tabulations. Also excluded from the estimation of length of breastfeeding are the cases of children who died after the age of twelve months and who were breastfed until they died. Only 59 (1.6 per cent) and 14 (0.4 per cent) of such cases were in the breastfeeding and full breastfeeding data respectively. For the open interval, however, live births which did not survive for twelve months have been included in the analysis of data on breastfeeding.

With respect to the second problem respondents were asked whether they became pregnant again before weaning their child. Responses to this question indicate that there were 346 (9.6 per cent) such cases out of the total of 3588 women who breastfed their penultimate child. These cases were however neither excluded nor in any way given special treatment in the data tabulation for the First Country Report.

8.3.2 Breastfeeding duration in last closed interval

One other problem about data on breastfeeding is the tendency on the part of respondents to report durations in multiples of six months. As data in Table 8.4 for the last closed interval illustrate, the reported durations of breastfeeding and full breastfeeding show heaping at 12, 18, 24 and 36 months. While 27.1 per cent of mothers reported 12 months' duration of breastfeeding, only 1.9 per cent and 2.3 per cent reported durations of 11 months and 13 months respectively. While 14.2 per cent reported a duration of 18 months only 0.4 per cent each reported durations of 17

TABLE 8.4

DISTRIBUTION OF WOMEN ACCORDING TO DURATION OF BREASTFEEDING AND FULL BREASTFEEDING IN THE LAST CLOSED INTERVAL

Breastfeeding			Full breastfeeding		
Duration (in months)	Number	Percentage	Duration (in months)	Number	Percentage
0	-	-	0	30	0.9
1	5	0.1	1	128	3.8
2	13	0.4	2	326	9.6
3	31	0.9	3	875	25.7
4	23	0.7	4	548	16.1
5	27	0.8	5	244	7.2
6	78	2.3	6	496	14.6
7	30	0.9	7	97	2.9
8	119	3.5	8	194	5.7
9	132	3.9	9	83	2.4
10	262	7.7	10	69	2.0
11	64	1.9	11	8	0.2
12	920	27.1	12	143	4.2
13	78	2.3	13	8	0.2
14	154	4.5	14	17	0.5
15	109	3.2	15	6	0.2
16	86	2.5	16	7	0.2
17	14	0.4	17	2	0.1
18	482	14.2	18	35	1.0
19	14	0.4	19	2	0.1
20	86	2.5	20	2	0.1
21	15	0.4	21	-	-
22	9	0.3	22	1	0.0
23	8	0.2	23	2	0.1
24	376	11.1	24+	47	1.4
25	18	0.5	Breastfed until died	14	0.4
26	22	0.6			
27	10	0.3	Did not breastfeed	17	0.5
28	9	0.3			
29	2	0.1	Total	3401	100.0
30	41	1.2			
31	3	0.1			
32	2	0.1			
33	-	-			
34	3	0.1			
35	1	0.0			
36	67	2.0			
37+	12	0.3			
Breastfed until died	59	1.7			
Did not breastfed	17	0.5			
Total	3401	100.0			

Source: Special tables

months and 19 months, and while 11.1 per cent stated 24 months, only 0.2 per cent and 0.5 per cent stated 23 and 25 months respectively. Although the heaping at these months may readily suggest digit preference or a genuine difficulty, in obtaining duration data in exact months, the pattern may also reflect Ghanaian cultural norms or practices regarding breastfeeding.

The data however show that about 78 per cent of the mothers reported a duration of full breastfeeding of six months or less, and about 95 per cent reported a duration of twelve months or less. Only about 4 per cent reported a duration of more than twelve months. Mothers who did not breastfeed their child at all and those who gave full breastfeeding to their child until the child died constituted about 1 per cent.

With regard to the entire period of breastfeeding (that is, up to the time the child was weaned), the mean duration for all the mothers was fifteen months; and as also shown in Table 8.4 about 5 per cent of mothers breastfed the child for up to six months, 50 per cent breastfed for up to twelve months, and 77 per cent breastfed for up to eighteen months. Only about 17 per cent breastfed their child for twenty-four months or more. Mothers who did not breastfeed their child or who breastfed the child until the child died also constituted about 2 per cent of the total mothers.

Breastfeeding by age of mother

Table 8.5 shows the mean duration of full breastfeeding to be 5.2 months, and this is in respect of mothers whose penultimate pregnancy resulted in a live birth where the child survived for at least twelve months. Disregarding the figure of 5.1 months for mothers aged below 20 years who comprised only 46 women (1.4 per cent of total mothers), the mean duration of full breastfeeding begins at 4.7 months for mothers aged 20-24 years and increases gradually but consistently with increasing age to 6.2 months for the age group 45 years and above.

Data for the entire duration of breastfeeding, also given in Table 8.5, show a slight increase in mean duration of breastfeeding with increasing age of mother - beginning from 14.5 months for mothers aged 20-24 years to 15.8 months for the age group 40-44 years - with a mean duration of 15.1 months for all the mothers.

Breastfeeding by socio-economic background of mother

As expected, the mean duration of full breastfeeding decreases significantly with increasing level of education, beginning from 5.8 months for mothers with no schooling to 2.8 months for mothers with 11+ years of education. Table 8.6 also shows some relationship between length of full breastfeeding and rural/urban residence. Mothers in the rural areas reported a mean duration of 5.7 months as against the mean of 4.3 and 4.2 months reported by mothers in urban and large urban areas respectively. This relationship may partly reflect the effects of educational differentials, however, since a higher proportion of rural women have no schooling.

Analysis by ethnic origin of mother also shows significant variations in the length of full breastfeeding. At the lowest end of the range are the Fante with a mean duration of 3.8 months while the Mole-Dagbani with a mean of 7.3 months occupy the highest end of the range. Ethnic groups constituting the residual category "others" had the second highest mean duration of full breastfeeding with a mean of 6.2 months. The mean durations for the other ethnic groups as shown in Table 8.6 vary between 4.6 and 5.7 months. As mentioned in Chapter 3 most of the ethnic groups are identified with specific regions

TABLE 8.5

MEAN DURATION OF BREASTFEEDING AND FULL BREASTFEEDING BY AGE OF MOTHER, IN THE LAST CLOSED INTERVAL

Current age	Not breast-fed	Breastfed until died	Duration of breastfeeding (months)						Number of women	Mean dura-tion
			0-6	7-12	13-18	19-23	24+	Total		
Full breast-feeding										
<20	2.2	0.0	76.1	19.6	2.2	0.0	0.0	100.0	46	5.1
20-24	0.4	0.6	82.6	14.3	1.6	0.0	0.6	100.0	505	4.7
25-29	0.7	0.1	79.0	16.9	1.9	0.1	1.2	100.0	735	4.9
30-34	0.3	0.0	78.3	17.5	2.0	0.3	1.7	100.0	663	5.3
35-39	0.8	0.5	76.5	17.9	2.4	0.3	1.5	100.0	613	5.4
40-44	0.2	0.6	76.6	19.0	2.5	0.4	0.6	100.0	474	5.5
45+	0.3	1.1	72.1	20.0	3.3	0.0	3.3	100.0	365	6.2
Total	0.5	0.4	77.8	17.5	2.2	0.2	1.4	100.0	3401	5.2
Breast-feeding										
<20	2.2	0.0	6.5	45.7	21.7	8.7	15.2	100.0	46	14.3
20-24	0.4	2.8	5.3	45.1	31.5	3.0	11.9	100.0	505	14.5
25-29	0.7	1.1	4.9	47.3	29.0	3.0	14.0	100.0	735	14.6
30-34	0.3	2.1	6.0	44.6	25.6	4.1	17.2	100.0	663	15.1
35-39	0.8	1.6	5.7	41.3	26.3	4.6	19.7	100.0	613	15.4
40-44	0.2	1.1	4.2	43.5	26.2	4.4	20.5	100.0	474	15.8
45+	0.3	2.2	4.4	47.9	23.6	4.1	17.5	100.0	365	15.4
Total	0.5	1.7	5.2	44.9	27.1	3.9	16.6	100.0	3401	15.1

Source: Volume II, Tables 6.1.2, 6.2.2 and special table

TABLE 8.6

MEAN DURATION OF BREASTFEEDING AND FULL BREASTFEEDING BY AGE AND SELECTED BACKGROUND CHARACTERISTICS, IN THE LAST CLOSED INTERVAL

Background characteristics	Full breastfeeding			Breastfeeding		
	All ages	<30	30+	All ages	<30	30+
Level of education						
No schooling	5.8	5.8	5.9	16.4	16.4	16.4
1-6 years	4.9	4.5	5.2	13.8	13.6	14.0
7-10 years	4.0	3.9	4.0	12.6	13.0	11.9
11+ years	2.8	2.7	2.8	8.9	9.3	8.7
Rural/urban residence						
Rural	5.7	5.3	5.9	16.1	15.5	16.5
Urban	4.3	3.8	4.6	13.2	13.1	13.3
Large urban	4.2	3.8	4.5	12.4	12.2	12.6
Ethnic origin						
Fante	3.8	3.7	3.9	11.4	11.5	11.3
Twi	4.8	4.4	5.0	13.4	13.0	13.6
Other Akan	5.7	4.5	6.5	13.8	13.2	14.1
Mole-Dagbani	7.3	6.5	7.8	21.7	19.8	22.8
Ewe	4.6	4.3	4.7	15.7	15.0	16.1
Ga-Adangbe	4.6	4.1	4.8	12.8	11.9	13.3
Guan	5.4	5.7	5.2	14.7	14.6	14.7
Others, not stated	6.2	5.8	6.5	17.1	17.2	17.1
Region of residence						
Western	5.2	4.8	5.5	13.3	12.9	13.6
Central	3.7	3.6	3.7	10.9	11.0	10.8
Greater Accra	3.9	3.6	4.2	11.6	11.4	11.7
Eastern	5.4	5.2	5.6	13.7	13.8	13.7
Volta	4.4	4.1	4.6	17.1	16.5	17.5
Ashanti	4.1	3.8	4.3	13.0	12.8	13.2
Brong-Ahafo	5.8	5.6	5.9	16.9	15.6	17.6
Northern	9.5	9.1	9.7	20.8	19.9	21.3
Upper	7.5	6.5	8.1	23.2	21.8	24.0
Total	5.2	4.8	5.5	15.1	14.5	15.4

Source: Volume II, Tables 6.1.3 (A-D); 6.2.3 (A-D)

where they constitute the majority of the population. Hence the mean durations of full breastfeeding for the ethnic groups are reflected in the figures for the regions where they are in the majority. Central region, consisting mostly of the Fante ethnic group, had the lowest mean duration of full breastfeeding (3.7 months) while Northern region, comprising mostly the Mole-Dagbani, had the highest mean duration (9.5 months). Upper region, which had the second highest mean duration of full breastfeeding (7.5 months), is populated mostly by ethnic groups in the residual category "others".

Data for the entire duration of breastfeeding also given in Table 8.6 show the same pattern of variation as exhibited in the data for full breastfeeding. The mean duration of breastfeeding by education of mother decreases from 16.4 months for mothers with no schooling to 8.9 months for mothers with 11+ years of education, and for the rural/urban categories the mean duration is 16.1 for rural residents, 13.2 for urban and 12.4 for large urban residents. The Fante were again the ethnic group who showed the shortest duration of breastfeeding with a mean of 11.4 months, while the Mole-Dagbani with a mean of 21.7 months showed the longest duration of breastfeeding. Central region also had the shortest duration of breastfeeding with a mean of 10.9 months. Upper region had the longest duration reporting a mean of 23.2 months, with Northern region showing the second longest duration with a mean of 20.8 months.

While the order of magnitude of the mean durations within each of the two broad age groups presented - less than 30 years and 30 years and over - is essentially similar to the order of magnitude observed in the figures for women of all ages, the mean durations for the younger age group (<30 years) are slightly lower than the means for the older age group (30+ years) for all the selected background variables.

8.3.3 Breastfeeding in the open interval

Data on duration of breastfeeding in the open birth interval have two main characteristics which limit comparability with data relating to the last closed birth interval. Firstly, the open interval includes birth intervals which will never close, that is, where the mother will not have another child in the future. The birth interval and the duration of breastfeeding are therefore likely to be longer in the open interval. Secondly, women with an open interval were defined as having at least one pregnancy, while women in the closed interval have at least two pregnancies. By definition, therefore, the two sets of women are different population groups who may differ in several characteristics of demographic interest besides the parity differences and possibly age differences.

Duration of breastfeeding the last child, like duration of breastfeeding the penultimate child in the closed interval, also showed heaping at durations which are multiples of six months. Data in Table 8.7 also show that at the time of the survey 49.9 per cent of the women in the open interval were no longer breastfeeding their last child, and 43.9 per cent were still breastfeeding. A further 3.8 per cent breastfed until the child died, and only 2.0 per cent did not breastfeed the child.

8.3.4 Comparison of different measures of breastfeeding duration

Table 8.8 compares three estimates of breastfeeding duration, one based on closed interval data and two on open interval or "current status" data. The bases for these estimates are: the proportion of mothers in the open interval who were still breastfeeding their last child at the time of the survey classified by months elapsed since the birth (referred to as the open interval measure); the proportion of children born in the last three years who were still being breastfed at the time of the survey, also classified by months elapsed since the birth (referred to as the current status measure); and the cumulative percentage of women still breastfeeding at each duration in the last closed interval (referred to as the closed interval measure). Figure 8.1 also shows these three estimates diagramatically.

TABLE 8.7

PERCENTAGE DISTRIBUTION OF WOMEN WITH OPEN INTERVAL BY STATUS OF BREASTFEEDING OF LAST CHILD AT DATE OF INTERVIEW

	Number	Percentage
Completed breastfeeding	1970	49.9
Still breastfeeding	1734	43.9
Breastfed until child died	149	3.8
Did not breastfed	80	2.0
Not stated	16	0.4
Total	3949	100.0

Source: Special table

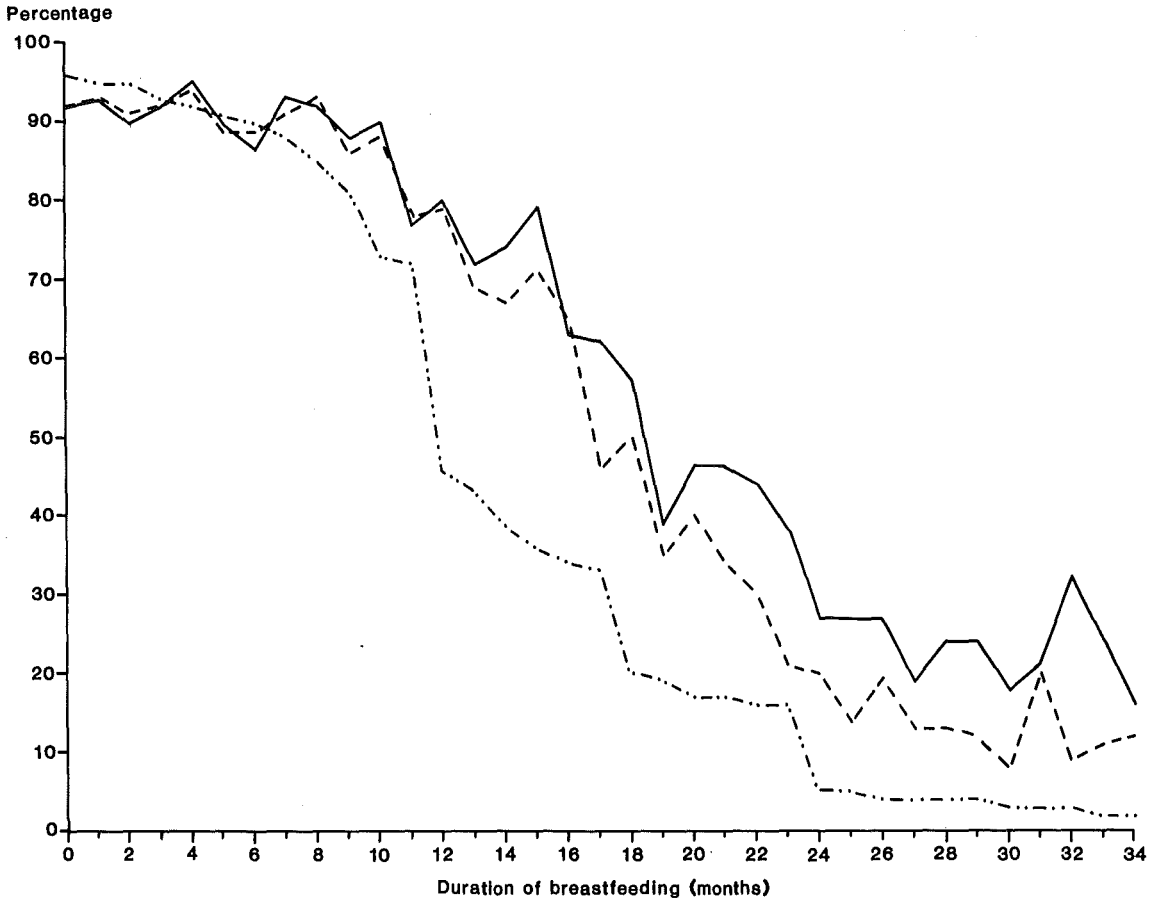
TABLE 8.8

COMPARISON OF PERCENTAGE OF WOMEN STILL BREASTFEEDING FROM DIFFERENT SOURCES

Time duration	Cumulative percentage of women still breastfeeding at each duration in the closed interval (1)	Percentage of women with open interval still breastfeeding the the last child at the time of the survey by months elapsed since the birth (current status) (2)	Proportion of children born in last 3 years still being breastfed the at time of the survey by months elapsed since the birth (current status) (3)
0	96	92	92
1	95	93	93
2	95	90	91
3	93	92	92
4	92	95	94
5	91	90	89
6	90	87	89
7	88	93	91
8	85	92	93
9	81	88	86
10	73	90	88
11	72	77	78
12	46	80	79
13	43	72	69
14	39	74	67
15	36	79	71
16	34	63	64
17	33	62	46
18	20	57	50
19	19	39	35
20	17	46	40
21	17	46	34
22	16	44	30
23	16	38	21
24	5	27	20
25	5	27	14
26	4	27	19
27	4	19	13
28	4	24	13
29	4	24	12
30	3	18	8
31	3	21	20
32	3	32	9
33	2	24	11
34	2	16	12

Source: Volume II, Tables 6.2.4, special tables

The median duration for the open interval measure (col. 2) and for births in the last three years (col. 3) - both of which relate to a more current situation - is in each case about 18 months while the median duration for the closed interval is between 11 and 12 months. There is also greater correspondence between the proportions in the two sets of current status data (cols. 2 and 3) than between each of them and the closed interval



8.1 Comparison of percentage of women still breastfeeding from different sources

data, up to 12 months' duration. The correspondence between the two current status measures however breaks down after 12 months' duration, with the open interval data (col. 2) showing higher proportions of children still being breastfed. The two sets of proportions should be comparable throughout the range of the duration up to 34 months since they both relate to the same duration of birth interval. However, the data on births in last three years include penultimate births in the last closed interval - which are classed as not breastfeeding, for this measure - and the divergence after the duration of 12 months may be partly explained by this. Furthermore, because prolonged lactation is itself a cause of wide spacing between births, women with long open intervals are a selectively biased group in terms of lactation.

On balance the intermediate current status measure, based on all births in the last three years are most likely to provide an unbiased picture of the length of breastfeeding in Ghana.

8.4 POST-PARTUM AMENORRHOEA

Post-partum amenorrhoea is defined as the period after parturition (i.e. after birth, live or non-live) during which the woman is in an anovulatory state and therefore infecund. This however is a physiological condition which cannot be determined in a demographic field survey. The date of the first menstruation after parturition is therefore used as a proxy for determining the end of the anovulatory state. The length of this state is believed to be dependent on many factors including breastfeeding. In this section, therefore, data on the length of the period and its relationship with breastfeeding are discussed.

Information on the duration of amenorrhoea was obtained for both the last closed and the open intervals, and the question asked was:

"How many months after the birth of this child did your period come back?"

If the penultimate pregnancy or last pregnancy did not result in a live birth the question asked was:

"How many months after the end of this pregnancy did your period come back?"

The percentage distribution of women by duration of amenorrhoea in the last closed interval given in Table 8.9 shows that about 15.5 per cent of the women were amenorrhoeic for up to 3 months, and 15.6 per cent were amenorrhoeic for 4 to 6 months while 42.2 per cent reported a duration of 7 to 12 months. The mean duration for all women was 10.5 months. Like the data on breastfeeding the data on amenorrhoea show heaping at durations in multiples of six months. A comparison with the figures on breastfeeding however shows that heaping in the duration of amenorrhoea is less pronounced (see Figure 8.2).

TABLE 8.9

DISTRIBUTION OF WOMEN ACCORDING TO DURATION OF AMENORRHOEA IN LAST CLOSED INTERVAL

Duration (in months)	Number	Percentage
0	9	0.2
1	154	3.9
2	166	4.2
3	281	7.2
4	199	5.1
5	125	3.2
6	289	7.4
7	102	2.6
8	230	5.9
9	149	3.8
10	214	5.5
11	65	1.7
12	897	22.8
13	60	1.5
14	125	3.2
15	104	2.6
16	62	1.6
17	14	0.4
18	219	5.6
19	8	0.2
20	51	1.3
21	9	0.2
22	11	0.3
23	4	0.1
24	179	4.6
25	6	0.2
26	20	0.5
27	11	0.3
28	5	0.1
29	2	0.1
30	15	0.4
31	1	0.0
32	3	0.1
33	-	-
34	2	0.1
35	1	0.0
36	19	0.5
37+	9	0.2
Not stated	106	2.7
Total	3926	100.0

Source: Volume II, Table 6.3.1A

Data in Table 8.10 on duration of amenorrhoea in the closed interval by current age of mother do not show any significant variation or trend. Although the mean duration increases from 8.8 months for women aged less than 20 years to 11.4 months for women aged 30-39 years, the differences between the successive age groups are less than one month, except the difference between the age groups 20-24 and 25-29 which is 1.3 months. After age 39 the mean duration in fact decreases to 11.2 months for the age group 40-44 and to 10.6 months for the age group 45 years and above.

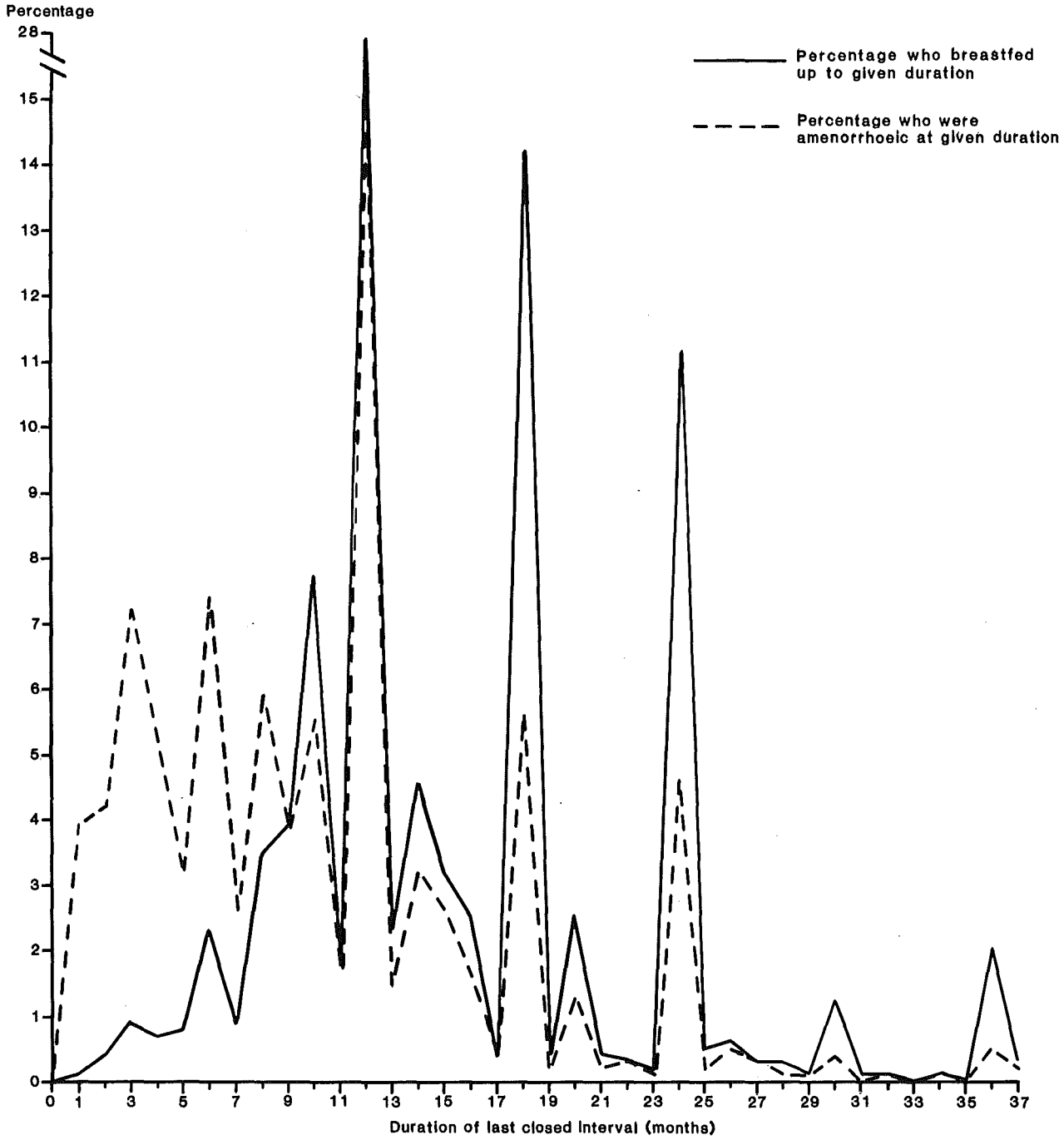
The data however show some positive relationship between length of breastfeeding and duration of amenorrhoea. For women whose penultimate pregnancy resulted in a non-live birth the mean duration of amenorrhoea is 3.7 months, and for women who did not breastfeed their penultimate child the mean duration is 5.9 months. For women who breastfed their penultimate child the mean duration increases from about 7 months for those who breastfed for up to 3 months, to 10.4 months for those who breastfed for 12 months, and to 18.2 months for women who reported 36 months or more duration of breastfeeding. As shown in Table 8.11 and Figure 8.3 there is no clear-cut pattern in the relationship with breastfeeding durations of up to 5 months as the mean durations of amenorrhoea oscillate between 6.1 and 8.3 months for the shorter durations of breastfeeding (up to 5 months). This may however be due to the small numbers of women reporting durations 0 to 5 months.

TABLE 8.10

PERCENTAGE DISTRIBUTION OF WOMEN ACCORDING TO DURATION OF AMENORRHOEA IN THE LAST CLOSED PREGNANCY INTERVAL BY CURRENT AGE

Current age	Duration of amenorrhoea (in months)						Number of women
	0-3	4-6	7-12	13+	Not stated	Mean	
<20	29.2	13.8	30.8	23.1	3.1	8.8	65
20-24	19.6	17.0	42.4	17.4	3.6	9.1	616
25-29	16.7	14.5	42.2	23.7	2.9	10.4	851
30-34	13.8	16.6	43.3	23.8	2.5	10.7	734
35-39	12.0	16.3	41.1	28.5	2.1	11.4	681
40-44	15.6	13.1	42.5	26.6	2.2	11.2	557
45+	13.7	16.6	43.1	23.5	3.1	10.6	422
Total	15.5	15.0	42.2	23.9	2.7	10.5	3926

Source: Volume II, Table 6.3.1A



8.2 Percentage distribution of women according to duration of breastfeeding and of amenorrhoea in the last closed interval

The three types of estimates of length of amenorrhoea, comparable to those described for breastfeeding, are shown in Table 8.12 and Figure 8.4. To remind the reader, these estimates are based on all women with a closed interval, all women with an open interval, and all women with a birth in the past three years.

The relative levels and order of magnitude of the proportions in the three sets of data generally follow and reflect the pattern observed in the data on breastfeeding; and this is not unexpected as it has been shown that duration of amenorrhoea is closely related to duration of breastfeeding. The proportions in the three sets of data are fairly close to each other up to the birth interval duration of 7 months. For 16 to 19 per cent of the women, amenorrhoea was over in the three sets of data by the end of the third month, and for about 35 per cent of the women amenorrhoea was over by the end of the seventh month. Current status data in columns 2 and 3 - particularly in the latter - show sharper

TABLE 8.11

MEAN DURATION OF AMENORRHOEA IN THE LAST CLOSED INTERVAL BY DURATION OF BREASTFEEDING

Duration of breastfeeding	Mean duration of amenorrhoea All ages
Non-live birth	3.7
Not breastfed	5.9
0 month	7.3
1 month	6.1
2 months	7.1
3 months	8.3
4-5 months	7.8
6 months	8.7
7-8 months	8.9
9-11 months	9.0
12 months	10.4
13-17 months	11.3
18 months	12.4
19-23 months	12.1
24 months	14.1
25-29 months	18.5
30 months	16.7
31-35 months	13.6*
36+ months	18.2
Total	10.5

* only 9 cases

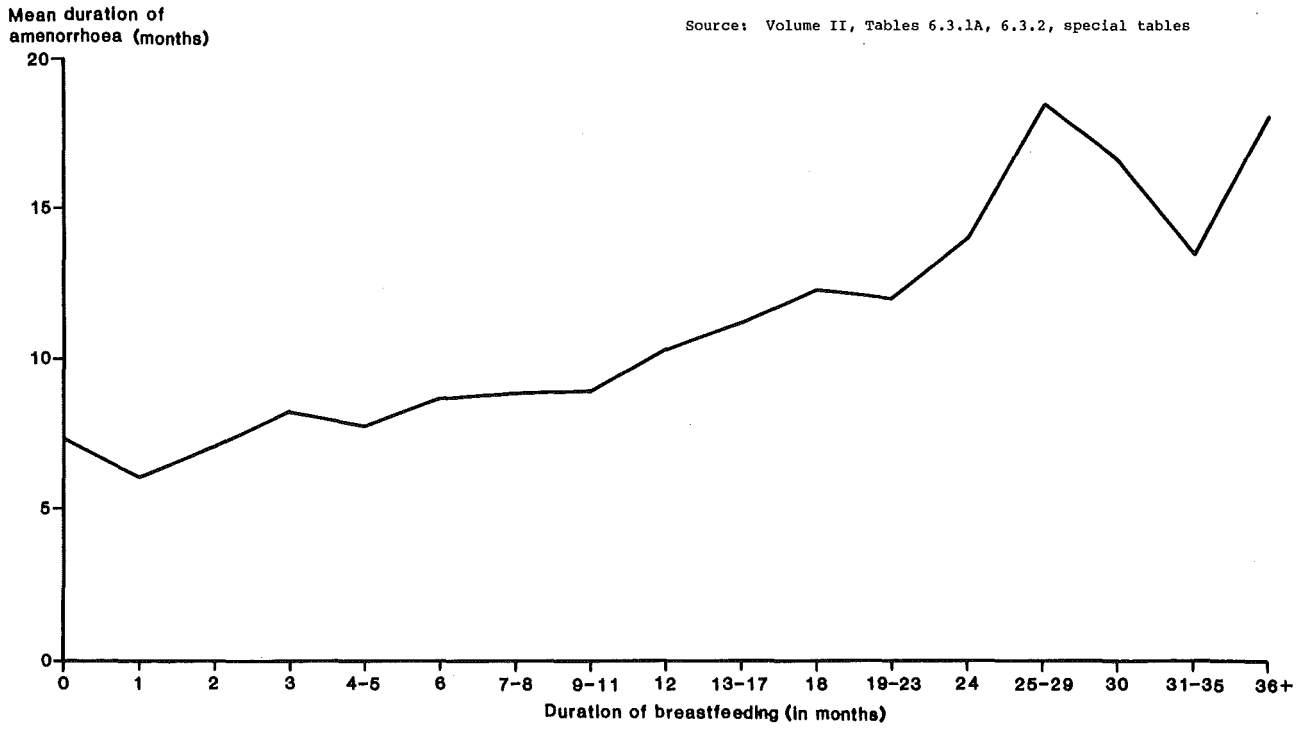
Source: Volume II. Table 6.3.1B

TABLE 8.12

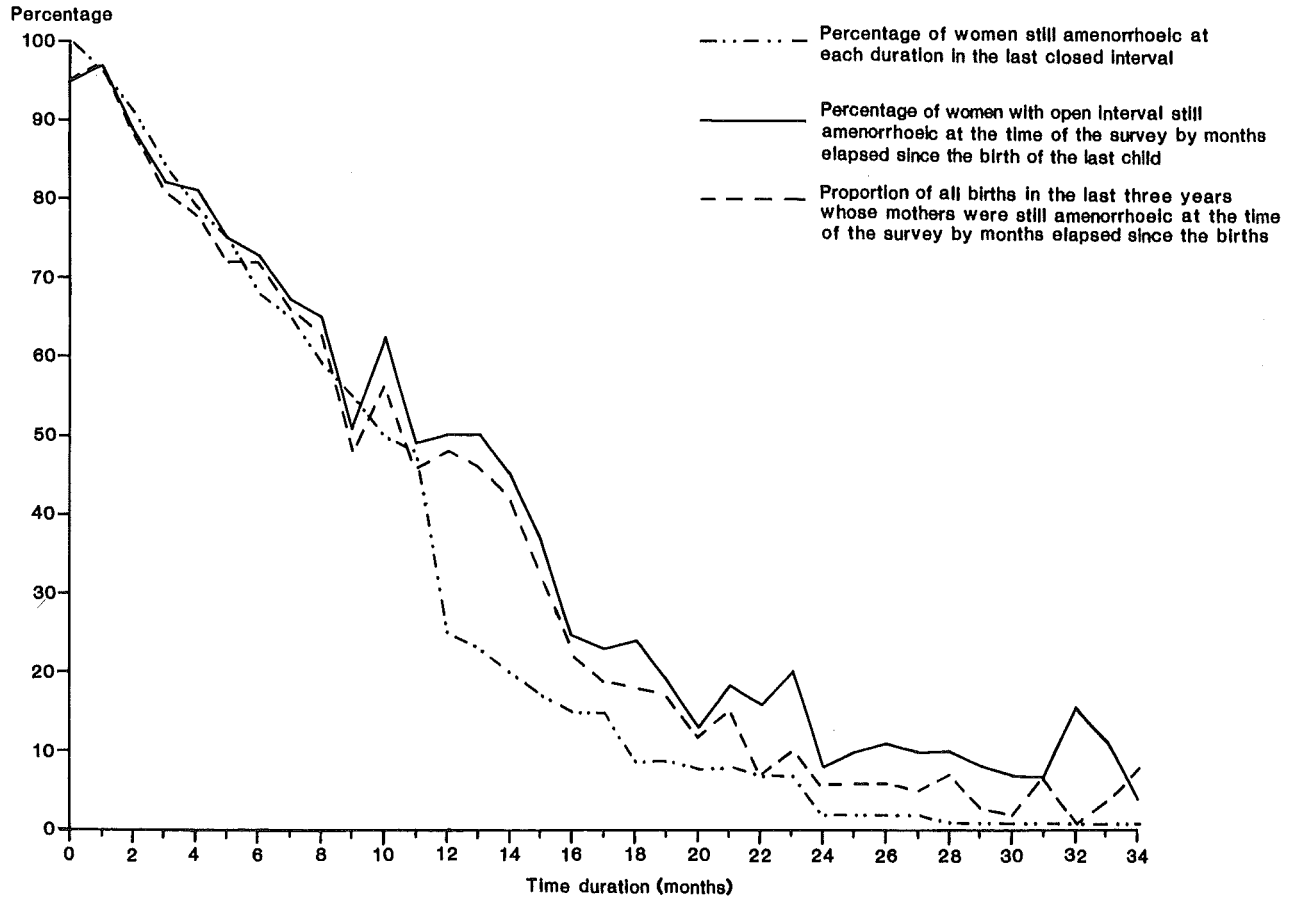
COMPARISON OF PERCENTAGE OF WOMEN STILL AMENORRHOEIC FROM DIFFERENT SOURCES

Time duration	Cumulative percentage of women still amenorrhoeic at each duration in the last closed interval (1)	Percentage of women with open interval still amenorrhoeic at the time of the survey by months elapsed since the birth of the last child (current status) (2)	Proportion of all births in the last 3 years whose mothers were still amenorrhoeic at the time of the survey by months elapsed since the birth (current status) (3)
0	100	95	95
1	96	97	97
2	91	89	89
3	84	82	81
4	79	81	78
5	75	75	72
6	68	73	72
7	65	67	65
8	59	65	63
9	55	51	48
10	50	62	56
11	48	49	46
12	25	50	48
13	23	50	46
14	20	45	42
15	17	36	32
16	15	25	22
17	15	23	19
18	9	24	18
19	9	19	17
20	8	13	12
21	8	18	15
22	7	16	7
23	7	20	10
24	2	8	6
25	2	10	6
26	2	11	6
27	2	10	5
28	1	10	7
29	1	8	3
30	1	7	2
31	1	7	7
32	1	15	1
33	1	11	4
34	1	4	8

Source: Volume II, Tables 6.3.1A, 6.3.2, special tables



8.3 Mean duration of amenorrhoea in the last closed interval by duration of breastfeeding (all ages)



8.4 Comparison of percentage of women still amenorrhoeic from different sources

variations, indicating sampling fluctuation due to the small denominators.

The median interval is shortest for the closed interval data, about 10 months, slightly longer for current status data, 11 months, and longer for the open interval data, nearly 12 months (using three-month moving averages). After 11 months the proportions still amenorrhoeic in the closed interval decrease more rapidly than the proportions in the open interval and current status data (cols. 2 and 3). This is due partly to the expected shorter duration of breastfeeding in the closed interval and partly to the tendency of the women to understate duration of events in the more distant past.

The higher levels of the proportions still amenorrhoeic in column 2 compared with the proportions in column 3 (relating to births in last three years) are also explained by the conditions mentioned when discussing breastfeeding - namely, the inclusion of a greater proportion of women whose open interval (col. 2) will never be closed, and the inclusion of some penultimate births in the last three years in the data in column 3. Current status data would, therefore, provide the best estimate, falling between the last closed interval estimate, which is too short, and the open interval estimate, which is too long.

8.5 POST-PARTUM ABSTINENCE

Post-partum abstinence may be defined as avoidance of sexual intercourse after childbirth or parturition. While the physical condition of the woman following parturition does not make sexual intercourse possible or advisable until some time has elapsed, the actual duration of abstinence is determined largely by socio-economic factors and cultural norms and taboos. Post-partum sexual abstinence is therefore not always practised with the conscious objective of controlling fertility. Nevertheless its effect on fertility is direct and therefore very significant.

With regard to information on post-partum abstinence all women were asked when they had resumed sexual relations after the termination of the penultimate and/or last pregnancy. Table 8.13 relating to the closed birth interval shows that Ghanaian women abstain from sexual intercourse after parturition for a mean duration of 8.9 months. Like the pattern observed in post-partum amenorrhoea the mean duration of abstinence increases slightly with age of mother, from 7.3 months

TABLE 8.13

PERCENTAGE DISTRIBUTION OF WOMEN ACCORDING TO DURATION OF POST-PARTUM ABSTINENCE IN THE LAST CLOSED PREGNANCY INTERVAL BY CURRENT AGE

Current age	Duration of abstinence (im months)						Number of women
	0-3	4-6	7-12	13+	Not stated	Mean	
<20	13.6	44.6	29.2	7.7	4.6	7.3	65
20-24	14.6	43.3	24.8	13.5	3.7	8.4	616
25-29	13.7	42.4	24.8	16.0	3.1	8.5	851
30-34	14.6	38.6	28.3	17.2	1.4	9.1	734
35-39	12.0	39.1	27.8	18.6	2.5	9.5	681
40-44	14.9	41.3	25.0	17.1	1.8	9.0	557
45+	17.8	35.8	24.2	18.2	4.0	9.3	422
Total	14.3	40.4	26.0	16.5	2.7	8.9	3926

Source: Volume II Table 6.4.1A

for women aged less than 20 years to 9.5 months for women aged 35-39 years. From this age the mean duration then drops to 9.0 months for the age group 40-44 and then rises again to 9.3 months for women aged 45 years or more.

Current status and closed interval data on abstinence are compared in Table 8.14. Again we see that lower proportions abstained in the closed interval from 7 months or more after the birth of the child, compared to proportions abstaining for all births during the past three years. As a result, although the median durations are about the same for the two measures, almost six months, the mean for current status data is 10 months, about 1 month longer than the mean for the closed interval. The discrepancy is due to the bias inherent in closed interval data mentioned before - short birth intervals are over-represented in the data for the last closed birth interval. The current status mean length of abstinence, 10 months, would therefore be the least biased estimate. The further discussion of differentials, which uses closed interval data, should be considered, in the light of this conclusion, as slightly, but equally, understimating the true length of abstinence for all subgroups.

There is no clear-cut relationship between length of abstinence and duration of breastfeeding of up to 12 months (see Table 8.15). Apart from the short duration of 4.4 months for women whose penultimate pregnancy resulted in a non-live birth, the mean duration of abstinence oscillated between 5 and 7 months at each duration of breastfeeding of up to 12 months. Beyond this the mean duration increases to 8.6 months for women who breastfed for 13 to 17 months, and to 23.2 months for women who breastfed for 30 months.

Socio-economic differentials in the mean duration of abstinence given in Table 8.16 are significant. Mean duration by education varies from 10.1 months for women with no schooling to 5.6 months for women with 11 or more years of education. Mean duration by rural/urban place of residence varies from 9.5 months for rural dwellers to 7.5 months for large urban dwellers.

TABLE 8.14

COMPARISON OF PERCENTAGE OF WOMEN STILL ABSTAINING FROM CLOSED INTERVAL DATA AND FROM CURRENT STATUS DATA, BASED ON ALL BIRTHS IN THE 3 YEARS BEFORE THE SURVEY

Months elapsed since child-birth/ pregnancy	Percentage still abstaining	
	Closed interval (5)	Current status (6)
0	100	93
1	99	97
2	96	86
3	85	81
4	70	68
5	63	55
6	44	44
7	41	45
8	34	42
9	32	36
10	29	40
11	28	30
12	17	33
13	16	28
14	15	24
15	13	24
16	13	22
17	12	18
18	10	18
19	10	16
20	9	17
21	9	10
22	9	6
23	9	11
24	4	8
25	4	10
26	3	13
27	3	9
28	2	7
29	2	1
30	2	11
31	2	11
32	2	6
33	2	11
34	2	10

Sources: Volume II, Table 6.4.1 and special tabulations

NB: Abstinence data based on all pregnancies, whether live birth or non-live birth.

Differentials by region and by ethnic origin show a generally similar pattern or order of variation as observed in data on duration of breastfeeding and of amenorrhoea. Women in Ashanti and Central regions had the lowest mean durations of 5.7 and 5.8 months respectively, followed by women in Greater Accra and Brong Ahafo regions who had mean durations of 6.4 and 6.9 months respectively.

TABLE 8.15

MEAN DURATION OF POST-PARTUM ABSTINENCE IN THE LAST CLOSED INTERVAL BY DURATION OF BREASTFEEDING

Duration of breastfeeding	Mean duration of abstinence All ages
Non-live birth	4.4
Not breastfed	6.3
0 month	5.9
1 month	6.0
2 months	5.4
3 months	7.2
4-5 months	5.5
6 months	7.4
7-8 months	6.5
9-11 months	6.4
12 months	7.4
13-17 months	8.6
18 months	9.0
19-23 months	13.7
24 months	14.6
25-29 months	22.5
30 months	23.2
31-35 months	12.0*
36+ months	26.1
Total	8.9

* Only 9 cases

Source: Volume II, Table 6.4.1B

The regions where the longest durations were reported are Volta (12.3), Northern (16.6) and Upper (20.0). With respect to ethnic origin the Fante and the Twi who constitute the majority population of Central and Ashanti regions respectively had the lowest mean durations - 6.0 for Fante and 6.1 for Twi - while the Ewe, Mole-Dagbani, and the residual category (Other) who are mostly in the Volta, Northern and Upper regions respectively had mean durations of 10.4, 17.5 and 12.3 months.

The length of post-partum abstinence is also related to type of marriage. There is a mean duration of 8.3 months for women in monogamous marriages as against 10.3 months for women in polygamous marriages.

This difference may truly reflect the relative conditions or characteristics of monogamous and polygamous marriages, although the educational and other socio-economic variations between women in the two types of marriage may contribute to its magnitude.

Duration by religious affiliation also shows significant variations. Women who professed the Christian religion had a mean duration of less than 9 months, with Catholics having a mean of 8.3 months as against 6.5 months for "other Christians". Women who professed no religion had a mean duration of 7.7 months while Muslims and adherents of traditional religions had mean durations of 11.8 and 14.2 months respectively.

TABLE 8.16

MEAN DURATION OF ABSTINENCE IN LAST CLOSED INTERVAL BY CURRENT AGE AND SELECTED BACKGROUND CHARACTERISTICS

Background characteristics	Mean duration of abstinence		
	All ages	<30	30+
Level of education			
No schooling	10.1	10.5	9.9
1-6 years	7.1	6.5	7.7
7-10 years	7.1	7.2	6.8
11+ years	5.6	4.9	6.2
Rural/urban residence			
Rural	9.5	8.9	9.9
Urban	7.9	7.9	7.8
Large urban	7.5	7.1	7.7
Ethnic origin			
Fante	6.0	6.3	5.8
Twi	6.1	6.0	6.1
Other Akan	7.3	7.1	7.4
Mole-Dagbani	17.5	15.8	18.4
Ewe	10.4	9.5	10.9
Ga-Adangbe	6.9	6.8	6.9
Guan	7.9	7.9	7.9
Others, not stated	12.3	11.9	12.6
Region of residence			
Western	7.2	7.2	7.2
Central	5.8	5.9	5.7
Greater Accra	6.4	6.5	6.3
Eastern	7.5	7.1	7.7
Volta	12.3	10.9	13.1
Ashanti	5.7	5.9	5.6
Brong Ahafo	6.9	7.0	6.8
Northern	16.6	15.6	17.1
Upper	20.0	19.2	20.3
Type of current marriage			
Monogamous	8.3	7.9	8.6
Polygamous	10.3	9.9	10.6
N.A., D.K., N.S.	7.9	7.6	8.0
Religion			
Catholic	8.3	7.6	9.1
Other Christian	6.5	6.5	6.5
Muslim	11.8	11.6	11.9
Traditional	14.2	13.7	14.4
No religion	7.7	7.9	7.7
Total	8.9	8.4	9.2

Source: Volume II, Tables 6.4.2 (A-G)

With regard to duration of abstinence in the open interval, 28.0 per cent of the women were still abstaining at the time of the survey, compared to 31.4 per cent who were still amenorrhoeic and 43.9 per cent who were still breastfeeding at the time of the survey. Combined with data on the median duration of abstinence, amenorrhoea and breastfeeding (6, 11 and 18 months, respectively, based on current status data), these results suggest that the majority of women resume sexual relations somewhat before the end of amenorrhoea, and much before the end of breastfeeding.

When classified according to breastfeeding status, about 29.3 per cent of the women who breastfed the last child were still abstaining

while 23.8 per cent of the women who did not breastfeed were abstaining. Unlike the case of amenorrhoea where the proportions were 33.2 and 18.8 per cent respectively, the difference in the proportions still abstaining according to breastfeeding status is not very large, suggesting that the two aspects are not highly related, as amenorrhoea and breastfeeding were shown to be.

8.6 MARITAL STABILITY AND TEMPORARY SEPARATIONS

Two other factors which can lengthen the inter-pregnancy interval and therefore affect fertility are marital stability and temporary separation of spouses. To obtain information on these factors durations of all separations lasting 3 months or more in the closed and open intervals [1] were recorded, Table 8.17 shows that 87.3 per cent of the women were continuously married throughout the closed interval. Variation across the age groups is very small. The proportion increases from 78.5 per cent for the age group under 20 years to 91.6 per cent for the age group 35-39. This then drops to 86.9 per cent for the age group 40-44 and then rises again to 91.9 per cent for the age group 45 years and above.

Variations by selected socio-economic categories - namely, education, rural/urban residence, region of residence, ethnic origin, and type of marriage given in the table are also very slight.

With regard to length of temporary separations only 2.3 per cent of the ever-married women reported an absence of 3 or more months and the overall mean length of separation was only 0.2 month with practically no variation from the mean across the age groups, showing that this factor is unimportant as a determinant of fertility level.

8.7 LENGTH OF EXPOSURE AND INTERVAL TO CONCEPTION

The length of an inter-pregnancy interval may be estimated as the sum of three periods between two births: the period of non-exposure due to amenorrhoea, sexual abstinence and temporary separation of spouses; the period of exposure which is the difference between total length of the interval between the beginning of the closed interval and the date of the conception, and the period of non-exposure; and the gestation period of the pregnancy. Of greater interest however is the length of the period from the beginning of the closed interval to the date of conception - that is, excluding the gestation period of the pregnancy. The period of non-exposure is also not the additive sum

TABLE 8.17

PERCENTAGE OF WOMEN WHO WERE CONTINUOUSLY MARRIED THROUGHOUT THE LAST CLOSED INTERVAL BY SELECTED BACKGROUND CHARACTERISTICS

Selected background characteristics	%	Selected background characteristics	%
Current age		Ethnic origin	
<20	78.5	Fante	82.7
20-24	79.2	Twi	87.3
25-29	86.7	Other Akan	69.3
30-34	89.1	Mole-Dagbani	95.3
35-39	91.6	Ewe	84.0
40-44	86.9	Ga-Adangbe	86.7
45+	91.9	Guan	84.3
		Others, not stated	92.1
Level of education		Region of residence	
No schooling	90.3		
1-6 years	83.3	Western	76.6
7-10 years	81.3	Central	84.1
11+ years	85.7	Greater Accra	86.1
		Eastern	82.9
Rural/urban residence		Volta	82.1
		Ashanti	91.6
		Brong-Ahafo	92.2
Rural	87.4	Northern	92.4
Urban	86.1	Upper	95.5
Large urban	88.0		
Type of current marriage		Total	87.3
Monogamous	90.6		
Polygamous	89.5		
NA, DK, NS	61.5		

Source: Volume II, Table 6.5.1 (A-E)

of the durations of the three components of the period of non-exposure. Since the three components - namely, amenorrhoea, abstinence, and separations - usually overlap, any such overlaps among the components have been discounted.

As given in Table 8.18 the mean length of exposure is 18.1 months for all the women. This rises progressively from 8.4 months for women aged under 20 years to 23.2 months for women aged 45 years and above. The overall mean length of non-exposure is 12.3 months and this also rises slightly from the mean length of 10.0 months for women under 20 years to 13.2 months for women aged 35-39 years. It then falls to 12.8 months for the age group 40-44 and then to 12.5 months for the age group 45 years and above.

As can be seen from the table the mean lengths of exposure are higher than the mean lengths

1) *The discussion in this section however relates only to the closed interval.*

TABLE 8.18

MEAN LENGTH OF EXPOSURE AND NON-EXPOSURE IN THE LAST CLOSED PREGNANCY INTERVAL BY CURRENT AGE OF WOMAN

Current age	Non-exposure (a)	Exposure (b)	Interval to conception (c)=(a)+(b)	Total interval (d)
<20	10.0	8.4	18.4	26.7
20-24	11.2	12.1	23.3	32.0
25-29	12.0	16.4	28.4	37.2
30-34	12.4	18.2	30.6	39.4
35-39	13.2	20.5	33.7	42.5
40-44	12.8	21.2	34.0	42.9
45+	12.5	23.2	35.7	43.9
Total	12.3	18.1	30.4	39.1

Source: Volume II, Tables 6.61, 6.6.2, 6.6.4 and special table

of non-exposure for all the age groups except for women under 20 years (only 65 or 1.7 per cent of the total women) who had a longer mean length of non-exposure than of exposure. However these results should be interpreted cautiously because of analytical problems associated with the last closed interval and the probability that women understated the length of amenorrhoea in this interval. Any such understatement would tend to bias upwards the estimate of length of exposure. The overall mean length of interval to conception, which is approximately equal to the mean length of non-exposure plus the mean length of exposure, becomes 30.4 months, and this rises progressively from 18.1 months for the age group under 20 to 35.3 months for the age group 45 years and above. When the period of gestation for the next pregnancy (9 months) is added, the overall mean length of the total inter-pregnancy interval becomes 39.1 months, as given in column d of Table 8.18. This indicates that the period of non-exposure constitutes about 31 per cent of the total interval with the period of exposure constituting about 46 per cent while the remaining 23 per cent is taken up by the gestation period of the pregnancy which terminates the interval.

The reliability of the estimates for the lengths of these periods depends on the accuracy of the dates reported for pregnancies and durations. The mean lengths of exposure and the interval to conception for women who stated the month and year of the beginning and end of the pregnancy interval are given in Table 8.19. These women (2558) constituted 65.2 per cent of the total 3926 women. For these women the mean length of exposure is 18.2 months (compared to 18.1 months for all women). Although the overall mean length of exposure is higher, and the mean differentials by age are higher for all the age groups except the age group 45+ the differences are very small - hardly up to one month.

Classification by contraceptive use during the closed interval shows some significant differences across the age groups (Table 8.20). The overall mean lengths of exposure are 19.7 and 17.6 months for users and non-users respectively, and the differences between users and non-users classified by age range from 1.0 to 3.8 months - with users showing the higher mean lengths of exposure, as may be expected.

TABLE 8.19

MEAN LENGTH OF EXPOSURE AND OF INTERVAL TO CONCEPTION IN THE LAST CLOSED INTERVAL BY AGE OF WOMAN CONFINED TO WOMEN WHO STATED MONTH AND YEAR OF BEGINNING AND END OF THE INTERVAL

Current age	Mean length of exposure			Mean length of interval to conception		
	Used	Not used	Total	Used	Not used	Total
<20	10.9*	8.1	8.6	21.3*	19.7	19.5
20-24	14.6	12.2	12.6	26.1	22.5	23.2
25-29	18.8	15.8	16.8	31.0	27.2	28.3
30-34	20.2	18.1	18.9	32.5	29.4	30.5
35-39	25.7	19.6	21.2	38.6	31.6	33.4
40-44	22.4	20.8	21.6	35.0	33.2	33.9
45+	22.4	22.9	22.8	35.8	33.9	34.1
Total	20.1	17.5	18.2	32.4	28.8	29.7

* Cases less than 20

Source: Volume II, Tables 6.6.3A, 6.6.4

TABLE 8.20

MEAN LENGTH OF EXPOSURE AND OF INTERVAL TO CONCEPTION IN THE LAST PREGNANCY INTERVAL BY AGE AND BY WHETHER CONTRACEPTIVE METHOD WAS USED DURING THE PREGNANCY INTERVAL

Current age	Mean length of exposure		Mean length of interval to conception	
	Used	Not used	Used	Not used
<20	10.9	8.1	21.2	18.0
20-24	13.7	11.9	25.1	23.1
25-29	17.9	15.9	30.3	28.0
30-34	20.1	17.3	32.3	30.1
35-39	23.4	19.6	37.2	32.8
40-44	22.3	20.4	35.3	33.7
45+	24.2	23.2	37.8	35.1
Total	19.7	17.6	32.3	30.0

Source: Volume II, Tables 6.6.3A, 6.6.4

8.8 AGE AT MENARCHE, AND SELF-REPORTED FECUNDITY AND EXPOSURE STATUS

Topics discussed so far in this chapter are non-contraceptive factors (affecting fertility) which are specifically related to post-partum conditions or practices and inter-pregnancy intervals. Other non-contraceptive factors which are not related to inter-pregnancy conditions are age at menarche, and self-reported fecundity and exposure status.

8.8.1 Age at menarche

Age at menarche (age at first menstruation) is a biological state that marks the beginning of

a woman's fecund life. As such it is considered as the lower bound of the two biological states that delimit the span of a woman's fertility potential - the upper bound of the span being the age at menopause. The age at menarche is believed to be influenced by the nutritional status of the woman in particular.

In the GFS information was collected on the age at menarche by asking the question: "How old were you when you had your first menstrual period?" Data in Table 8.21 show that for about 85 per cent of the women menarche reportedly occurred between ages 14 and 16 years. The overall mean age at menarche was 14.9 years, and as shown in the table the mean age was constant at 15.0 years for the majority of the age groups.

8.8.2 Self-reported fecundity status

Information relating to the woman's own perception of her fecundity status was also obtained from the question:

"As far as you know, is it physically possible for you and your husband to have a child, supposing you wanted one?"

If the answer was "no" the respondent was asked whether she thought she was at menopause. The proportion of women who reported themselves as fecund is 79.0 per cent, and 11.2 per cent were not certain whether they were fecund or not. The proportion who were not at menopause but reported themselves as infecund was 5.5 per cent while those who were at menopause and reported themselves as infecund constituted 3.8 per cent. A further 0.5 per cent were sterilized and 0.1 per cent were not yet at menarche. As expected the level of self-reported infecundity increases generally with age although the increases do not show a smooth trend for the older ages (Table 8.22). The proportions uncertain about their fecundity status are also high, particularly for women aged 40-44 who are reaching the menopause. The proportions of women who are infecund but are not at menopause are also high from age 40 but do not show any systematic trend with age.

8.9 SUMMARY

The main objective in this chapter is to present the data obtained from the GFS on levels and differentials in non-contraceptive factors which affect fertility. A further objective was to use the data on these factors to estimate the length of the inter-pregnancy intervals with particular reference to the last closed and the open pregnancy intervals. The factors discussed are breastfeeding, post-partum amenorrhoea, post-partum abstinence and separation of spouses.

As the analysis has shown, breastfeeding is universal in Ghana, with only 0.5 per cent of the women reporting that they never breastfed their penultimate child and only 2 per cent reporting that they never breastfed their last child. Breastfeeding is also prolonged, with a mean duration of 15 months, and differentials in duration by socio-economic background are also significant. The duration of post-partum amenorrhoea is shown to be

TABLE 8.21

PERCENTAGE DISTRIBUTION OF WOMEN ACCORDING TO AGE AT MENARCHE BY CURRENT AGE

Current age	Age at menarche											Mean
	10	11	12	13	14	15	16	17	18	19	20	
15	0.0	0.0	1.8	12.6	37.7	46.6	1.3	0.0	0.0	0.0	0.0	14.3
16	0.4	0.0	1.7	5.1	22.6	60.4	9.8	0.0	0.0	0.0	0.0	14.7
17	0.4	0.0	2.6	4.7	18.0	51.5	20.6	1.7	0.4	0.0	0.0	14.9
18	0.3	0.3	2.1	4.2	19.4	45.3	25.3	2.1	1.0	0.0	0.0	15.0
19	0.0	0.4	1.3	7.5	17.7	44.7	23.0	4.0	0.9	0.0	0.4	15.0
20-24	0.4	0.3	2.9	4.7	18.9	45.1	20.2	4.4	2.2	0.5	0.3	15.0
25-29	0.1	0.3	2.2	6.6	17.5	47.6	18.3	4.4	1.9	0.7	0.4	15.0
30-34	1.1	0.1	2.0	5.5	19.3	46.0	19.0	4.1	2.3	0.1	0.4	14.9
35-39	0.6	0.5	2.4	5.2	17.3	46.8	21.3	2.5	2.7	0.3	0.3	15.0
40-44	0.6	0.4	2.2	4.1	16.9	48.0	20.1	3.3	3.5	0.2	0.6	15.0
45+	0.0	1.0	3.4	3.9	18.0	45.6	21.1	2.6	3.6	0.0	0.8	15.0
Total	0.4	0.3	2.4	5.5	19.2	47.1	19.1	3.3	2.1	0.3	0.3	14.9
Cumultive percentage	100.0	99.6	99.3	96.9	91.4	72.2	25.1	6.0	2.7	0.6	0.3	

Source: Volume II, Table 6.7.1

TABLE 8.22

PERCENTAGE DISTRIBUTION OF ALL CURRENTLY MARRIED WOMEN ACCORDING TO SELF-REPORTED FECUNDITY STATUS BY CURRENT AGE

Current age	Self-reported fecundity status						
	Fecund	Uncertain	Infecund not menopausal	Infecund menopausal	Sterilized	Menarche not yet reached	Number of women
<20	93.2	6.8	0.0	0.0	0.0	0.0	368
20-24	93.0	6.2	0.8	0.0	0.0	0.1	926
25-29	90.1	8.3	1.5	0.0	0.1	0.0	916
30-34	85.1	11.4	3.0	0.3	0.0	0.1	734
35-39	71.5	15.0	9.3	2.7	1.4	0.0	632
40	54.7	21.0	16.4	7.5	0.5	0.0	214
41	59.3	22.0	13.6	1.7	3.4	0.0	59
42	57.0	20.4	11.8	8.6	1.1	1.1	93
43	41.7	18.3	16.7	20.0	3.3	0.0	60
44	47.2	20.8	13.9	16.7	1.4	0.0	72
45	47.3	17.1	18.6	16.3	0.8	0.0	129
46	31.9	14.5	18.8	33.3	1.4	0.0	69
47	41.7	19.4	16.7	22.2	0.0	0.0	36
48	32.4	19.1	10.3	36.8	1.5	0.0	68
49	23.3	11.7	26.7	36.7	1.7	0.0	60
Total	79.0	11.2	5.5	3.8	0.5	0.1	4436

Source: Volume II, Table 6.7.2

closely related to length of breastfeeding. Post-partum abstinence is however not as closely related to breastfeeding or to amenorrhoea as the latter is to breastfeeding because women generally resumed sexual relations before breastfeeding ended or before the state of amenorrhoea was over. However socio-economic background differentials in duration of abstinence are very significant, emphasising the role of social and cultural factors in determining the duration of post-partum abstinence. Marriages are also shown to be generally stable in Ghana with only 13 per cent of the women reporting that they were not continuously married throughout the closed pregnancy interval, and in the cases where there were separations between spouses for periods of more than 3 months the mean duration of the separations was less than 7 days. The net effect of these factors gave the mean length of the last closed pregnancy interval - up to the beginning of the next pregnancy - as 30 months.

Due attention has however been called to the limitations of the data collected in the survey and problems inherent in the analysis of data on the topics which have been discussed. A more in-depth analysis of the data is therefore needed for a clearer understanding of the inter-relationship of the factors studied and their individual as well as their joint effects in regulating fertility in Ghana.

CHAPTER 9

CONCLUSIONS

In this brief chapter we summarise the most important findings of the survey. This is a useful means of underlining the significance of these results, which may be lost sight of in the detailed discussion presented in the preceding chapters.

The current level of fertility in Ghana is high: the total fertility rate for the five-year period before the survey was 6.5 children, and women aged 45-49 had, on the average, 6.7 children.

Sterility is very low in Ghana - only 2.1 per cent of ever-married women aged 45-49 had never had a child. However the pace of childbearing at young ages is not extremely high, with 79 per cent of 15-19 year-olds and 24 per cent of 20-24 year-olds being childless.

Comparison of GFS data with two earlier sources (the 1960 Post Enumeration Survey and the 1971 Supplementary Enquiry) showed that Ghana has had consistently high fertility, since women aged 45-49 had at least 6 children in all three enquiries, and approaching 6.9 children in the two most recent studies, in 1971 and 1979. However retrospective data from the GFS suggest that while at the national level fertility has remained more or less stable at about 7 children per woman, until at least the early to mid-1970s, a small decline seems to have occurred in the last five years before the survey, a decline of about 0.6 child. This finding must await confirmation by the detailed evaluation of data quality; but if it is true, it is a very important result, since Ghana will probably be the first sub-Saharan country to experience a fertility decline.

A small proportion of women report pre-marital births: 8 per cent of all women who had been married for five or more years did so. The proportion was much higher for women who married at older ages, however, since 20 per cent of those who first married at age 25 or older reported a premarital birth. Women who married at older ages also had a shorter first birth interval on average, with about 19 months for those marrying above age 22, compared to about 25 months for those marrying between ages 15 and 21, and a higher number of children in the first five years of marriage. Nevertheless, marriage at very young ages is associated with a larger completed family size. Among 45-49 year-olds those who married under age 15 have 2.9 children more than their counterparts who married at age 25 or above.

Fertility differentials among the socio-economic subgroups are substantial in many cases. As expected, fertility decreases consistently with increasing size of place of residence: the total fertility rate for ages 15-44 is 6.65 children for rural residents, 5.96 for women in urban areas and 5.36 for women in large urban areas. In general increasing level of education is associated with lower fertility, most definitely for the two highest levels, 7-10 and 11+ years of education: the total fertility rate declines from 6.75 children for women with no education to 6.61 for those with 1-6 years' schooling, 5.58 for 7-10 years' schooling and 3.94 for women with 11 or more years in school. Regional and ethnic differences are also substantial. The region with highest fertility is Northern (TFR = 7.86) although Western and Central are also quite high (about 7.1). Greater Accra has the lowest level (5.18 children) and Upper region is also quite low (5.75). The other Akan ethnic groups have a noticeably higher level of fertility than all other ethnic groups (TFR = 7.29, while most other groups average about 6.3 to 6.5 children).

Data from the GFS show that infant and child mortality have declined steadily from the 1950s to the 1960s, from 111 to 79 (IMR) and from 114 to 72 (child mortality) and remained more or less the same from the 1960s to the time of the survey. Comparison of the GFS retrospective estimate of infant mortality for 1971 (78) with indirect estimates based on the 1971 Enquiry (121) suggest that the GFS may have underestimated the level of infant mortality, but it is also possible that over-estimation by the indirect methods occurred. This is an area where more detailed analysis needs to be carried out.

The median age at first marriage is 17.5 years, while the mean age is 18.5 years. There is little variation among age groups, indicating that on the whole, the age at first marriage has not changed over the years. However, more educated girls marry later, suggesting that the future trend may be a generally higher age at marriage, as education continues to rise. Although 28 per cent of first marriages were dissolved, most of these women remarried, with the result that 90 per cent of ever-married women were currently married at the time of the survey, and on the average 94 per cent of time since first marriage was spent in the married state. About two-thirds of women were in monogamous unions, and, contrary to popular belief, only one-third had one or more co-wives. Polygamy was more common among the less educated (40 per cent), in Upper, Northern and Volta regions (40 to 56 per cent), among

the Muslim and traditional religious groups (45 to 47 per cent) and among the Mole-Dagbani and other minority groups (45 to 49 per cent).

The GFS data show that Ghanaian women prefer large families, the average total number desired being six children. The overall percentage of women who desire to stop childbearing is only 12 per cent. Even among women with eight or more living children, about half of them want more children. Education does make some difference to preferences for children: as education rises the total number of children desired falls. This may mean that as education increases in Ghana, fertility will fall, if these preferences are maintained and are expressed in actual childbearing. Furthermore it is important to note that over half of the women who want more children do want to space them at intervals of a few years, and if this preference were also met, this could reduce fertility substantially.

With regard to contraception, the GFS shows that even though knowledge of methods is quite high (68 per cent know at least one method), ever-use and current use are comparatively very low for a country where an official contraceptive programme has been operating for about 10 years: 38 per cent of all women had ever-used a method, and only 12.4 per cent of exposed women (married, fecund and not pregnant) were currently using a method. Furthermore of those who have never used a method only a negligible proportion (18 per cent) intend to use a method in the future. Knowledge of sources of family planning supply is much lower than knowledge of methods of contraception, and actual attendance at such sources is even less prevalent. About 44 per cent of ever-married women know of one or more sources, but only about 13 per cent attended a source in the last 12 months.

The most popular methods in use are abstinence (26 per cent had used it at some time and 4 per cent were currently using this method, not including post-partum abstainers) and the pill (11 per cent had used it at some time, and 3 per cent were currently using this method). Rhythm and other female scientific methods had also been used by a fairly large proportion of women (9 and 8 per cent, respectively) although only 1 and 2 per cent, respectively, were currently using these methods.

There are substantial variations in contraceptive use for women with different levels of education. The proportion who had ever used any method increased from 29 per cent, for the "no schooling" group, to 41 and 47 per cent respectively for the groups with 1-6 and 7-10 years' education, and further to 71 per cent for the group with 11+ years' education. Rural women were slightly less likely to have ever used - 37 per cent had done so - than urban residents 40 to 41 per cent of whom had used a method. Differences in the proportion currently using were equally large for the four education groups, 6, 16, 23 and 48 per cent respectively. However current use differentials were much larger than ever-use differences for the type of residence groups: only 10 per cent of rural women were using, compared to about 19 per cent of both Other Urban and Large Urban groups.

Since fertility in Ghana approximates the natural level, the results of the GFS on factors other than contraception which affect fertility are particularly interesting. The factors discussed are breastfeeding, post-partum amenorrhoea, post-partum abstinence and separation of spouses. As the analysis has shown, breastfeeding is universal in Ghana, with only 0.5 per cent of the women reporting that they never breastfed their penultimate child and only 2 per cent reporting that they never breastfed their last child. Breastfeeding is also prolonged, with a median duration of about 18 months, using the best estimate available, based on current status data, and differentials in duration by socio-economic background are also significant.

Also using current status data, the median length of amenorrhoea is about eleven months, while the median length of post-partum abstinence is about six months. Socio-economic background differentials in duration of abstinence are very significant, emphasising the role of social and cultural factors in determining the duration of post-partum abstinence. The duration of post-partum amenorrhoea is also shown to be closely related to length of breastfeeding. Post-partum abstinence is however not as closely related to breastfeeding or to amenorrhoea as the latter is to breastfeeding because women generally resumed sexual relations before breastfeeding ended or before the state of amenorrhoea was over.

Marriages are also shown to be generally stable in Ghana with only 13 per cent of women reporting that they were not continuously married throughout the last closed pregnancy interval, and in the cases where there were separations between spouses for periods of more than 3 months the mean duration of the separations was less than 7 days.

The net effect of these factors gave the mean length of the last closed pregnancy interval - up to the beginning of the next pregnancy - as 30 months. This relatively short average interval agrees well with the high level of fertility in Ghana.

At a general level, the results of the Ghana Fertility Survey are of significant importance to policy-makers, particularly in the area of social and economic development and in the formulation of population policies and programmes including family planning services and the provision of health care for mothers and children. The survey not only confirms that fertility in Ghana is high, but provides

measures of the mechanisms through which high fertility is achieved. Such data, for example, suggest that fertility may in fact rise in some subgroups, if breastfeeding declines without a sufficient compensatory rise in contraception. A further example of survey results which are useful inputs into government planning is data on regional differentials in level of fertility, contraceptive use and infant and child mortality. These are only some examples of the policy implications contained in the results of the GFS, and it is hoped that the information presented in this First Report will be examined closely by policy-makers in order to see how the results may relate to their individual areas of interest.

APPENDIX I

QUESTIONNAIRES

GHANA FERTILITY SURVEY

CENTRAL BUREAU OF STATISTICS
MINISTRY OF ECONOMIC PLANNING

GHANA FERTILITY SURVEY
QUESTIONNAIRE

HOUSEHOLD SCHEDULE

CONFIDENTIAL

Information to be used for research purposes only.

I D E N T I F I C A T I O N

NAME OF E.A. BASE: ..... E.A. NO: .....
REGION: ..... DWELLING NO: .....
TOWN/VILLAGE: ..... HOUSEHOLD NO: .....
ADDRESS OF DWELLING/COMPOUND: .....
.....
.....
.....

INTERVIEWER CALLS	1	2	3	4
DATE				
INTERVIEWER NAME				
RESULT*				

*RESULT CODES:

Completed .....1.
No competent R at home ..2.
Deferred .....3.
Refused .....4.
Dwelling vacant .....5.
Dwelling occupied but Family away.....6.
Household not found or non existent .....7.
Other (specify) _____

FOR USE OF CODERS ONLY

CARD [1][0] (1)

E.A. NO. [ ][ ][ ] (3)

HOUSEHOLD NO. [ ][ ][ ] (6)

DATE OF INTERVIEW
DAY MONTH YEAR [ ][ ][ ][ ][ ][ ] (9)

RESULT OF VISIT
1 2 3 4 [ ][ ][ ][ ] (15)

TOTAL NO. OF VISITS [ ] (19)

NO. OF H/HOLD MEMBERS [ ][ ] (20)

NO. OF ELIG. RESP. [ ] (22)

Now we would like to ask for some information about the people who usually live in your household and any other persons who slept here last night.

LINE NO.	NAMES OF USUAL RESIDENTS AND VISITORS	RELATIONSHIP	RESIDENCE		SEX	DATE OF BIRTH		AGE	ELIGIB-ILITY
	Please give me the names of the persons who usually live in your household and any other persons who slept here last night	OBTAIN THE RELATIONSHIP OF EACH PERSON LISTED	Does this person usually live here? Y/N	Did this person sleep here last night? Y/N	Is this person male or female? M/F	During which month was this person born? MONTH	During which year was this person born? YEAR	How old is he/she? WRITE AGE IN COMPLETED YEARS FOR EACH PERSON LISTED	TICK ALL WOMEN ELIGIBLE FOR INDIVIDUAL INTERVIEW
	1	2	3	4	5	6	7	8	9
01									
02									
03									
04									
05									
06									
07									
08									
09									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									

Just to make sure I have a complete listing:

1. Are there any other persons, such as small children or infants that we have not listed?

   YES ☐ (ENTER EACH IN TABLE) NO ☐

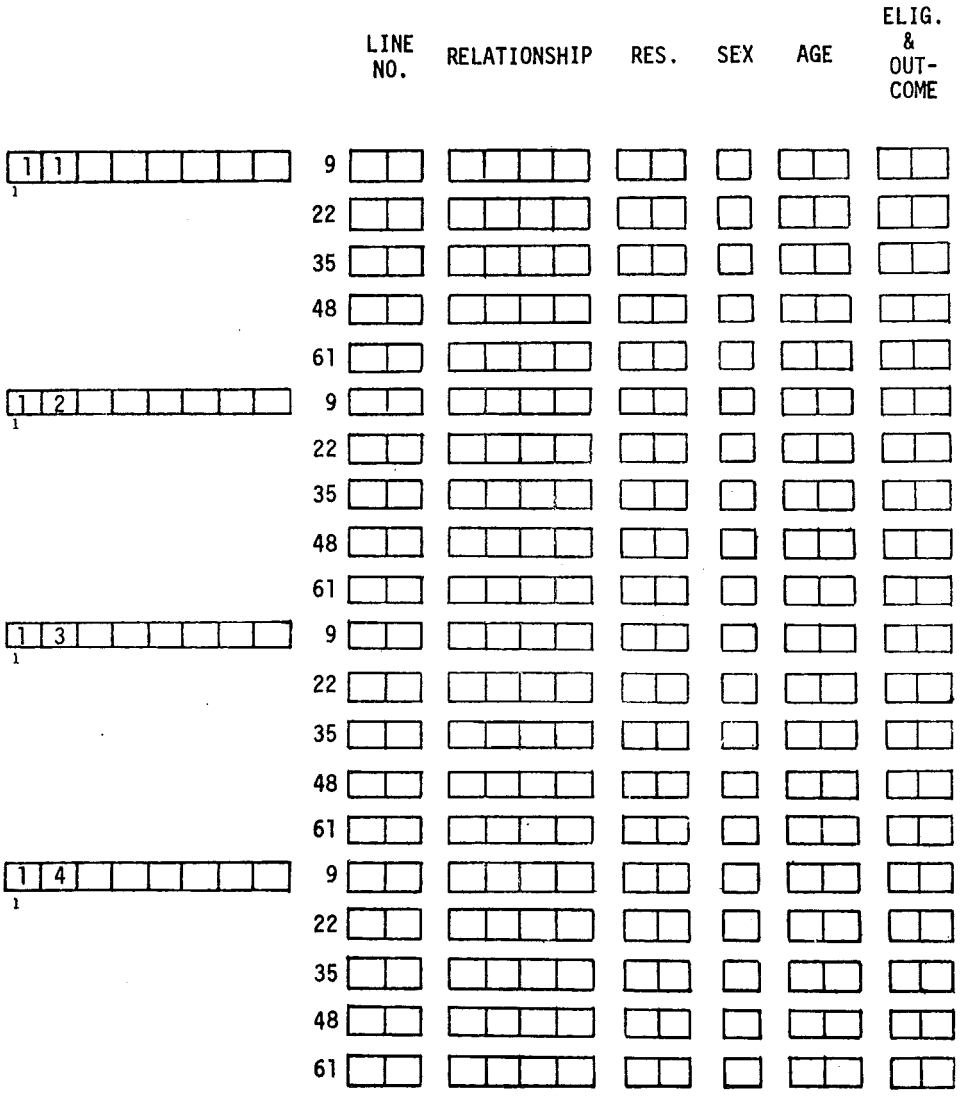
2. In addition, are there any other people who may not be members of your family, such as domestic servants, friends or lodgers who usually live here and are by definition members of your household?

   YES ☐ (ENTER EACH IN TABLE) NO ☐

3. Do you have any guests or visitors temporarily staying with you?

   YES ☐ (ENTER EACH IN TABLE) NO ☐

FOR USE OF CODERS ONLY



Now we would like to ask for some information about the people who usually live in your household and any other persons who slept here last night.

LINE NO.	NAMES OF USUAL RESIDENTS AND VISITORS	RELATIONSHIP	RESIDENCE		SEX	DATE OF BIRTH		AGE	ELIGIBILITY
	Please give me the names of the persons who usually live in your household and any other persons who slept here last night	OBTAIN THE RELATIONSHIP OF EACH PERSON LISTED	Does this person usually live here? Y/N	Did this person sleep here last night? Y/N	Is this person male or female? M/F	During which month was this person born? MONTH	During which year was this person born? YEAR	How old is he/she? WRITE AGE IN COMPLETED YEARS FOR EACH PERSON LISTED	TICK ALL WOMEN ELIGIBLE FOR INDIVIDUAL INTERVIEW
	1	2	3	4	5	6	7	8	9
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									

Just to make sure I have a complete listing:

1. Are there any other persons, such as small children or infants that we have not listed?

   YES ☐ (ENTER EACH IN TABLE) NO ☐

2. In addition, are there any other people who may not be members of your family, such as domestic servants, friends or lodgers who usually live here and are by definition members of your household?

   YES ☐ (ENTER EACH IN TABLE) NO ☐

3. Do you have any guests or visitors temporarily staying with you?

   YES ☐ (ENTER EACH IN TABLE) NO ☐

FOR USE OF CODERS ONLY

	LINE NO.	RELATIONSHIP	RES.	SEX	AGE	ELIG. & OUT-COME
15	9					
	22					
	35					
	48					
	61					
16	9					
	22					
	35					
	48					
	61					
17	9					
	22					
	35					
	48					
	61					
18	9					
	22					
	35					
	48					
	61					

IF CONTINUATION SHEET USED
CIRCLE HERE

AGE PROBES FOR ALL WOMEN AGED 10 OR MORE WHO SLEPT IN HOUSEHOLD LAST NIGHT

	LINE NO: _____	LINE NO: _____	LINE NO: _____
1. Is date of birth known? SUBTRACT ANSWER FROM CURRENT DATE. PROBE ANY INCONSISTENCY WITH STATED AGE.	1. MONTH YEAR D.K. ☐ ↓	1. MONTH YEAR D.K. ☐ ↓	1. MONTH YEAR D.K. ☐ ↓
2. Are any relevant documents such as birth certificates, baptismal certificates, or other documents available on which date of birth is stated? IF YES ASK TO SEE IT AND THEN SUBTRACT DATE OF BIRTH FROM CURRENT DATE.	2. YES ☐ NO ☐ ↓	2. YES ☐ NO ☐ ↓	2. YES ☐ NO ☐ ↓
3. USE LIST OF HISTORICAL EVENTS Can the woman's age be estimated from the list of historical events? IF YES ESTIMATE CURRENT AGE	3. YES ☐ NO ☐ ↓	3. YES ☐ NO ☐ ↓	3. YES ☐ NO ☐ ↓
4. Can woman's age be estimated by any important event in her own life e.g. age at marriage, birth history?	4. YES ☐ NO ☐ ↓	4. YES ☐ NO ☐ ↓	4. YES ☐ NO ☐ ↓
5. Is her age known by any member of the household? IF YES OBTAIN ANSWER FROM THAT MEMBER	5. YES ☐ NO ☐ ↓	5. YES ☐ NO ☐ ↓	5. YES ☐ NO ☐ ↓
6. Was age of the woman estimated by the interviewer? YES ☐ NO ☐	6. IF YES STATE HOW AGE WAS ESTIMATED _____ _____	6. IF YES STATE HOW AGE WAS ESTIMATED _____ _____	6. IF YES STATE HOW AGE WAS ESTIMATED _____ _____

INDIVIDUAL CORE QUESTIONNAIRE

INDIVIDUAL CORE QUESTIONNAIRE
(for women 15-49 years of age)

2 1
1

IDENTIFICATION	
NAME OF E.A. BASE:	E.A. NO: .....
REGION:	DWELLING NO: .....
TOWN/VILLAGE:	HOUSEHOLD NO: .....
ADDRESS OF DWELLING/COMPOUND:	
.....	
LINE NO. OF E.R.:	
NAME OF E.R.:	

3

6

9

Interview calls	1	2	3
Date			
Interviewer name			
Time started			
Time ended			
Duration			
Result*			
Next visit: Date Time			

11

12 14 16

18

20

23

*RESULT CODES:
Completed.....1
Not at home.....2
Deferred.....3
Refused.....4
Partly completed....5
Other.....6
(SPECIFY)

SCRUTINIZED ☐
Name:.....
Date:.....

SPOT-CHECKED ☐
Name:.....
Date:.....

LISTENED ☐
Name:.....
Date:.....

RE-INTERVIEWED ☐
Name:.....
Date:.....

TAPE RECORDED ☐

24

25

26

27

28

3 1

SECTION I. RESPONDENT'S BACKGROUND

LOCATION OF INTERVIEW ______________
(TOWN/VILLAGE)

101. Do you live in this house/compound? 11

YES [1] NO [2]

102. Do you live in ______________ ?
(TOWN/VILLAGE) 12

YES [1] NO [2]

103. Where do you live? ______________
(TOWN/VILLAGE)

INTERVIEWER: CIRCLE APPROPRIATE BOX BELOW AND ENTER REGION

____
(REGION) 13

VILLAGE	TOWN	ACCRA-TEMA KUMASI SEKONDI/TAKORADI
[1]	[2]	[3]

15

104. Have you lived in ______________ since you were born?
(TOWN/VILLAGE) 16

YES [1] NO [2]

105. What kind of area would you say (this, that) was when you were growing up, say, to age 12? Was it a village or a town?

106. In what kind of area did you live mostly when you were growing up, say, to age 12? Was it a village or a town?

VILLAGE	TOWN	ACCRA-TEMA KUMASI SEKONDI/TAKORADI
[1]	[2]	[3]

17

107. How old are you? ______________
(IN COMPLETED YEARS) 18

108. Do you know your date of birth? 20

YES [1] NO [2]
(SKIP TO 110)

109. In what month and year were you born? 21

______ ______
(MONTH) (YEAR)

INTERVIEWER: PROBE AND CORRECT ANY INCONSISTENCY BETWEEN 107 AND 109

110. (a) INTERVIEWER: SEE AGE PROBE SHEET.

AGE OR YEAR OF BIRTH ESTIMATED [1] AGE OR YEAR OF BIRTH NOT ESTIMATED [2] (SKIP TO 111) 25

(b) INTERVIEWER: SPECIFY HOW AGE OR YEAR OF BIRTH WAS ESTIMATED. 26

____

____

111. Have you ever attended school?

YES [1] NO [2] (SKIP TO 115) — [ ] 27

112. What was the highest level of school you attended?

PRIMARY [1] MIDDLE [2]
SECONDARY [3] COMMERCIAL/ TECHNICAL [4]
TEACHER'S TRAINING (POST-MIDDLE) [5] UNIVERSITY OR ADVANCED/ SPECIALIST/ POST-SEC TRAINING [6]
OTHER _____ (SPECIFY)

[ ] 28

113. What was the highest (standard, form, years) you completed at that level?

_____ (SPECIFY) — [ ] 29

114. INTERVIEWER: SEE 112

PRIMARY [1] MIDDLE SCHOOLING AND ABOVE [2] (SKIP TO 117) — [ ] 30

115. Have you ever attended an adult literacy class?

YES [1] NO [2] — [ ] 31

116. Can you read - say a letter, newspaper or magazine in any language?

YES [1] NO [2] — [ ] 32

117. What is your ethnic origin?

_____ (SPECIFY) — [ ][ ] 33

118. What is your religion?

CHRISTIAN [1] MOSLEM [2] TRADITIONAL [3] (SKIP TO SEC.2)
NO RELIGION [4] (SKIP TO SEC.2)
OTHER _____ (SPECIFY) [5] (SKIP TO SEC.2) — [ ] 35

119. What is your denomination or sect?

_____ (SPECIFY) — [ ][ ] 36

SECTION 2

MATERNITY HISTORY

201. We should like to get a complete record of all the children you have actually given birth to in all your life. Have you ever given birth to any children?

YES [1] (SKIP TO 203) NO [2] ☐ 38

202. Have you given birth to any children who have died?
PROBE: Have you given birth to any child who cried at birth or showed any sign of life and later died even if the child lived for only a short time?

YES [1] (SKIP TO 212) NO [2] (SKIP TO 214) ☐ 39

203. Do you have any sons you have given birth to who are now living with you in this household?

YES [1] NO [2] (SKIP TO 205) ☐ 40

204. How many live with you? _____ (NUMBER) ☐☐ 41

205. Do you have any sons you have given birth to who do not live with you in this household?

YES [1] NO [2] (SKIP TO 207) ☐ 43

206. How many do not live with you? _____ (NUMBER) ☐☐ 44

207. Do you have any daughters you have given birth to who are now living with you in this household?

YES [1] NO [2] (SKIP TO 209) ☐ 46

208. How many live with you? _____ (NUMBER) ☐☐ 47

209. Do you have any daughters you have given birth to who do not live with you in this household?

YES [1] NO [2] (SKIP TO 211) ☐ 49

210. How many do not live with you? _____ (NUMBER) ☐☐ 50

211. Have you given birth to any children who have died?

IF YES ASK 212 AND ENTER NUMBERS AND THEN PROBE.

INTERVIEWER PROBE: Have you ever given birth to any (other) boy or (other) girl who cried at birth or showed any sign of life and later died even if the child lived for only a short time?

IF YES ASK 212 AND ENTER NUMBER

YES [1] NO [2] (SKIP TO 213) [ ] 52

212. How many of your children have died?

BOYS _____ (NUMBER) [ ] 53

GIRLS _____ (NUMBER) [ ] 54

213. INTERVIEWER: SUM ANSWERS TO 204, 206, 208, 210, 212 AND ENTER TOTAL HERE: _____ (SUM) [ ][ ] 55

NOW ASK:

Just to make sure I have this right, you have had

_____ children.
(SUM)

Is that correct?

YES [ ] NO [ ]

(PROBE AND CORRECT RESPONSES AS NECESSARY AND THEN PROCEED TO 214)

214. Are you now pregnant?

YES [1] NO [2] (SKIP TO 217) D.K. [3] (SKIP TO 217) [ ] 57

215. For how many months have you been pregnant?

_____ (MONTHS) [ ][ ] 58

216. Would you prefer to have a boy or a girl?

BOY [1] GIRL [2] EITHER UNDECIDED [3] [ ] 60

[4] OTHER ANSWER _____ (SPECIFY)

217. INTERVIEWER: SEE 213, 214

NO LIVE-BIRTH REPORTED AND NOT CURRENTLY PREGNANT [1] → 218

LIVE-BIRTH(S) REPORTED OR CURRENTLY PREGNANT [2] → 219

[ ] 61

218. Have you ever been pregnant? (IF NO, PROBE: I mean have you ever had a pregnancy that lasted for just a few weeks or a few months)?

YES [1] → 220 NO [2] (SKIP TO 222)

219. In addition to the time(s) you have told me about, have there been any other times you were pregnant? (IF NO, PROBE: I mean have you ever had a pregnancy that lasted for just a few weeks or a few months)?

YES [1] → 221 NO [2] (SKIP TO 222)

[ ] 62

220. How many times have you been pregnant?

_____ (NUMBER)

221. How many such pregnancies have you had?

_____ (NUMBER)

[ ][ ] 63

222. How old were you when you had your first menstrual period?

_____ (YEARS OLD) NOT YET STARTED [96] D.K. [98]

[ ][ ] 65

223. INTERVIEWER: SEE 213, 214, 217, 218, 219

NEVER PREGNANT [1] (SKIP TO SECTION 3)

CURRENT PREGNANCY IS FIRST ONE [2] (SKIP TO SECTION 3)

ALL OTHERS [3] → 224

[ ] 67

224. INTERVIEWER: SEE 213, 218, 219

HAS HAD NON-LIVE BIRTH(S) ONLY [1] (SKIP TO 236)

ONLY ONE LIVE BIRTH [2] (SKIP TO 226)

TWO OR MORE LIVE BIRTHS [3] → 225

[ ] 68

225. Now I want to ask you some questions about each of your children whether they are now alive or dead, starting with the first one you had.

PROCEED TO 226 AND ASK 227 - 234 FOR EACH CHILD, BEGINNING WITH THE FIRST. IF TWINS, CONNECT WITH A BRACKET AT THE LEFT AND COUNT AS ONE LIVE BIRTH. AFTER LISTING ALL THE CHILDREN PROCEED WITH QUESTIONS 235-244.

ASK 226 - 234 FOR ALL LIVE BIRTHS									
226 LIVE BIRTH NUMBER (Fill in)	227 What was the name of your (first, second ....) child?	228 Was that child a boy or a girl?	229 In what year was ____ (NAME OF CHILD) born?	IF DK IN 229 230 How many years ago was (NAME OF CHILD) born?	231 In what month was that child born?	IF D.K IN 229 OR 231 232 How long after (NAME OF PREVIOUS BIRTH) did you have this child?	233 Is he/she still living?	IF NO IN 233 234 How many years and months old was the child when he/she died?	235 Was there any time (STATE INTERVAL) when you were pregnant even if only for a few weeks?
☐☐	(NAME)	1 BOY 2 GIRL	19 (YEAR) 9 8 D.K →	(YEARS AGO)	(MONTH) 9 8 D.K		1 YES 2 NO →	(YEARS) + (MONTHS)	BEFORE FIRST BIRTH (USE NAME IN 227) ☐ YES ☐ NO (SKIP TO NEXT INT IF ANY)
☐☐	(NAME)	1 BOY 2 GIRL	19 (YEAR) 9 8 D.K →	(YEARS AGO	(MONTH) 9 8 D.K →	(YEARS AFTER) CHECK AGAINST PREVIOUS ANSWERS	1 YES 2 NO →	(YEARS) + (MONTHS)	BETWEEN 1ST & 2ND BIRTHS (USE NAME IN 227) ☐ YES ☐ NO (SKIP TO NEXT INT. IF ANY)
☐☐	(NAME)	1 BOY 2 GIRL	19 (YEAR) 9 8 D.K →	(YEARS AGO)	(MONTH) 9 8 D.K →	(YEARS AFTER) CHECK AGAINST PREVIOUS ANSWERS	1 YES 2 NO →	(YEARS) + (MONTHS)	BETWEEN 2ND & 3RD BIRTHS (USE NAME IN 227 ☐ YES ☐ NO (SKIP TO NEXT INT. IF ANY)

ASK 235 - 244 FOR ALL NON-LIVE BIRTHS									FOR USE OF CODERS ONLY	
236 In what year did that pregnancy end?	IF D.K IN 236 237 How many years ago did that pregnancy end?	238 In what month did that pregnancy end?	IF D.K IN 236 OR 238 239 How long after (NAME OF PREVIOUS BIRTH) did that pregnancy end?	240 How many months did that pregnancy last?	IF 7+ MONTHS IN 240 241 Did that baby cry or show any sign of life?	IF SIGN OF LIFE IN 241 242 Was it a boy or a girl?	IF 0-6 MONTHS IN 240 243 Did you or a doctor or someone else do anything to end that pregnancy because you wanted to spoil it?	244 Was there any other pregnancy (STATE INTERVAL) ?	4 1 / 1; 3; 6; 9	5 1 / 1; 3; 6; 9
19 (YEAR) 9 8 → D.K	(YEARS AGO)	(MONTH) 9 8 → D.K		(MONTHS)	YES / NO	BOY / GIRL	1 YES / 2 NO	YES (REPEAT 236-244) / NO (SKIP TO NEXT INT IF ANY)	11; 12; 14; 16	11; 13; 15; 17; 19
19 (YEAR) 9 8 → D.K	(YEARS AGO)	(MONTH) 9 8 → D.K		(MONTHS)	YES / NO	BOY / GIRL	1 YES / 2 NO	YES (REPEAT 236-244) / NO (SKIP TO NEXT INT IF ANY)	18; 20; 21; 23	21; 23; 24; 26; 28
19 (YEAR) 9 8 → D.K	(YEARS AGO)	(MONTH) 9 8 → D.K	(YEARS AFTER)	(MONTHS)	YES / NO	BOY / GIRL	1 YES / 2 NO	YES (REPEAT 236-244) / NO (SKIP TO NEXT INT IF ANY)	25; 26; 28; 30	30; 32; 34; 36
19 (YEAR) 9 8 → D.K	(YEARS AGO)	(MONTH) 9 8 → D.K	(YEARS AFTER)	(MONTHS)	YES / NO	BOY / GIRL	1 YES / 2 NO	YES (REPEAT 236-244) / NO (SKIP TO NEXT INT IF ANY)	32; 34; 35; 37	37; 39; 41; 43; 45
19 (YEAR) 9 8 → D.K	(YEARS AGO)	(MONTH) 9 8 → D.K	(YEARS AFTER)	(MONTHS)	YES / NO	BOY / GIRL	1 YES / 2 NO	YES (REPEAT 236-244) / NO (SKIP TO NEXT INT IF ANY)	39; 40; 42; 44	47; 49; 50; 52; 54
19 (YEAR) 9 8 → D.K	(YEARS AGO)	(MONTH) 9 8 → D.K	(YEARS AFTER)	(MONTHS)	YES / NO	BOY / GIRL	1 YES / 2 NO	YES (REPEAT) 236-244) / NO (SKIP TO NEXT INT IF ANY	46; 48; 49; 91	56; 58; 60; 62

ASK 226 - 234 FOR ALL LIVE BIRTHS									
226 LIVE BIRTH NUMBER (Fill in)	227 What was the name of your (first, second ....) child?	228 Was that child a boy or a girl?	229 In what year was _____ (NAME OF CHILD) born?	IF DK IN 229 230 How many years ago was (NAME OF CHILD) born?	231 In what month was that child born?	IF D.K IN 229 OR 231 232 How long after (NAME OF PREVIOUS BIRTH) did you have this child?	233 Is he/she still living?	IF NO IN 233 234 How many years and months old was the child when he/she died?	235 Was there any time (STATE INTERVAL) when you were pregnant even if only for a few weeks?
☐☐	(NAME)	1 BOY 2 GIRL	19 (YEAR) 9 8 → D.K	(YEARS AGO)	(MONTH) 9 8 → D.K	(YEARS AFTER) CHECK AGAINST PREVIOUS ANSWERS	1 YES 2 → NO	(YEARS) + (MONTHS)	BETWEEN 3RD &4TH BIRTHS (USE NAME IN 227) ☐ YES ☐ NO (SKIP TO NEXT INT IF ANY)
☐☐	(NAME)	1 BOY 2 GIRL	19 (YEAR) 9 8 → D.K	(YEARS AGO	(MONTH) 9 8 → D.K	(YEARS AFTER) CHECK AGAINST PREVIOUS ANSWERS	1 YES 2 → NO	(YEARS) + (MONTHS)	BETWEEN 4TH & 5TH BIRTHS (USE NAME IN 227) ☐ YES ☐ NO (SKIP TO NEXT INT. IF ANY)
☐☐	(NAME)	1 BOY 2 GIRL	19 (YEAR) 9 8 → D.K	(YEARS AGO	(MONTH) 9 8 → D.K	(YEARS AFTER) CHECK AGAINST PREVIOUS ANSWERS	1 YES 2 → NO	(YEARS) + (MONTHS)	BETWEEN 5TH & 6TH BIRTHS (USE NAME IN 227 ☐ YES ☐ NO (SKIP TO NEXT INT IF ANY)

ASK 235 - 244 FOR ALL NON-LIVE BIRTHS

236 In what year did that pregnancy end?	IF D.K IN 236 237 How many years ago did that pregnancy end?	238 In what month did that pregnancy end?	IF D.K IN 236 OR 238 239 How long after (NAME OF PREVIOUS BIRTH) did that pregnancy end?	240 How many months did that pregnancy last?	IF 7+ MONTHS IN 240 241 Did that baby cry or show any sign of life?	IF SIGN OF LIFE IN 241 242 Was it a boy or a girl?	IF 0-6 MONTHS IN 240 243 Did you or a doctor or someone else do anything to end that pregnancy because you wanted to spoil it?	244 Was there any other pregnancy (STATE INTERVAL)?	FOR USE OF CODERS ONLY
19 (YEAR) 9 8 → D.K	(YEARS AGO)	(MONTH) 9 8 → D.K	(YEARS AFTER)	(MONTHS)	YES / NO	BOY / GIRL	1 YES / 2 NO	YES (REPEAT 236-244) / NO (SKIP TO NEXT IN IF ANY)	4 2 → 1; 3; 6; 9 / 5 2 → 1; 3; 6; 9
19 (YEAR) 9 8 → D.K	(YEARS AGO)	(MONTH) 9 8 → D.K	(YEARS AFTER)	(MONTHS)	YES / NO	BOY / GIRL	1 YES / 2 NO	YES (REPEAT 236-244) / NO (SKIP TO NEXT IN IF ANY)	11; 12 14; 16 / 11; 13 15; 17; 19
19 (YEAR) 9 8 → D.K	(YEARS AGO)	(MONTH) 9 8 → D.K	(YEARS AFTER)	(MONTHS)	YES / NO	BOY / GIRL	1 YES / 2 NO	YES (REPEAT 236-244) / NO (SKIP TO NEXT IN IF ANY)	18; 20; 21 23 / 21; 23; 24; 26 28
19 (YEAR) 9 8 → D.K	(YEARS AGO)	(MONTH) 9 8 → D.K	(YEARS AFTER)	(MONTHS)	YES / NO	BOY / GIRL	1 YES / 2 NO	YES (REPEAT 236-244) / NO (SKIP TO NEXT IN IF ANY)	25; 26 28; 30 / 30; 32; 34; 36
19 (YEAR) 9 8 → D.K	(YEARS AGO)	(MONTH) 9 8 → D.K	(YEARS AFTER)	(MONTHS)	YES / NO	BOY / GIRL	1 YES / 2 NO	YES (REPEAT 236-244) / NO (SKIP TO NEXT IN IF ANY)	32; 34; 35 37 / 37; 39 41; 43; 45
19 (YEAR) 9 8 → D.K	(YEARS AGO)	(MONTH) 9 8 → D.K	(YEARS AFTER)	(MONTHS)	YES / NO	BOY / GIRL	1 YES / 2 NO	YES (REPEAT 236-244) / NO (SKIP TO NEXT IN IF ANY)	39; 40 42; 44 / 47; 49; 50; 52 54
19 (YEAR) 9 8 → D.K	(YEARS AGO)	(MONTH) 9 8 → D.K	(YEARS AFTER)	(MONTHS)	YES / NO	BOY / GIRL	1 YES / 2 NO	YES (REPEAT) 236-244 / NO (SKIP TO NEXT IN IF ANY)	46; 48; 49 51 / 56; 58; 60; 62

ASK 226 - 234 FOR ALL LIVE BIRTHS									
226 LIVE BIRTH NUMBER (Fill in)	227 What was the name of your (first, second ....) child?	228 Was that child a boy or a girl?	229 In what year was (NAME OF CHILD) born?	IF DK IN 229 230 How many years ago was (NAME OF CHILD) born?	231 In what month was that child born?	IF D.K IN 229 OR 231 232 How long after (NAME OF PREVIOUS BIRTH) did you have this child?	233 Is he/she still living?	IF NO IN 233 234 How many years and months old was the child when he/she died?	235 Was there any time (STATE INTERVAL) when you were pregnant even if only for a few weeks?
☐☐	(NAME)	1 BOY 2 GIRL	19 (YEAR) 9 8 D.K →	(YEARS AGO)	(MONTH) 9 8 D.K →	(YEARS AFTER) CHECK AGAINST PREVIOUS ANSWERS	1 YES 2 NO →	(YEARS) + (MONTHS)	BETWEEN 6TH & 7TH BIRTHS (USE NAME IN 227) ☐ YES ☐ NO (SKIP TO NEXT INT IF ANY)
☐☐	(NAME)	1 BOY 2 GIRL	19 (YEAR) 9 8 D.K →	(YEARS AGO	(MONTH) 9 8 D.K →	(YEARS AFTER) CHECK AGAINST PREVIOUS ANSWERS	1 YES 2 NO →	(YEARS) + (MONTHS)	BETWEEN 7TH & 8TH BIRTHS (USE NAME IN 227) ☐ YES ☐ NO (SKIP TO NEXT INT. IF ANY)
☐☐	(NAME)	1 BOY 2 GIRL	19 (YEAR) 9 8 D.K →	(YEARS AGO)	(MONTH) 9 8 D.K →	(YEARS AFTER) CHECK AGAINST PREVIOUS ANSWERS	1 YES 2 NO →	(YEARS) + (MONTHS)	BETWEEN 8TH & 9TH BIRTHS (USE NAME IN 227 ☐ YES ☐ NO (SKIP TO NEXT INT. IF ANY)

ASK 235 - 244 FOR ALL NON-LIVE BIRTHS									FOR USE OF CODERS ONLY	
236 In what year did that pregnancy end?	IF D.K. IN 236 237 How many years ago did that pregnancy end?	238 In what month did that pregnancy end?	IF D.K IN 236 OR 238 239 How long after (NAME OF PREVIOUS BIRTH) did that pregnancy end?	240 How many months did that pregnancy last?	IF 7+ MONTHS IN 240 241 Did that baby cry or show any sign of life?	IF SIGN OF LIFE IN 241 242 Was it a boy or a girl?	IF 0-6 MONTHS IN 240 243 Did you or a doctor or someone else do anything to end that pregnancy because you wanted to spoil it?	244 Was there any other pregnancy (STATE INTERVAL)?	4 3 / 1 / 3 / 6 / 9	5 3 / 1 / 3 / 6 / 9
19 (YEAR) 98 → D.K	(YEARS AGO)	(MONTH) 98 → D.K	(YEARS AFTER)	(MONTHS)	YES / NO	BOY / GIRL	1 YES / 2 NO	YES (REPEAT 236-244) / NO (SKIP TO NEXT INT IF ANY)	11 / 12 / 14 / 16	11 / 13 / 15 / 17 / 19
19 (YEAR) 98 → D.K	(YEARS AGO)	(MONTH) 98 → D.K	(YEARS AFTER)	(MONTHS)	YES / NO	BOY / GIRL	1 YES / 2 NO	YES (REPEAT 236-244) / NO (SKIP TO NEXT INT IF ANY)	18 / 20 / 21 / 23	21 / 23 / 24 / 26 / 28
19 (YEAR) 98 → D.K	(YEARS AGO)	(MONTH) 98 → D.K	(YEARS AFTER)	(MONTHS)	YES / NO	BOY / GIRL	1 YES / 2 NO	YES (REPEAT 236-244) / NO (SKIP TO NEXT INT IF ANY)	25 / 26 / 28 / 30	30 / 32 / 34 / 36
19 (YEAR) 98 → D.K	(YEARS AGO)	(MONTH) 98 → D.K	(YEARS AFTER)	(MONTHS)	YES / NO	BOY / GIRL	1 YES / 2 NO	YES (REPEAT 236-244) / NO (SKIP TO NEXT INT IF ANY)	32 / 34 / 35 / 37	37 / 39 / 41 / 43 / 45
19 (YEAR) 98 → D.K	(YEARS AGO)	(MONTH) 98 → D.K	(YEARS AFTER)	(MONTHS)	YES / NO	BOY / GIRL	1 YES / 2 NO	YES (REPEAT 236-244) / NO (SKIP TO NEXT INT IF ANY)	39 / 40 / 42 / 44	47 / 49 / 50 / 52 / 54
19 (YEAR) 98 → D.K	(YEARS AGO)	(MONTH) 98 → D.K	(YEARS AFTER)	(MONTHS)	YES / NO	BOY / GIRL	1 YES / 2 NO	YES (REPEAT) 236-244) / NO (SKIP TO NEXT INT IF ANY)	46 / 48 / 49 / 51	56 / 58 / 60 / 62

ASK 226 - 234 FOR ALL LIVE BIRTHS									
226 LIVE BIRTH NUMBER (Fill in)	227 What was the name of your (first, second ....) child?	228 Was that child a boy or a girl?	229 In what year was (NAME OF CHILD) born?	IF DK IN 229 230 How many years ago was (NAME OF CHILD) born?	231 In what month was that child born?	IF D.K IN 229 OR 231 232 How long after (NAME OF PREVIOUS BIRTH) did you have this child?	233 Is he/she still living?	IF NO IN 233 234 How many years and months old was the child when he/she died?	235 Was there any time (STATE INTERVAL) when you were pregnant even if only for a few weeks?
☐☐	(NAME)	1 BOY 2 GIRL	19 (YEAR) 9 8 D.K →	(YEARS AGO)	(MONTH) 9 8 D.K →	(YEARS AFTER) CHECK AGAINST PREVIOUS ANSWERS	1 YES 2 NO →	(YEARS) + (MONTHS)	BETWEEN 9TH & 10TH BIRTHS (USE NAME IN 227) ☐ YES ☐ NO (SKIP TO NEXT INT. IF ANY)
☐☐	(NAME)	1 BOY 2 GIRL	19 (YEAR) 9 8 D.K →	(YEARS AGO	(MONTH) 9 8 D.K →	(YEARS AFTER) CHECK AGAINST PREVIOUS ANSWERS	1 YES 2 NO →	(YEARS) + (MONTHS)	BETWEEN 10TH & 11TH BIRTHS (USE NAME IN 227) ☐ YES ☐ NO (SKIP TO NEXT INT. IF ANY)
☐☐	(NAME)	1 BOY 2 GIRL	19 (YEAR) 9 8 D.K →	(YEARS AGO)	(MONTH) 9 8 D.K →	(YEARS AFTER) CHECK AGAINST PREVIOUS ANSWERS	1 YES 2 NO →	(YEARS) + (MONTHS)	BETWEEN 11TH & 12TH BIRTHS (USE NAME IN 227 ☐ YES ☐ NO (SKIP TO NEXT INT. IF ANY)

ASK 235 - 244 FOR ALL NON-LIVE BIRTHS

236 In what year did that pregnancy end?	IF D.K IN 236 237 How many years ago did that pregnancy end?	238 In what month did that pregnancy end?	IF D.K IN 236 OR 238 239 How long after (NAME OF PREVIOUS BIRTH) did that pregnancy end?	240 How many months did that pregnancy last?	IF 7+ MONTHS IN 240 241 Did that baby cry or show any sign of life?	IF SIGN OF LIFE IN 241 242 Was it a boy or a girl?	IF 0-6 MONTHS IN 240 243 Did you or a doctor or someone else do anything to end that pregnancy because you wanted to spoil it?	244 Was there any other pregnancy (STATE INTERVAL)?	FOR USE OF CODERS ONLY
									4 4 (1)
									(3)
									(6)
									(9)
19 (YEAR) 98→D.K	(YEARS AGO)	(MONTH) 98→D.K	(YEARS AFTER)	(MONTHS)	1 YES 2 NO	1 BOY 2 GIRL	1 YES 2 NO	YES (REPEAT 236-244) NO (SKIP TO NEXT IN IF ANY)	(11) (12) (14) (16)
19 (YEAR) 98→D.K	(YEARS AGO)	(MONTH) 98→D.K	(YEARS AFTER)	(MONTHS)	1 YES 2 NO	1 BOY 2 GIRL	1 YES 2 NO	YES (REPEAT 236-244) NO (SKIP TO NEXT IN IF ANY)	(18) (20) (21) (23)
19 (YEAR) 98→D.K	(YEARS AGO)	(MONTH) 98→D.K	(YEARS AFTER)	(MONTHS)	1 YES 2 NO	1 BOY 2 GIRL	1 YES 2 NO	YES (REPEAT 236-244) NO (SKIP TO NEXT IN IF ANY)	(25) (26) (28) (30)
19 (YEAR) 98→D.K	(YEARS AGO)	(MONTH) 98→D.K	(YEARS AFTER)	(MONTHS)	1 YES 2 NO	1 BOY 2 GIRL	1 YES 2 NO	YES (REPEAT 236-244) NO (SKIP TO NEXT IN IF ANY)	(32) (34) (35) (37)
19 (YEAR) 98→D.K	(YEARS AGO)	(MONTH) 98→D.K	(YEARS AFTER)	(MONTHS)	1 YES 2 NO	1 BOY 2 GIRL	1 YES 2 NO	YES (REPEAT 236-244) NO (SKIP TO NEXT IN IF ANY)	(39) (40) (42) (44)
19 (YEAR) 98→D.K	(YEARS AGO)	(MONTH) 98→D.K	(YEARS AFTER)	(MONTHS)	1 YES 2 NO	1 BOY 2 GIRL	1 YES 2 NO	YES (REPEAT) 236-244 NO (SKIP TO NEXT IN IF ANY)	(46) (48) (49) (51)

ASK 226 - 234 FOR ALL LIVE BIRTHS									
226 LIVE BIRTH NUMBER (Fill in)	227 What was the name of your (first, second ....) child?	228 Was that child a boy or a girl?	229 In what year was (NAME OF CHILD) born?	IF DK IN 229 230 How many years ago was (NAME OF CHILD) born?	231 In what month was that child born?	IF D.K IN 229 OR 231 232 How long after (NAME OF PREVIOUS BIRTH) did you have this child?	233 Is he/she still living?	IF NO IN 233 234 How many years and months old was the child when he/she died?	235 Was there any time (STATE INTERVAL) when you were pregnant even if only for a few weeks?
☐☐	(NAME)	1 BOY 2 GIRL	19 (YEAR) 98 D.K →	(YEARS AGO)	(MONTH) 98 D.K →	(YEARS AFTER) CHECK AGAINST PREVIOUS ANSWERS	1 YES 2 NO →	(YEARS) + (MONTHS)	BETWEEN 12TH & 13TH BIRTHS (USE NAME IN 227) ☐ YES ☐ NO (SKIP TO NEXT INT. IF ANY)
☐☐	(NAME)	1 BOY 2 GIRL	19 (YEAR) 98 D.K →	(YEARS AGO	(MONTH) 98 D.K →	(YEARS AFTER) CHECK AGAINST PREVIOUS ANSWERS	1 YES 2 NO →	(YEARS) + (MONTHS)	BETWEEN 13TH & 14TH BIRTHS (USE NAME IN 227) ☐ YES ☐ NO (SKIP TO NEXT INT. IF ANY)
☐☐	(NAME)	1 BOY 2 GIRL	19 (YEAR) 98 D.K →	(YEARS AGO)	(MONTH) 98 D.K →	(YEARS AFTER) CHECK AGAINST PREVIOUS ANSWERS	1 YES 2 NO →	(YEARS) + (MONTHS)	BETWEEN 14TH & 15TH BIRTHS (USE NAME IN 227 ☐ YES ☐ NO (SKIP TO NEXT INT. IF ANY)

ASK 235 - 244 FOR ALL NON-LIVE BIRTHS

236 In what year did that pregnancy end?	IF D.K IN 236 237 How many years ago did that pregnancy end?	238 In what month did that pregnancy end?	IF D.K IN 236 OR 238 239 How long after (NAME OF PREVIOUS BIRTH) did that pregnancy end?	240 How many months did that pregnancy last?	IF 7+ MONTHS IN 240 241 Did that baby cry or show any sign of life?	IF SIGN OF LIFE IN 241 242 Was it a boy or a girl?	IF 0-6 MONTHS IN 240 243 Did you or a doctor or someone else do anything to end that pregnancy because you wanted to spoil it?	244 Was there any other pregnancy (STATE INTERVAL)?	FOR USE OF CODERS ONLY
19 (YEAR) 9 8 → D.K	(YEARS AGO)	(MONTH) 9 8 → D.K	(YEARS AFTER)	(MONTHS)	YES / NO	BOY / GIRL	1 YES / 2 NO	YES (REPEAT 236-244) / NO (SKIP TO NEXT IN IF ANY)	11 12 14 16
19 (YEAR) 9 8 → D.K	(YEARS AGO)	(MONTH) 9 8 → D.K	(YEARS AFTER)	(MONTHS)	YES / NO	BOY / GIRL	1 YES / 2 NO	YES (REPEAT 236-244) / NO (SKIP TO NEXT IN IF ANY)	18 20 21 23
19 (YEAR) 9 8 → D.K	(YEARS AGO)	(MONTH) 9 8 → D.K	(YEARS AFTER)	(MONTHS)	YES / NO	BOY / GIRL	1 YES / 2 NO	YES (REPEAT 236-244) / NO (SKIP TO NEXT IN IF ANY)	25 26 28 30
19 (YEAR) 9 8 → D.K	(YEARS AGO)	(MONTH) 9 8 → D.K	(YEARS AFTER)	(MONTHS)	YES / NO	BOY / GIRL	1 YES / 2 NO	YES (REPEAT 236-244) / NO (SKIP TO NEXT IN IF ANY)	32 34 35 37
19 (YEAR) 9 8 → D.K	(YEARS AGO)	(MONTH) 9 8 → D.K	(YEARS AFTER)	(MONTHS)	YES / NO	BOY / GIRL	1 YES / 2 NO	YES (REPEAT 236-244) / NO (SKIP TO NEXT IN IF ANY)	39 40 42 44
19 (YEAR) 9 8 → D.K	(YEARS AGO)	(MONTH) 9 8 → D.K	(YEARS AFTER)	(MONTHS)	YES / NO	BOY / GIRL	1 YES / 2 NO	YES (REPEAT 236-244) / NO (SKIP TO NEXT IN IF ANY)	46 48 49 51

ASK 226 - 234 FOR ALL LIVE BIRTHS									
226 LIVE BIRTH NUMBER (Fill in)	227 What was the name of your (first, second ....) child?	228 Was that child a boy or a girl?	229 In what year was (NAME OF CHILD) born?	IF DK IN 229 230 How many years ago was (NAME OF CHILD) born?	231 In what month was that child born?	IF D.K IN 229 OR 231 232 How long after (NAME OF PREVIOUS BIRTH) did you have this child?	233 Is he/she still living?	IF NO IN 233 234 How many years and months old was the child when he/she died?	235 Was there any time (STATE INTERVAL) when you were pregnant even if only for a few weeks?
☐☐	(NAME)	1 BOY 2 GIRL	19 (YEAR) 98 D.K →	(YEARS AGO)	(MONTH) 98 D.K →	(YEARS AFTER) CHECK AGAINST PREVIOUS ANSWERS	1 YES 2 NO →	(YEARS) + (MONTHS)	BETWEEN 15TH & 16TH BIRTHS ('USE NAME IN 227) ☐ YES ☐ NO (SKIP TO NEXT INT. IF ANY)
☐☐	(NAME)	1 BOY 2 GIRL	19 (YEAR) 98 D.K →	(YEARS AGO	(MONTH) 98 D.K →	(YEARS AFTER) CHECK AGAINST PREVIOUS ANSWERS	1 YES 2 NO →	(YEARS) + (MONTHS)	BETWEEN 16TH & 17TH BIRTHS (USE NAME IN 227) ☐ YES ☐ NO (SKIP TO NEXT INT. IF ANY)
☐☐	(NAME)	1 BOY 2 GIRL	19 (YEAR) 98 D.K →	(YEARS AGO)	(MONTH) 98 D.K →	(YEARS AFTER) CHECK AGAINST PREVIOUS ANSWERS	1 YES 2 NO →	(YEARS) + (MONTHS)	BETWEEN 17TH & 18TH BIRTHS (USE NAME IN 227 ☐ YES ☐ NO (SKIP TO NEXT INT. IF ANY)

ASK 235 - 244 FOR ALL NON-LIVE BIRTHS

236 In what year did that pregnancy end?	IF D.K IN 236 237 How many years ago did that pregnancy end?	238 In what month did that pregnancy end?	IF D.K IN 236 OR 238 239 How long after (NAME OF PREVIOUS BIRTH) did that pregnancy end?	240 How many months did that pregnancy last?	IF 7+ MONTHS IN 240 241 Did that baby cry or show any sign of life?	IF SIGN OF LIFE IN 241 242 Was it a boy or a girl?	IF 0-6 MONTHS IN 240 243 Did you or a doctor or someone else do anything to end that pregnancy because you wanted to spoil it?	244 Was there any other pregnancy (STATE INTERVAL)?	FOR USE OF CODERS ONLY
19 (YEAR) 9 8 → D.K	(YEARS AGO)	(MONTH) 9 8 → D.K	(YEARS AFTER)	(MONTHS)	YES / NO	BOY / GIRL	1 YES / 2 NO	YES (REPEAT 236-244) / NO (SKIP TO NEXT INT IF ANY)	11 12 14 16
19 (YEAR) 9 0 → D.K	(YEARS AGO)	(MONTH) 9 0 → D.K	(YEARS AFTER)	(MONTHS)	YES / NO	BOY / GIRL	1 YES / 2 NO	YES (REPEAT 236-244) / NO (SKIP TO NEXT INT IF ANY)	18 20 21 23
19 (YEAR) 9 8 → D.K	(YEARS AGO)	(MONTH) 9 8 → D.K	(YEARS AFTER)	(MONTHS)	YES / NO	BOY / GIRL	1 YES / 2 NO	YES (REPEAT 236-244) / NO (SKIP TO NEXT INT IF ANY)	25 26 28 30
19 (YEAR) 9 6 → D.K	(YEARS AGO)	(MONTH) 9 0 → D.K	(YEARS AFTER)	(MONTHS)	YES / NO	BOY / GIRL	1 YES / 2 NO	YES (REPEAT 236-244) / NO (SKIP TO NEXT INT IF ANY)	32 34 35 37
19 (YEAR) 9 6 → D.K	(YEARS AGO)	(MONTH) 9 8 → D.K	(YEARS AFTER)	(MONTHS)	YES / NO	BOY / GIRL	1 YES / 2 NO	YES (REPEAT 236-244) / NO (SKIP TO NEXT INT IF ANY)	39 40 42 44
19 (YEAR) 9 8 → D.K	(YEARS AGO)	(MONTH) 9 8 → D.K	(YEARS AFTER)	(MONTHS)	YES / NO	BOY / GIRL	1 YES / 2 NO	YES (REPEAT) 236-244 / NO (SKIP TO NEXT INT IF ANY)	46 48 49 51

SECTION 3 : MARRIAGE HISTORY

6 1

301. Have you ever been married?

YES [1] NO [2] (SKIP TO 303)

11

302. Are you now married, widowed, divorced or separated?

MARRIED [1] (SKIP TO 305) WIDOWED [2] (SKIP TO 304) DIVORCED [3] (SKIP TO 304) SEPARATED [4] (SKIP TO 309)

12

303. Have you ever lived with a man as husband and wife?

YES [1] NO [2] (SKIP TO 309)

13

304. Are you now living with a man as husband and wife?

YES [1] NO [2] (SKIP TO 309)

14

305. Do you and your husband/partner live for most of the time together in the same household?

YES [1] (SKIP TO 307) NO [2]

15

306. Is he away for the time being, or do you live in different households or have you stopped living as husband and wife for good?

AWAY FOR TIME BEING [1] LIVE IN DIFFERENT HOUSEHOLDS [2] STOPPED LIVING AS HUSBAND AND WIFE FOR GOOD [3] (SKIP TO 309)

16

307. In what month and year did you and your husband/partner begin living as man and wife?

____ (MONTH) 19__ (YEAR) D.K. [98 98] (SKIP TO 309)

17

308. How old were you at that time?

____ (AGE IN COMPLETED YEARS)

21

309. INTERVIEWER: SEE 301-306

IF 1 IN 302, OR 1 IN 304 (BUT NOT 3 IN 306) CIRCLE → CURRENTLY MARRIED/ IN A UNION [1]

IF 4 IN 302, OR 2 IN 304, OR 3 IN 306 CIRCLE → WIDOWED DIVORCED, SEPARATED [2] (SKIP TO 313)

IF 2 IN 303 CIRCLE → NEVER MARRIED [3] (SKIP TO 323)

[ ] 23

310. Does your husband have other wives?

YES [1] → NO [2] (SKIP TO 312) D.K. [3] (SKIP TO 312)

[ ] 24

311. How many wives, including yourself, does he have?

_____ (NUMBER) D.K. [98]

[ ][ ] 25

312. Have you been married or lived as married more than once?

YES [1] → NO [2] (SKIP TO 318)

[ ] 27

313. How many times altogether have you been married or lived as married?

_____ (NUMBER OF MARRIAGES INCLUDING CURRENT IF ANY)

[ ] 28

INTERVIEWER: FOR EACH MARRIAGE ASK 314 - 317, THEN SKIP TO 318 (IF CURRENTLY MARRIED, THE NUMBER OF ENTRIES WILL BE ONE LESS THAN THE ANSWER TO 313).

FORMER MARRIAGES

314 In what month and year did you and your (first, second .....) husband begin living together? IF D.K. YEAR, How old were you at that time?	315 How did the marriage end?	316 IF DIVORCED OR SEPARATION. In what month and year did you stop living together? IF D.K. YEAR, How long did the marriage last?	317 IF DEATH In what month and year did he die? IF D.K. YEAR. How long did the marriage last?	6 2 (1) (3) (6) (9)
1. MONTH _____ YEAR 19 _____ D.K. 98 98 (AGE IN COMPLETED YEARS)	DEATH 1 DIVORCE 2 SEPARATION 3	MONTH _____ YEAR 19 _____ D.K. 98 98 (DURATION IN COMPLETED YEARS)	MONTH _____ YEAR 19 _____ D.K. 98 98 (DURATION IN COMPLETED YEARS)	(11) (13) (15) (17) (18) (20) (22)
2. MONTH _____ YEAR 19 _____ D.K. 98 98 (AGE IN COMPLETED YEARS)	DEATH 1 DIVORCE 2 SEPARATION 3	MONTH _____ YEAR 19 _____ D.K. 98 98 (DURATION IN COMPLETED YEARS)	MONTH _____ YEAR 19 _____ D.K. 98 98 (DURATION IN COMPLETED YEARS)	(24) (26) (28) (30) (31) (33) (35)
3. MONTH _____ YEAR 19 _____ D.K. 98 98 (AGE IN COMPLETED YEARS)	DEATH 1 DIVORCE 2 SEPARATION 3	MONTH _____ YEAR 19 _____ D.K. 98 98 (DURATION IN COMPLETED YEARS)	MONTH _____ YEAR 19 _____ D.K. 98 98 (DURATION IN COMPLETED YEARS)	(37) (39) (41) (43) (44) (46) (48)
4. MONTH _____ YEAR 19 _____ D.K. 98 98 (AGE IN COMPLETED YEARS)	DEATH 1 DIVORCE 2 SEPARATION 3	MONTH _____ YEAR 19 _____ D.K. 98 98 (DURATION IN COMPLETED YEARS)	MONTH _____ YEAR 19 _____ D.K. 98 98 (DURATION IN COMPLETED YEARS)	(50) (52) (54) (56) (57) (59) (61)

318. INTERVIEWER: SEE 309.

CURRENTLY MARRIED/ IN A UNION [1] ↓

WIDOWED, DIVORCED SEPARATED [2] (SKIP TO 323)

63

319. Are you having sexual relations with your husband these days?

YES [1] (SKIP TO 322)

NO [2] ↓

64

320. Do you expect to resume sexual relations with your husband sometime in the future?

YES [1] (SKIP TO 322)

NO [2] ↓

OTHER ANSWERS (SPECIFY) [3]

_____

_____

_____ (SKIP TO 322)

65

321. Why not?

_____

_____

_____ (SKIP TO 323)

66

322. In one week, that is in seven days, how many times do you usually have sexual relations with your husband?

_____ (NUMBER)

(ACCEPT RANGE)

68

323. INTERVIEWER: CIRCLE ALL BOXES THAT APPLY : PRESENCE OF OTHERS AT THIS POINT.

NO OTHER	0
CHILDREN UNDER 10	1
HUSBAND	2
OTHER MALES	4
OTHER FEMALES	8

72

324. VERSION OF QUESTIONNAIRE

0 1

74

SECTION 4

CONTRACEPTIVE KNOWLEDGE AND USE

401. Now I want to talk about a somewhat different topic. As you may know, there are various methods that women or men can use to delay or avoid pregnancy. Do you know of, or have heard of, any of these ways or methods?

YES [1] ↓ NO [2] (SKIP TO 405)

402. Which methods do you know of? _____

_____ (SPECIFY)

403. Do you know of any others including traditional ones?

_____ (SPECIFY)

INTERVIEWER: RECORD ANSWERS. THEN PROCEED TO COLUMN 1 AND CIRCLE THE BOXES CORRESPONDING TO THE METHODS MENTIONED. FOR EACH METHOD CIRCLED ASK THE QUESTION IN COLUMN 3 THAT APPLIES TO THAT METHOD. THEN ASK 404.

404. There are some other methods which you have not mentioned, and I would like to find out if you have heard of them.

INTERVIEWER: FOR EACH METHOD NOT CIRCLED READ THE DESCRIPTION AND ASK THE QUESTIONS IN COLUMNS 2 AND 3 THAT APPLY TO THAT METHOD THEN CONTINUE WITH 424.

405. Just to make sure, let me describe some methods to see if you have heard of them.

INTERVIEWER: FOR EACH METHOD IN THE TABLE READ THE DESCRIPTION AND ASK THE QUESTIONS IN COLUMNS 2 AND 3 THAT APPLY TO THAT METHOD THEN CONTINUE WITH 424.

COL. 1 FROM 402, 403		COL. 2 EVER HEARD OF	COL. 3 EVER USED
1 PILL	406. One way a woman can delay the next pregnancy, or avoid getting pregnant, is to take a pill every day. Have you ever heard of this method? CIRCLE RESPONSE IN COL. 2 IF YES: IF NO, GO TO NEXT ↓ UNCIRCLED METHOD Have you ever used this method? CIRCLE RESPONSE IN COL. 3	YES 2 NO 3	YES 1 NO 2
1 INJECTION	407. A woman may have an injection which will prevent her from getting pregnant. Have you ever heard of this method? CIRCLE RESPONSE IN COL. 2 IF YES: IF NO, GO TO NEXT ↓ UNCIRCLED METHOD Have you ever used this method? CIRCLE RESPONSE IN COL. 3	YES 2 NO 3	YES 1 NO 2

COL.1 FROM 402, 403		COL.2 EVER HEARD OF	COL.3 EVER USED	
1	408. A woman may have a loop or coil of plastic or metal, the intra-uterine devise (IUD), inserted in her womb by a doctor or nurse and left there. Have you ever heard of this method? I.U.D. CIRCLE RESPONSE IN COL. 2 IF YES: IF NO, GO TO NEXT UNCIRCLED METHOD ↓ Have you ever used this method? CIRCLE RESPONSE IN COL. 3	YES 2 NO 3	YES 1 NO 2	16 17
1	409. Women may also use other methods to avoid getting pregnant, such as placing a diaphragm or tampon or sponge or foam tablets such as rendells or jelly or cream in themselves before sex. OTHER FEMALE SCIEN-TIFIC Have you ever heard of any of these methods? CIRCLE RESPONSE IN COL. 2 IF YES: IF NO, GO TO NEXT UNCIRCLED METHOD ↓ Have you ever used any of these methods? CIRCLE RESPONSE IN COL. 3	YES 2 NO 3	YES 1 NO 2	18 19
1	410. Some women wash themselves immediately after sex, with water or perhaps some other liquid for the purpose of avoiding pregnancy. Have you ever heard of this method? DOUCHE CIRCLE RESPONSE IN COL. 2 IF YES: IF NO, GO TO NEXT UNCIRCLED METHOD ↓ Have you ever used this method? CIRCLE RESPONSE IN COL. 3	YES 2 NO 3	YES 1 NO 2	20 21
	411. BLANK			

COL.1 FROM 402, 403		COL.2 EVER HEARD OF	COL.3 EVER USED	
1	412. Some couples avoid having sex on particular days of the month between menstruation periods when the woman is most able to become pregnant. This is called the safe period or rhythm method. Have you ever heard of this method? CIRCLE RESPONSE IN COL. 2 IF YES: IF NO, GO TO NEXT UNCIRCLED METHOD ↓ Did you (and your husband) ever do this? CIRCLE RESPONSE IN COL. 3	YES 2 NO 3	YES 1 NO 2	22 23
RHYTHM				
1	413. Some men practise withdrawal: that is, they are careful and pull out before climax. Have you ever heard of this method? CIRCLE RESPONSE IN COL. 2 IF YES: IF NO, GO TO NEXT UNCIRCLED METHOD ↓ Did you (and your husband) ever use this method? CIRCLE RESPONSE IN COL. 3	YES 2 NO 3	YES 1 NO 2	24 25
WITH-DRAWAL				
1	414. Another way is to go without sex for several months or longer to avoid getting pregnant. Have you ever heard of this being used? CIRCLE RESPONSE IN COL. 2 IF YES: IF NO, GO TO NEXT UNCIRCLED METHOD ↓ Have you ever done this to avoid getting pregnant? CIRCLE RESPONSE IN COL. 3	YES 2 NO 3	YES 1 NO 2	26 27
ABSTAIN				
1	415. Some women have an operation called sterilization, such as having their tubes tied, in order not to have any more children. Have you ever heard of this method? CIRCLE RESPONSE IN COL. 2 IF YES: IF NO, GO TO NEXT UNCIRCLED METHOD ↓ 416. INTERVIEWER: SEE 214. CURRENTLY PREGNANT (SKIP TO NEXT UNCIRCLED METHOD) 1 NOT CURRENTLY PREGNANT/ D.K. 2 ↓ 417. Have you had such an operation in order not to have any more children? YES 1 NO 2	YES 2 NO 3		28 29 30
FEMALE STERILI-ZATION				

COL.1 FROM 402, 403		COL.2 EVER HEARD OF	COL.3 EVER USED	
1	418. Some men have an operation called vasectomy in order not to have more children. Have you heard of this method? CIRCLE RESPONSE IN COL.2 IF YES: IF NO, GO TO NEXT ↓ UNCIRCLED METHOD	YES 2 NO 3		31
MALE STERILI-ZATION	419. INTERVIEWER: SEE 309. CURRENTLY MARRIED [1] → NEVER MARRIED, SEPARATED, DIVORCED, WIDOWED [2] (SKIP TO NEXT UNCIRCLED METHOD) 420. Has your husband had such an operation? YES [1] NO [2]			32 33
1	421. Another method men use so that their wives will not get pregnant is to use a condom/durex during sex. Have you ever heard of this method?	YES 2 NO 3		34
CONDOM	**CIRCLE RESPONSE IN COL.2** **IF YES: IF NO, GO TO NEXT** **↓ UNCIRCLED METHOD** Did you (and your husband) ever use this method? **CIRCLE RESPONSE IN COL.3**		YES 1 NO 2	35

COL.1 FROM 402, 403		COL.2 EVER HEARD OF	COL.3 EVER USED	
OTHER	422. Have you ever heard of any other traditional methods including native methods which women or men use to avoid pregnancy? CIRCLE RESPONSE IN COL.2 IF YES; IF NO, SKIP TO 424 ↓ 423. What methods have you heard of? (LIST EACH METHOD BELOW)	YES 2 NO 3		36
1	423(a) SPECIFY 1. _____ ASK: Did you (and your husband) ever use this method? CIRCLE RESPONSE IN COL.3		YES 1 NO 2	37 39 40
1	423(b) SPECIFY 2. _____ ASK: Did you (and your husband) ever use this method? CIRCLE RESPONSE IN COL.3		YES 1 NO 2	41 43 44
1	423(c) SPECIFY 3. _____ ASK: Did you (and your husband) ever use this method? CIRCLE RESPONSE IN COL.3		YES 1 NO 2	45 47 48

424. INTERVIEWER: SEE 417, 420

RESPONDENT OR HUSBAND STERILIZED ☐ — RESPONDENT OR HUSBAND NOT STERILIZED ☐

425. INTERVIEWER: SEE 406-422 (COL.3)

AT LEAST ONE YES IN COL.3 IF EVER USED	☐ 1	NOT A SINGLE YES IN COL. 3 IF NEVER USED	☐ 2
(SKIP TO 433)			

AT LEAST ONE YES IN COL.3 IF EVER USED	☐ 3	NOT A SINGLE YES IN COL. 3 IF NEVER USED	☐ 4
(SKIP TO 428)			

☐ 49

426. I want to make sure that I have the correct information. Have you ever done any thing or tried in any way to delay or avoid getting pregnant?

YES ☐ — NO ☐ (SKIP TO 433)

427. What method was that?

_____ (METHOD)

INTERVIEWER: GO BACK AND CORRECT LIST OF METHODS AND 424, 425 AS APPROPRIATE THEN PROCEED WITH 428

428. INTERVIEWER: SEE 309.

CURRENTLY MARRIED ☐ 1 — NEVER MARRIED, DIVORCED, SEPARATED, WIDOWED ☐ 2 (SKIP TO 433)

☐ 50

429. INTERVIEWER: SEE 213, 214, 218-221

CURRENT PREGNANCY IS FIRST ONE ☐ 1 (SKIP TO 432) — NEVER PREGNANT ☐ 2 — ALL OTHERS ☐ 3 (SKIP TO 433)

☐ 51

430. Are you or your husband currently using a method to keep you from getting pregnant?

YES ☐ 1 — NO ☐ 2 (SKIP TO 432)

☐ 52

431. What method are you using?

_____ (METHOD)
(SKIP TO 433)

432. What was the last contraceptive method you used?

_____ (METHOD)

☐☐ 53

433. INTERVIEWER: SEE COL.1 AND COL.2 IN 406, 407, 408, 409, 415 AND 421. HEARD OF AT LEAST ONE OF THE FOLLOWING METHODS: PILL, INJECTIONS, IUD, FEMALE SCIENTIFIC, FEMALE STERILIZATION, OR CONDOM [1]

434. INTERVIEWER: CIRCLE BELOW EACH METHOD HEARD OF AND THEN ASK FOR EACH METHOD IN TURN:

From what type of places in Ghana can people get _____ (NAME OF METHOD)?

PROBE: What other type of places do you know of? CIRCLE ALL PLACES KNOWN

434(a)	434(b) OUTLET							435
METHODS	GOVERNMENT HOSPITAL/ CLINIC	PPAG/CHRISTIAN COUNCIL CLINIC	PRIVATE DOCTOR/ CLINIC	PHARMACY/SHOP	FAMILY PLANNING FIELD WORKER	MOBILE FAMILY PLANNING CLINIC	NO PLACE KNOWN/D.K.	If you yourself wanted to get (NAME OF METHOD) where would you go to get it? PROBE FOR NAME, TYPE OF OUTLET AND LOCATION.
PILL	01	02	04	08	16	32	00 SKIP TO NEXT CIRCLED METHOD	NAME (IF KNOWN) _____ TYPE OF OUTLET _____ LOCATION _____ IF 16 AND/OR 32 GO TO 438.
INJECTION	01	02	04	08	16	32	00 SKIP TO NEXT CIRCLED METHOD	NAME (IF KNOWN) _____ TYPE OF OUTLET _____ LOCATION _____ IF 16 AND/OR 32 GO TO 438.
IUD	01	02	04	08	16	32	00 SKIP TO NEXT CIRCLED METHOD	NAME (IF KNOWN) _____ TYPE OF OUTLET _____ LOCATION _____ IF 16 AND/OR 32 GO TO 438.
FEMALE SCIENTIFIC	01	02	04	08	16	32	00 SKIP TO NEXT CIRCLED METHOD	NAME (IF KNOWN) _____ TYPE OF OUTLET _____ LOCATION _____ IF 16 AND/OR 32 GO TO 438.
FEMALE STERILIZATION	01	02	04	08	16	32	00 SKIP TO NEXT CIRCLED METHOD	NAME (IF KNOWN) _____ TYPE OF OUTLET _____ LOCATION _____ IF 16 AND/OR 32 GO TO 438.
CONDOM	01	02	04	08	16	32	00 SKIP TO 440	NAME (IF KNOWN) _____ TYPE OF OUTLET _____ LOCATION _____ IF 16 AND/OR 32 GO TO 438.

NEVER HEARD OF ANY OF THESE METHODS [2]

(SKIP TO SECTION 5)

[7][2] 1

[ ][ ][ ] 3

[ ][ ][ ] 6

[ ][ ] 9

[ ] 11

436	437	438	439	
How would you normally get there?	How long would it normally take you to get there by (METHOD OF TRAVEL)?	How much do you think the method costs there?		
BUS [1] WALK [2] TAXI [3] PRIVATE CAR [4] OTHER [5]	(MINUTES) (HOURS)	COST PER CYCLE D.K. [998]	SKIP TO NEXT METHOD CIRCLED. IF 'NONE' CIRCLED, SKIP TO 440.	[ ][ ] [ ][ ] 12 14 15 [ ][ ][ ] [ ][ ][ ] 16 19
BUS [1] WALK [2] TAXI [3] PRIVATE CAR [4] OTHER [5]	(MINUTES) (HOURS)	COST PER INJECTION D.K. [998]	SKIP TO NEXT METHOD CIRCLED. IF 'NONE' CIRCLED, SKIP TO 440.	[ ][ ] [ ][ ] 22 24 25 [ ][ ][ ] [ ][ ][ ] 26 29
BUS [1] WALK [2] TAXI [3] PRIVATE CAR [4] OTHER [5]	(MINUTES) (HOURS)	COST PER INSERTION D.K. [998]	SKIP TO NEXT METHOD CIRCLED. IF 'NONE' CIRCLED, SKIP TO 440.	[ ][ ] [ ][ ] 32 34 35 [ ][ ][ ] [ ][ ][ ] 36 39
BUS [1] WALK [2] TAXI [3] PRIVATE CAR [4] OTHER [5]	(MINUTES) (HOURS)	COST PER UNIT/PKT D.K. [998]	SKIP TO NEXT METHOD CIRCLED. IF 'NONE' CIRCLED, SKIP TO 440.	[ ][ ] [ ][ ] 42 44 45 [ ][ ][ ] [ ][ ][ ] 46 49
BUS [1] WALK [2] TAXI [3] PRIVATE CAR [4] OTHER [5]	(MINUTES) (HOURS)	COST PER OPERATION D.K. [998]	SKIP TO NEXT METHOD CIRCLED. IF 'NONE' CIRCLED, SKIP TO 440.	[ ][ ] [ ][ ] 52 54 55 [ ][ ][ ] [ ][ ][ ] 56 59
BUS [1] WALK [2] TAXI [3] PRIVATE CAR [4] OTHER [5]	(MINUTES) (HOURS)	COST PER PKT OF 3 D.K. [998]	GO TO 440	[ ][ ] [ ][ ] 62 64 65 [ ][ ][ ] [ ][ ][ ] 66 69

7 3
1
9
6
9
11

440. INTERVIEWER: SEE 434(b).

NO PLACES KNOWN (SKIP TO SECTION 5) [1] ONE OR MORE PLACES KNOWN [2]

441. Have you yourself ever gone (TO ANY OF THE PLACES AND/OR PERSONS MENTIONED IN 434) to get family planning supplies?

YES [1] NO [2] (SKIP TO SECTION 5)

12

442. Have you yourself gone to any of these places/persons in the last twelve months?

YES [1] NO [2] (SKIP TO SECTION 5)

13

443. Which was the place or person that you visited most recently?

GOVERNMENT HOSPITAL/CLINIC [1]

PPAG/CHRISTIAN COUNCIL CLINIC [2]

PRIVATE DOCTOR/CLINIC [3]

PHARMACY/SHOP [4]

FAMILY PLANNING FIELD WORKER [5]

MOBILE FAMILY PLANNING CLINIC [6]

14

444. Were you satisfied with the attention you got on your last visit?

YES [1] NO [2]

15

445. How long did you wait to be attended?

_____ (HOURS) _____ (MINUTES) OTHER _____ (SPECIFY)

16

446. Will you be going to _____ (LAST PLACE OR PERSON VISITED in 443) in the future for family planning supplies?

YES [1] NO [2] (SKIP TO SECTION 5)

19

447. Why not?

_____

_____

20

SECTION 5

BIRTH INTERVALS AND FERTILITY PREFERENCES

501. BLANK

502. INTERVIEWER: SEE 214, 223.

NEVER PREGNANT [1] (SKIP TO 559)

CURRENTLY PREGNANT [2] (SKIP TO 505)

ALL OTHERS [3]

22

503. INTERVIEWER: SEE 226, 233, 235.
LAST PREGNANCY RESULTED IN:

LIVE BIRTH: CHILD ALIVE [1]

504(a) INTERVIEWER RECORD DATE OF BIRTH. PROBE DATE AGAIN IF MONTH OR YEAR NOT STATED.

(MONTH) 19 (YEAR)

OR

(YEARS AGO)

504(b) INTERVIEWER RECORD NAME AND SEX

(NAME)

BOY [1] GIRL [2]

LIVE BIRTH: CHILD DIED [2]

504(c) INTERVIEWER RECORD DATE OF BIRTH. PROBE AGAIN IF MONTH OR YEAR NOT STATED.

(MONTH) 19 (YEAR)

OR

(YEARS AGO)

504(d) INTERVIEWER RECORD NAME (IF AVAILABLE) AND SEX

(NAME)

BOY [1] GIRL [2]

504(e) INTERVIEWER RECORD AGE OF CHILD AT DEATH.

(YEARS) + (MONTHS)

NON-LIVE BIRTH [3]

504(f) INTERVIEWER RECORD DATE OF PREGNANCY TERMINATION PROBE AGAIN IF MONTH OR YEAR NOT STATED.

(MONTH) 19 (YEAR)

OR

(YEARS AGO)

504(g) INTERVIEWER RECORD LENGTH OF PREGNANCY

(MONTHS)

23

24 26

28

30

32

33 35

505. INTERVIEWER: SEE 213, 214, 218-221

CURRENT PREGNANCY IS FIRST ONE [1] (SKIP TO 559)

NOT CURRENTLY PREGNANT AND HAS HAD ONLY ONE PREGNANCY [2]

ALL OTHERS [3] (SKIP TO 509)

[ ] 37

506. INTERVIEWER: SEE 226, 233, 235.
NEXT TO LAST PREGNANCY (OR THE PREGNANCY BEFORE THE CURRENT ONE) RESULTED IN:

LIVE BIRTH CHILD ALIVE	LIVE BIRTH CHILD DIED	NON-LIVE BIRTH
[1]	[2]	[3]

[ ] 38

LIVE BIRTH CHILD ALIVE

507(a) INTERVIEWER RECORD DATE OF BIRTH PROBE DATE AGAIN IF MONTH OR YEAR NOT STATED.

_____ (MONTH) 19 _____ (YEAR)

OR

_____ (YEARS AGO)

[ ][ ][ ][ ] 39 41

[ ][ ] 43

507(b) INTERVIEWER RECORD NAME AND SEX

_____ (NAME)

BOY [1] GIRL [2]

[ ][ ] 45

[ ] 47

LIVE BIRTH CHILD DIED

507(c) INTERVIEWER RECORD DATE OF BIRTH.PROBE AGAIN IF MONTH OR YEAR NOT STATED

_____ (MONTH) 19 _____ (YEAR)

OR

_____ (YEARS AGO)

507(d) INTERVIEWER RECORD NAME (IF AVAILABLE) AND SEX

_____ (NAME)

BOY [1] GIRL [2]

507(e) INTERVIEWER RECORD AGE OF CHILD AT DEATH.

_____ (YEARS) + _____ (MONTHS)

NON-LIVE BIRTH

507(f) INTERVIEWER RECORD DATE OF PREGNANCY TERMINATION PROBE AGAIN IF MONTH OR YEAR NOT STATED.

_____ (MONTH) 19 _____ (YEAR)

OR

_____ (YEARS AGO)

507(g) INTERVIEWER RECORD LENGTH OF PREGNANCY

_____ (MONTHS)

[ ][ ][ ][ ] 48 50

OPEN INTERVAL FOR WOMEN WITH AT LEAST ONE PREGNANCY WHO ARE NOT CURRENTLY PREGNANT

8 1

508. INTERVIEWER: SEE 502

CURRENTLY PREGNANT [1] (SKIP TO 532)

NOT CURRENTLY PREGNANT OR D.K. [2]

11

509. INTERVIEWER: SEE 503. LAST PREGNANCY RESULTED IN:

LIVE BIRTH [1] NON-LIVE BIRTH [2] (SKIP TO 518)

12

510. Now I would like to ask you about several events in your life since the birth of _____ (NAME OF LAST CHILD, OR "YOUR MOST RECENT CHILD WHO LATER DIED"). Was the child delivered at home, clinic or hospital?

MATERNITY CLINIC/HOSPITAL [1] HOME [2] OTHER [3]

13

_____ (SPECIFY)

511. Who helped you to deliver the child?

TRADITIONAL MIDWIFE [1] DOCTOR/TRAINED MIDWIFE [2] OTHER [3]

14

_____ (SPECIFY)

512. Did you breast-feed _____ ?
(NAME OF LAST OR YOUR MOST RECENT CHILD)

YES [1] NO [2] (SKIP TO 516)

15

513. For how many months altogether did you breast-feed him/her?
PROBE: How many months old was he/she when you completely stopped breast-feeding him/her?

_____ (MONTHS) STILL BREAST-FEEDING [96] UNTIL HE/SHE DIED [97]

16

514. BLANK

515. How many months old was the child when you began giving him/her bottle milk or any solid food along with breast-feeding?

_____ (MONTHS)

NO ADDITIONAL BOTTLE MILK OR FOOD YET [96]

CHILD DIED BEFORE GIVEN ADDITIONAL FOOD [97]

[ ][ ] 18

516. For how many months after the birth of this child did you go without sexual relations? PROBE: How many months old was the child when you resumed sexual relations?

_____ (MONTHS)

NOT STARTED YET [96]

[ ][ ] 20

517. How many months after the birth of this child did your period come back?

_____ (MONTHS)
(SKIP TO 520)

PERIOD NOT BACK YET [96]
(SKIP TO 520)

[ ][ ] 22

518. Now I would like to ask you about several events in your life since the last time you were pregnant. For how many months after the end of this pregnancy did you go without sexual relations?

_____ (MONTHS)

NOT STARTED YET [96]

[ ][ ] 24

519. How many months after the end of this pregnancy did your period come back?

_____ (MONTHS)

PERIOD NOT BACK YET [96]

[ ][ ] 26

520. INTERVIEWER: SEE 309

CURRENTLY MARRIED [1] ↓

NEVER MARRIED
SEPARATED
DIVORCED
WIDOWED [2] (SKIP TO 532)

28

521. INTERVIEWER: SEE 425

HAS USED A CONTRACEPTIVE METHOD [1] ↓

HAS NEVER USED A CONTRACEPTIVE METHOD [2] (SKIP TO 528)

29

522. INTERVIEWER: SEE 424

NEITHER HUSBAND NOR WIFE STERILIZED [1] ↓

HUSBAND OR WIFE STERILIZED [2] (SKIP TO 532)

30

523. INTERVIEWER: SEE 516, 518

SEX RELATIONS RESUMED [1] ↓

SEX RELATIONS NOT RESUMED [2] (SKIP TO 532)

31

524. Are you or your husband currently using a method to keep you from getting pregnant?

YES [1] ↓

NO [2] (SKIP TO 526)

32

525. What method are you using?

_____ (METHOD)

(SKIP TO 528)

33

526. Have you or your husband used a contraceptive method since (the birth of _____ NAME OF LAST CHILD, last birth/pregnancy)?

YES [1] ↓

NO [2] (SKIP TO 528)

35

527. What was the last method you used?

_____ (METHOD)

36

528. Since (the birth of _____ NAME OF LAST CHILD, last birth/pregnancy) have there been any times when you and your husband were apart for three months or more for any reason?

IF NO, PROBE: Was there anytime since your last birth (or pregnancy) when your husband was away from home working or looking for work for three months or more?

YES [1] ↓ NO [2] (SKIP TO 532) [ ] 38

529. How long after (the birth of _____ NAME OF LAST CHILD, last birth/pregnancy) did the first such separation begin? [ ][ ] 39 [ ][ ] 41

___ (YEARS) + ___ (MONTHS)

530(a). Since your last birth (or pregnancy) how many months were you and your husband apart for the (first, second .....) time?	530(b). During that time were you continuously apart without seeing each other?	530(c). Since your last birth (or pregnancy) were there any other times when you and your husband were apart for three months or more?	
_____ (MONTHS)	YES [ ] → NO [ ] (PROBE AND CORRECT)	YES [1] (REPEAT 530(a)-530(c)) NO [2] (SKIP TO 531)	[ ][ ][ ] 43 45
_____ (MONTHS)	YES [ ] → NO [ ] (PROBE AND CORRECT)	YES [1] (REPEAT 530(a)-530(c)) NO [2] (SKIP TO 531)	[ ][ ][ ] 46 48
_____ (MONTHS)	YES [ ] → NO [ ] (PROBE AND CORRECT)	YES [1] (REPEAT 530(a)-530(c)) NO [2] (SKIP TO 531)	[ ][ ][ ] 49 51
_____ (MONTHS)	YES [ ] → NO [ ] (PROBE AND CORRECT)	YES [1] (REPEAT 530(a)-530(c) AND ENTER ANSWERS ON THE OPPOSITE PAGE) NO [2] (SKIP TO 531)	[ ][ ][ ] 52 54

531. Did you and your husband get together after (LAST) separation?

YES [1] NO [2] STILL AWAY [ ] 55

8 2
1

LAST CLOSED INTERVAL FOR WOMEN WITH TWO OR MORE PREGNANCIES AND CURRENTLY PREGNANT WOMEN WITH ONE OR MORE PREVIOUS PREGNANCIES

3

6

9

532. INTERVIEWER: SEE 505.

ONLY ONE PREGNANCY [1] (SKIP TO 559)

TWO OR MORE PREGNANCIES [2]

11

533. INTERVIEWER: SEE 506
NEXT TO LAST PREGNANCY (OR THE PREGNANCY BEFORE THE CURRENT) RESULTED IN:

LIVE BIRTH [1]

NON-LIVE BIRTH [2] (SKIP TO 547)

12

IF CURRENTLY PREGNANT ASK:	IF NOT CURRENTLY PREGNANT ASK:
Now I would like to ask you about several events in your life after the birth of _____ (NAME OF LAST CHILD OR "YOUR LAST BABY").	Now I would like to ask you about several events in your life after the birth of _____ (NAME OF NEXT-TO-LAST CHILD OR "YOUR NEXT-TO-LAST BABY").
Was _____ (NAME OF LAST CHILD OR "YOUR LAST BABY") delivered at home, clinic or hospital?	Was _____ (NAME OF NEXT-TO-LAST CHILD OR "YOUR NEXT-TO-LAST BABY") delivered at home, clinic or hospital?

MATERNITY CLINIC/HOSPITAL [1] HOME [2] OTHER [3]

13

_____ (SPECIFY)

535. Who helped you to deliver the child?

TRADITIONAL MIDWIFE [1] DOCTOR/ TRAINED MIDWIFE [2] OTHER [3]

14

_____ (SPECIFY)

536. Did you breast-feed him/her?

YES [1] NO [2] (SKIP TO 542) [ ] 15

537. For how many months altogether did you breast-feed him/her?
PROBE: How many months old was he/she when you completely stopped breast-feeding him/her?

_____ (MONTHS)

STILL BREAST-FEEDING DESPITE CURRENT PREGNANCY [96] (SKIP TO 539)

UNTIL HE/SHE DIED [97] (SKIP TO 539)

[ ][ ] 16

538. Did you become pregnant again before or after you completely stopped breast-feeding?

BECAME PREGNANT BEFORE STOPPED BREAST-FEEDING [1]

BECAME PREGNANT AFTER STOPPED BREAST-FEEDING [2]

[ ] 18

539. How many months old was the child when you began giving him/her bottle milk or any solid food along with breast-feeding?

_____ (MONTHS)

NO ADDITIONAL FOOD YET [96]

CHILD DIED BEFORE GIVEN ADDITIONAL FOOD [97]

[ ][ ] 19

540. BLANK

541. BLANK

542. For how many months after the birth of this child did you go without sexual relations?

PROBE: How many months old was the child when you resumed sexual relations?

_____ (MONTHS) [ ][ ] 21

543. How many months after the birth of this child did your period come back?

_____ (MONTHS)

PERIOD NEVER CAME BACK, BECAME PREGNANT AGAIN [96]

[ ][ ] 23

544. INTERVIEWER: SEE 425.

HAS USED CONTRACEPTIVE METHOD [1] ↓

HAS NOT USED CONTRACEPTIVE METHOD [2] (SKIP TO 552)

25

545. Was there any time in the interval between your last two pregnancies (between your last and current pregnancy) when you (or your husband) were using a method to keep you from getting pregnant?

YES [1] ↓

NO [2] (SKIP TO 552)

26

546. What method did you use?

_____ (METHOD)

(SKIP TO 552)

27

547. IF CURRENTLY PREGNANT ASK:

Now I would like to ask you about several events that happened in the interval between your last and current pregnancy. For how many months after the end of your pregnancy did you go without sexual relations?

IF NOT CURRENTLY PREGNANT ASK:

Now I would like to ask you about several events in your life between your last two pregnancies. For how many months after the end of your next-to-last pregnancy did you go without sexual relations?

_____ (MONTHS)

29

548. How many months after your next-to-last pregnancy did your period come back?

_____ (MONTHS)

PERIOD NEVER CAME BACK BEFORE LAST (CURRENT) PREGNANCY [96]

31

549. INTERVIEWER: SEE 425.

HAS USED CONTRACEPTIVE METHOD [1] ↓

HAS NOT USED CONTRACEPTIVE METHOD [2] (SKIP TO 552)

[ ] 33

550. Was there any time in the interval between your last two pregnancies (between your last and current pregnancy) when you (or your husband) were using a method to keep you from getting pregnant?

YES [1] ↓

NO [2] (SKIP TO 552)

[ ] 34

551. What method did you use?

_____ (METHOD)

[ ][ ] 35

552. INTERVIEWER: SEE 309.

EVER MARRIED [1] ↓

NEVER MARRIED [2] (SKIP TO 559)

[ ] 37

553. During the time between your last two pregnancies (between your last and current pregnancy) was there any time when you and your husband were apart for <u>three months or more</u> for any reason?
IF NO, PROBE: Was there any time between your last two pregnancies when your husband was away from home working or looking for work for <u>three months or more</u>?

YES [1] ↓ NO [2] (SKIP TO 559) [ ] 38

554. How long after your next-to-last (last) pregnancy did the first such separation begin?

_____ (YEARS) + _____ (MONTHS) [ ][ ] 39 [ ][ ] 41

555. Between your last two pregnancies (between your last and current pregnancy) how many months were you apart for the (first, second ....) time?	556. During that time were you continuously apart without seeing each other?	557. Were you pregnant when that absence began?	**558.** Were there any other times during the interval between your last two pregnancies (between your last and current pregnancy) when you and your husband were apart for three months or more?	
_____ (MONTHS)	YES [ ] → NO [ ] (PROBE AND CORRECT)	YES [ ] (SKIP TO 559) NO [ ] →	YES [1] (REPEAT 555-558) NO [2] (SKIP TO 559)	[ ][ ][ ] 42 45
_____ (MONTHS)	YES [ ] → NO [ ] (PROBE AND CORRECT)	YES [ ] (SKIP TO 559) NO [ ] →	YES [1] (REPEAT 555-558) NO [2] (SKIP TO 559)	[ ][ ][ ] 46 48
_____ (MONTHS)	YES [ ] → NO [ ] (PROBE AND CORRECT)	YES [ ] (SKIP TO 559) NO [ ] →	YES [1] (REPEAT 555-558) NO [2] (SKIP TO 559)	[ ][ ][ ] 49 51
_____ (MONTHS)	YES [ ] → NO [ ] (PROBE AND CORRECT)	YES [ ] (SKIP TO 559) NO [ ] →	YES [1] (REPEAT 555-558) ENTER ANSWER ON THE OPPOSITE PAGE) NO [2] (SKIP TO 559)	[ ][ ][ ] 52 54

8 3

559. (Do, did) your periods usually come at regular intervals?

YES [1] NO [2] NO LONGER MENSTRUATING [3]
(SKIP TO 562)

11

560. (Is, was) the time between your periods usually about a month or more than a month?

ABOUT OR LESS THAN ONE MONTH [1] MORE THAN ONE MONTH [2]

12

561. For how many days (do, did) your periods usually last?

_____ (DAYS)

13

562. INTERVIEWER: SEE 309.

CURRENTLY MARRIED [1] NEVER MARRIED, SEPARATED, DIVORCED WIDOWED [2]
(SKIP TO 576)

15

563. INTERVIEWER: SEE 424, 214.

HUSBAND OR WIFE STERILIZED [1] CURRENTLY PREGNANT [2] ALL OTHERS [3]
(SKIP TO 576) (SKIP TO 567)

16

564. As far as you know, is it physically possible for you and your husband to have a child, supposing you wanted one?

YES [1] (SKIP TO 566) NO [2] D.K. [3] (SKIP TO 566)

17

565. Do you think you are at the menopause?

YES [1] (SKIP TO 576) NO [2] (SKIP TO 576)

18

566. INTERVIEWER: SEE 213.

NO LIVE BIRTHS [1] (SKIP TO 569 (a)) ONE OR MORE LIVE BIRTHS [2] (SKIP TO 571 (a))

19

567. Do you want to have another child at any time in the future in addition to the one you are expecting?

YES [1] NO [2] (SKIP TO 574) UNDECIDED [3] (SKIP TO 574) [ ] 20

568. How many more children do you want to have, after the one you are expecting?

_____ (NUMBER) OTHER ANSWER _____ (SPECIFY) (SKIP TO 574) [ ][ ] 21

569(a). Do you want to have any children?

YES [1] NO [2] (SKIP TO 574) UNDECIDED [3] (SKIP TO 574) [ ] 23

569(b). Would you rather have a baby in the next year or so, or would you prefer to wait for several years?

NEXT YEAR OR SO [1] LATER [2] [ ] 24

570. Would you prefer your first child to be a boy or a girl?

BOY [1] GIRL [2] EITHER [3] UNDECIDED OTHER ANSWER [4] _____ (SPECIFY) (SKIP TO 574) [ ] 25

571(a). Do you want to have another child at any time in the future?

YES [1] NO [2] (SKIP TO 574) UNDECIDED [3] (SKIP TO 574) [ ] 26

571(b). Would you rather have a baby in the next year or so, or would you prefer to wait for several years?

NEXT YEAR OR SO [1] LATER [2] [ ] 27

572. Would you prefer your next child to be a boy or a girl?

BOY [1] GIRL [2] EITHER [3] UNDECIDED OTHER ANSWER [4] _____ (SPECIFY) [ ] 28

573. How many more children do you want to have?

_____ (NUMBER) OTHER ANSWER _____ (SPECIFY) [ ][ ] 29

574. INTERVIEWER: SEE 425

HAS USED A CONTRACEPTIVE METHOD [1] (SKIP TO 576) HAS NEVER USED A CONTRACEPTIVE METHOD [2] [ ] 31

575. Do you think you and your husband may use any method at any time in the future so that you will not be pregnant?

YES [1] NO [2] UNDECIDED [3] [ ] 32

576. If you could choose exactly the number of children to have in your whole life, how many children would that be?

_____ (NUMBER) OTHER ANSWER _____ (SPECIFY) [ ][ ] 33

SECTION 6

WORK HISTORY

601. As you know, many women work - I mean, aside from doing their own housework. Some take up jobs for which they are paid in cash or kind. Others sell things, or have some business, or work on the family farm. Are you at the present time working for pay or profit?

9 1 (1)

(3)

(6)

(9)

YES 1 NO 2 (11)

602. INTERVIEWER: SEE 309

EVER MARRIED 1 NEVER MARRIED 2 (12)

603. Have you ever worked for pay or profit since the day when you were first married?

YES 1 NO 2 (SKIP TO 617)

604. In what year did you last work?

19 _____ (YEAR)

605. Have you ever worked for pay or profit?

YES 1 NO 2 (END INTERVIEW) (13)

606. In what year did you last work?

19 _____ (YEAR) (14)

607. I would like to ask some questions about (your present work, the last work you did). What (is, was) your occupation - that is, what kind of work (do, did) you do? OBTAIN DETAILED DESCRIPTION OF MAIN WORK

..... (16)

.....

.....

.....

608. INTERVIEWER: SEE 607.

WORK (IS, WAS) FARMING [1] — WORK (IS, WAS) NOT FARMING [2] (SKIP TO 610) — 19

609. (Is, was) that your family farm (or your husband's family farm)?

YES [1] (SKIP TO 612) NO [2] (SKIP TO 611) — 20

610. (Do, did) you work mostly at home or (do, did) you work mostly away from home in that job?

HOME [1] AWAY [2] OTHER ANSWER [3] — 21

(SPECIFY) _____

611. (Are, were) you employed by some member of your family, or by someone else, or (are, were) you self-employed?

FAMILY MEMBER [1] SOMEONE ELSE [2] SELF EMPLOYED [3] — 22

612. (Do, did) you get paid mostly in cash or mostly in kind?

CASH [1] KIND [2] UNPAID [3] — 23

613. INTERVIEWER: SEE 309

EVER MARRIED [1] NEVER MARRIED [2] (END INTERVIEW) — 24

614. About how many years in all have you worked for pay or profit since you were first married?

_____ (YEARS) — 25

615. BLANK

616. BLANK

617. Now let us go back to the time before you were first married. Did you work for pay or profit at any time before you were first married?

YES [1] ↓ NO [2] (SKIP TO SECTION 7) [ ] 27

618. What kind of work did you do? OBTAIN DETAILED DESCRIPTION OF MAIN WORK _____

_____ [ ][ ][ ] 28

619. INTERVIEWER: SEE 618.

WORK WAS FARMING [1] ↓ WORK WAS NOT FARMING [2] (SKIP TO 621) [ ] 31

620. Was that your family farm?

YES [1] (SKIP TO 623) NO [2] (SKIP TO 622) [ ] 32

621. Did you work mostly at home or did you work mostly away from home in that job?

HOME [1] AWAY [2] OTHER ANSWER [3] [ ] 33

(SPECIFY) _____

622. Were you employed by some member of your family, or by someone else or were you self-employed?

FAMILY MEMBER [1] SOMEONE ELSE [2] SELF EMPLOYED [3] [ ] 34

623. Did you get paid mostly in cash or mostly in kind?

CASH [1] KIND [2] UNPAID [3] [ ] 35

624. After the age of 15 years and before you were married, how many years in all did you work for pay or profit?

_____ (YEARS) [ ][ ] 36

SECTION 7

CURRENT (LAST) HUSBAND'S BACKGROUND

701. INTERVIEWER: SEE 312, 313.

HAS BEEN MARRIED ONLY ONCE ☐ → INTERVIEWER: ASK THE FOLLOWING QUESTIONS ABOUT R'S "HUSBAND".

HAS BEEN MARRIED MORE THAN ONCE ☐ → INTERVIEWER: SEE 309.

CURRENTLY MARRIED ☐ → INTERVIEWER: ASK THE FOLLOWING QUESTIONS ABOUT R'S PRESENT "HUSBAND".

SEPARATED WIDOWED OR DIVORCED ☐ → INTERVIEWER: ASK THE FOLLOWING QUESTIONS ABOUT R'S LAST "HUSBAND".

702. How old is your husband (was your husband when he died)?

_____ (AGE IN COMPLETED YEARS) (RECORD BEST ESTIMATE) D.K. [98] ☐☐ 38

703. Did your (present, last) husband ever attend school?

YES [1] NO [2] (SKIP TO 707) ☐ 40

704. What was the highest level of school he attended?

PRIMARY	1	MIDDLE	2
SECONDARY	3	COMMERCIAL/ TECHNICAL	4
TEACHER'S TRAINING (POST-MIDDLE)	5	UNIV. OR ADVANCED/ SPECIALIST/ POST-SEC-TRAINING	6
OTHER _____ (SPECIFY)		D.K.	9

☐ 41

705. What was the highest (standard, form, years) he completed at that level?

_____ (SPECIFY) D.K. [9] ☐ 42

706. INTERVIEWER: SEE 704

PRIMARY [1] MIDDLE SCHOOLING AND ABOVE [2] D.K. [3] ☐ 43

(SKIP TO 709)

707. Did he ever attend adult literacy classes?

YES [1] NO [2] D.K. [3] ☐ 44

708. Can (could) he read - say a letter, newspaper or magazine in any language?

YES [1] NO [2] ☐ 45

709. In what kind of area did your (present, last) husband live mostly when he was growing up, say to age 12? Was it a village or town?

VILLAGE [1] TOWN [2] ACCRA-TEMA KUMASI SEKONDI-TAKORADI [3] D.K. [4] [ ] 46

710. What (is, was) his ethnic origin?

_____ (SPECIFY) [ ][ ] 47

711. What (is, was) his occupation, that is what kind of work (does, did) he do?
OBTAIN DETAILED DESCRIPTION OF MAIN WORK. IF DEAD, UNEMPLOYED OR RETIRED, ASK LAST OCCUPATION.

_____ [ ][ ][ ] 49

_____ (IF NEVER WORKED END INTERVIEW)

712. (Is, was) he employed by some member of his family or by someone else, or (is, was) he self-employed?

FAMILY MEMBER [1] SOMEONE ELSE [2] SELF-EMPLOYED [3] (SKIP TO 714) [ ] 52

713. (Does, did) he get paid mostly in cash or mostly in kind?

CASH [1] (END INTERVIEW) KIND [2] (END INTERVIEW) UNPAID [3] (END INTERVIEW) [ ] 53

714. (Does, did) he have any regular paid employees in this business/farm?

YES [1] NO [2] (END INTERVIEW) [ ] 54

715. How many regular paid employees (does, did) he have?

_____ NUMBER [ ][ ] 55

(END INTERVIEW)

OBSERVATIONS

801. MAIN LANGUAGE USED IN INTERVIEW _____ (SPECIFY) [ ][ ] 57

802. WAS AN INTERPRETER USED?

YES [1] NO [2] [ ] 59

803. DEGREE OF CO-OPERATION OF THE RESPONDENT.

POOR	[1]	COMMENTS: _____
AVERAGE	[2]	_____
GOOD	[3]	_____ [ ] 60
VERY GOOD	[4]	_____

804. DATES:

EVENTS	RESPONDENT KNEW	HUSBAND KNEW	SOME PROBING NEEDED	ESTIMATED BY INTERVIEWER	NOT POSSIBLE TO ESTIMATE	NOT APPLICABLE	
(a) First Menstruation	[1]	[2]	[3]	[4]	[5]	[8]	[ ] 61
(b) Dates of live births	[1]	[2]	[3]	[4]	[5]	[8]	[ ] 62
(c) Dates of non-live births	[1]	[2]	[3]	[4]	[5]	[8]	[ ] 63
(d) Marriage dates	[1]	[2]	[3]	[4]	[5]	[8]	[ ] 64
(e) Husband's Age	[1]	[2]	[3]	[4]	[5]	[8]	[ ] 65

805. OTHER COMMENTS:

_____

_____

_____

APPENDIX II

SAMPLE DESIGN

APPENDIX II

SAMPLE DESIGN [1]

A. GENERAL CONSIDERATIONS

The sample design for the Ghana Fertility Survey was based on the following considerations.

i) One of the main objectives of the survey was to provide information on regional fertility levels as well as knowledge, attitudes and contraceptive practice. As there are nine regions of approximately equal population size, the minimum sample size was considered to be 7500 households. The emphasis on the provision of regional data with acceptable sampling precision also implied that it would be unwise to raise the size of ultimate area units (UAUs) to more than 25 respondents. These constraints led to a basic sample design of 300 UAUs with an average of 25 respondents each.

ii) The only available sample frame for selection of area units was that of the enumeration areas (EAs) used for the 1970 census. There were 8328 EAs containing an estimated average population of 1310, i.e. 262 households in 1978.

iii) The use of census EAs as UAUs would entail the listing of over 80,000 households. It was thought that such a large listing operation would place a very great burden on administrative and transport resources.

iv) The alternative strategy of splitting EAs into smaller area units was therefore considered. Scrutiny of census maps suggested that about one-third of EAs could be split into sub-EAs of approximately equal size without recourse to the field, but for the remainder, detailed mapping in the field would be necessary.

v) The choice between extensive listing on the one hand and mapping prior to a smaller listing operation on the other was influenced by two further factors. First, updating in the field of all EA maps was planned to start within the next year in preparation for the 1980 Population Census. Interlocking of survey and census mapping was therefore a possibility. Secondly, a mapping phase could be conducted over a relatively long period of time by a small number of well-trained personnel.

In contrast, listing would have to be done by a much larger field force over a short period of time, which would inevitably create problems of control and supervision. In the light of the above considerations, it was decided that mapping followed by modest listing was preferable to extensive listing.

B. SAMPLE IMPLEMENTATION

i) After adjusting the population of EAs to take account of population growth since 1970, EAs were divided into sub-EAs of equal size, so that no sub-EA exceeded 500 inhabitants.

ii) EAs were listed by urban/rural type within region and 300 were selected with probability proportional to estimated size.

iii) For each selected EA the 1970 census map was extracted and split into the previously determined number of sub-EAs of equal size. In an estimated one-third of cases, this was done without further fieldwork. In the remainder, detailed mapping in the field was necessary before splitting could take place.

iv) One of the sub-EAs was then selected with probability proportional to size (pps).

v) All the households in the selected sub-EAs were then listed and a number of them selected with probability inversely proportional to size to give a self-weighting design.

C. SAMPLE DESIGN

First stage selection

The first stage consisted of the selection of 300 census enumeration areas (EAs). The 1977 population size for each EA in each region was estimated on the basis of the average annual growth rate between the 1960 and 1970. EAs were listed in serpentine order and stratified by region and sector (rural, urban and large urban). The EAs were selected by systematic pps sampling to yield the desired number of EAs. That is, if A_i was the estimated size of EA_i, then that EA was selected with probability

$$P_{1i} = \frac{300A_i}{\Sigma A_i} = \frac{A_i}{34,923}$$

---

1) *This section of the report was prepared from notes originally written by Dr Rod Little and Mr J.G. Cleland of the WFS headquarters, London.*

where 34,923 was the selection interval and A_i was the estimated 1977 population of Ghana, 10,476,808.

The definition of the various strata was as follows:

i) *Rural stratum* - This stratum consisted of all EAs in localities with an estimated population below 5000. This included all localities forming single EAs and all smaller ones forming parts of an EA.

ii) *Urban stratum* - In this category were included all EAs in localities with a population of 5000 or more and all EAs in 'urban centres' with the exception of regional capitals.

iii) *Large urban stratum* - This category consisted of EAs in localities of population more than 10,000 and over, serving as the capitals of the regions (see Table II.1 for complete frame).

The second stage involved the households in selected EAs and second stage selection was made from these listings with probability inversely proportional to size A_i. However, since the size of the EAs varied from 300 to 4000, a preliminary splitting operation was required to produce segments of EAs of a convenient size for the fieldwork, namely, between 300 and 500 population.

TABLE II.1

SAMPLE DESIGN FOR GHANA FERTILITY SURVEY

Region	Total	Stratum I Rural	Stratum II Urban	Stratum III Large urban
	Sampling frame (Total number of EAs)			
All regions	8328	6319	1005	1004
Western	853	666	99	88
Central	888	668	170	50
Greater Accra	782	136	87	559
Eastern	1090	867	196	27
Volta	959	837	110	12
Ashanti	1319	996	136	187
Brong-Ahafo	792	647	126	19
Northern	688	593	47	48
Upper	957	909	34	14
	First stage - sample of EAs			
All regions	300	198	50	52
Western	25	18	3	4
Central	30	21	7	2
Greater Accra	37	4	6	27
Eastern	41	29	10	2
Volta	30	25	4	1
Ashanti	54	36	9	9
Brong-Ahafo	28	20	6	2
Northern	27	20	3	4
Upper	28	25	2	1

This splitting operation was not a separate sampling stage because it was achieved by forming segments together with estimates of size, expanding the list of EAs to include the segments in some order, and then using the original random start and selection interval for the first stage to select the segments, again with pps. If A_{ij} was the estimated size of segment j in EA_i then that segment was selected with probability

$$P_{1ij} = \frac{300\ A_{ij}}{\Sigma\ A_{ij}} = \frac{A_{ij}}{34,923}$$

Since the selection interval exceeded the maximum EA size, exactly one segment was selected in each EA and hence we can write $A_i = A_{ij}$ for selected segments and first stage probability of selection became

$$P_{1i} = \frac{300\ A_i}{\Sigma\ A_i} = \frac{A_i}{34,923}$$

Second stage selection

After listing all the households in selected segments, the second stage selection was by systematic sampling with a variable selection interval for each segment. The overall sampling fraction, which determines the second stage selection probabilities, was calculated as follows. The mean household size for Ghana from the 1970 census was 4.8. Hence assuming no change in this quantity between 1970 and 1977, the estimated number of households in 1977 was:

$$\frac{10,476,808}{4.8} = 2,182,668$$

Hence the desired sampling fraction was

$$f = \frac{7500}{2,182,668}$$

The conditional probability of selection of household k in selected segment i was:

$P_{2ik} = \lambda/A_i$, for some constant λ, which led to overall selection probability

$$P_{ik} = P_{1i}\ P_{2ik} = \frac{\lambda}{34,923} = f \text{ for all } i, k$$

Hence λ was set equal to $34,923f = 120$.

Thus the second stage selection probability was:

$P_{2ik} = 120/A_i$,

and accordingly the second stage selection was achieved by systematic sampling from the listed households with sampling interval for segment i equal to

$A_i/120$.

The result of the selection is indicated in Table II.2.

D. MAPPING OF ENUMERATION AREAS

As noted above, the EAs were not suitable as primary sampling units because most of them were too large. Segmentation of selected EAs was achieved partly in the office and partly by a mapping operation.

i) *Office segmentation of EAs*

The 1970 census maps for the selected EAs were examined together with lists of localities provided by the census enumerators.

For rural EAs, villages with an estimated 1977 population of between 300 and 500 were defined as segments. Also larger villages were assigned two or more segments, according to their estimated size. Smaller rural localities were combined to form segments when their geographical location was known. Where possible, contiguous segments with natural boundaries were formed. After this the segments or sets of segments were entered in the EA list as in a predetermined order: individual villages in decreasing order of size followed by other localities. By using original random start and selection intervals, either individual segments were chosen, or the EA was partially split if a set of segments was selected. About two-fifths of the rural EAs were split in the office by this procedure.

Urban EAs were split (or partially split) in the office if well-defined boundaries (usually roads) were available and they appeared to split the EA into blocks of the required size. About one-eighth of the urban EAs were split in the office.

TABLE II.2

NUMBER OF EAs IN SAMPLE AND NUMBER OF SELECTED HOUSEHOLDS PER REGION AND RANGE OF NUMBER OF HOUSEHOLDS IN EACH REGION

Region	Number of sample EAs	Total households selected	No. of households		
			Average per EA	Minimum-maximum among EAs	Range among EAs
Western	25	682	27	6-71	65
Central	30	807	27	11-50	39
Greater Accra	37	970	26	3-138	135
Eastern	41	1013	25	9-48	39
Volta	30	719	24	9-43	34
Ashanti	54	1502	28	5-60	55
Brong-Ahafo	28	664	24	5-47	42
Northern	27	398	15	8-28	20
Upper	28	453	16	5-33	28
Total	300	7208	24		

ii) *Field mapping*

The field mapping was executed by five teams, each composed of a draughtsman and a statistical clerk recruited from among the staff of the Demographic Division of the Central Bureau of Statistics. The teams were expected to visit each EA, make a quick estimate of the population of all villages, indicate their locations on a copy of the census map and enter details of natural boundaries such as streams, paths, etc. In all about two-thirds of all selected EAs were mapped in a field operation.

After an initial training period lasting about one week, the teams began the field mapping exercise on 9 May 1978 in the capital city, Accra, moving to the regions on 1 June and it was not until 15 November that they came back to headquarters.

It was at first thought that three teams mapping at the rate of three EAs per week per team would be able to complete the job in five months. But it took five teams using two vehicles (sometimes three) as long as seven months to map 224 EAs. This was due mainly to lack of vehicles and other logistical problems.

E. TECHNICAL PROBLEMS

Instead of indicating the changes on the existing 1970 census map, it was decided that the mapping teams should make completely new sketch maps of the census EAs in the field. Fair drawings were made in the office because it was felt that that method would yield maps with boundaries of EAs well indicated.

The task of making fair drawings was carried out by a team of 8 statistical clerks working under the direction of a draughtsman who was withdrawn from the field when the mapping was half-way completed. The statistical clerks transferred the sketch maps prepared by the draughtsmen in the field onto tracing paper. Three copies of each map were then printed out of the tracings.

One of the major problems experienced by the mappers was that in a few EAs all the listed localities were completely different from those marked on the map because the pre-1970 maps had not been up-dated. In another case, a well-known border town was included in a sub-EA. This was detected after the listing of households. The town was therefore deleted.

F. LISTING OF HOUSEHOLDS

The listing of households was carried out in two phases. The first phase which took place between 4 and 31 October 1978 covered regions in the northern half of Ghana, namely, Ashanti, Brong Ahafo, Northern and Upper regions, while the second conducted from 27 November 1979 to 10 January 1979 covered those

in the southern half: Western, Central, Greater Accra, Eastern and Volta.

Fifty listers and nine supervisors were selected from the field staff of the Central Bureau of Statistics to do the listing throughout the country. Each lister was responsible for listing all the households in approximately 6 EAs within a period of 21 days. The supervisor and his team worked only in segments near their own regions. But in some cases segments in one region were covered by listers from another region because of accessibility of those areas from the latter region.

Each phase of the listing operation mentioned in the first paragraph of this section was preceded by a training period of five days during which listers and their supervisors were given classroom training for the first two days of the period. This was followed by practical training.

Each lister was given the following field equipment: an identity card, a map, listing booklets, a satchel and an Instructions Manual. Half a day was set aside for instructing supervisors separately on their duties.

Each supervisor was responsible for collecting the listing booklets from his officers at the completion of the operation and delivering them safely to headquarters.

APPENDIX III

SAMPLING ERRORS FOR SELECTED ESTIMATES

APPENDIX III

SAMPLING ERRORS FOR SELECTED ESTIMATES

Section III.1 introduces certain basic ideas about sampling errors; readers already familiar with them may skip to Section III.2. Section III.3 presents procedures for approximating sampling errors when sampling errors are not given and the computational formulae used in the sampling error calculations.

III.1 INTRODUCTION

Interpretation of Sampling Errors

The particular sample obtained in the survey is one of a large number of all possible probability samples which could have been selected using the given sample design. The estimates derived from different samples would differ from each other. However, apart from non-sampling errors and bias, all estimates considered in this study are approximately unbiased, meaning that the true population value of interest is approximated by an average of the estimates from the various possible samples. This average from different samples is called the 'expected value'. The sampling error or standard error of an estimate is a measure of the (absolute) difference between the observed sample estimate and the expected value of the estimate. Apart from non-sampling errors, the standard error in the present context measures the size of the expected (absolute) deviation of the sample estimate from the true population value of interest.

A common and convenient criterion asserts that the true value lies within a range of twice the standard error on either side of the sample value. The range (sample value) ± 2 (standard error) is called the '95 per cent confidence interval', and one can say that the odds are only one in twenty that the true value lies outside this range. If, for example, the observed sample mean for a variable is 3.5 and if the standard error (to an appropriate sample base) has been estimated as 0.2, then the '95 per cent confidence interval' is 3.5 ± 2(0.2) i.e. 3.1 to 3.9, and for practical purposes, i.e. with 95 per cent confidence, one asserts that (apart from non-sampling errors) the true population value of interest lies in the range 3.1 to 3.9.

Computation of Sampling Errors

One of the advantages of a probability sample such as the present one is that the sampling errors can be estimated from the results of the one sample which is actually available.

The computational procedure must take into account the actual structure of the sample and in particular the fact that the sample is a stratified clustered sample. The results given in this appendix have been computed by using the WFS package program CLUSTERS. An outline of the procedure for estimating sampling errors is given in Section III.3 below.

Sampling Errors for Subclasses and Subclass Differences

To be useful in the interpretation of the substantive results presented in the form of detailed cross-tabulations, sampling errors for each of the important variables have to be computed over various subclasses of the sample. By subclass is meant a subset of the sample cases defined in terms of characteristics such as individual age or marriage duration groups, or groups by socio-economic background, etc. Due to the smaller sample bases involved, sampling errors for individual subclasses obviously tend to be larger than the error in an estimate based on the entire sample.

The computational formulae given in Section III.3 below apply also for estimates computed over a particular subclass of the sample. Individuals or primary sampling units (PSUs) not belonging to the subclass are simply ignored in the computation. Interpretation of the standard error in terms of the '95 per cent confidence interval' given above applies equally to the whole sample as well as to any particular sample subclass.

Sampling errors for differences between subclass means can be particularly relevant in the interpretation of fertility and other differentials observed from the survey results. These determine the likelihood that an observed difference is real and not caused merely by sampling variation. Even for a relatively 'efficient' sample such as the present one, many observed differentials may not be statistically significant once the sample has been subdivided by the introduction of necessary control variables.

For differences between subclass means, we may regard an observed difference to be 'statistically significant' if the magnitude of the difference is not smaller than twice its standard error. 'Statistically significant', of course, does not necessarily mean substantively significant or meaningful; it implies rather that the observed difference is real in the sense that it is unlikely to be caused merely by sampling variation. If the magnitude of the observed difference is smaller than twice its standard error, we may take it to be statistically (and hence substantively) 'not significant', implying that it cannot be asserted that the observed difference is not caused merely by sampling variation.

If, for example, for two sample subclasses being compared, the observed subclass means for a variable are 3.0 and 3.5 respectively, and if for the difference of the two means (3.5-3.0 =0.5), the standard error has been computed to

be 0.1, then the '95 per cent confidence interval' for the difference is 0.5 ± 2(0.1), that is, 0.3 to 0.7. In this example, one may assert that the true difference lies in the range 0.3 to 0.7. The observed difference is 'statistically significant' (the observed magnitude of the difference, 0.5, is greater than twice the standard error).* Now, if in the above example the standard error for the difference was 0.4, the '95 per cent confidence interval' for the difference would be 0.5 ± 2(0.4), that is, -0.3 to 1.3. In this second case, it cannot be asserted that the observed difference is real, and not caused merely by sampling variation. Note that in the second example, the observed difference (0.5) is smaller than twice its standard error (0.8), which is the same as the observation that the '95 per cent confidence interval' includes the value zero.

Effect of Clustering of the Sample

In the present sample, the individuals interviewed are clustered into a number of sample areas. Compared to a sample of individuals selected entirely at random, clustering tends to reduce efficiency of the sample (i.e. increase associated sampling errors, for a given sample size). This is because individuals from within a cluster tend to be more uniform compared to individuals in the sample (or the population) as a whole. In a sense, less new information is obtained by interviewing a number of individuals from the same sample area as compared to that obtained from an entirely random sample of the same size.

A measure comparing the standard error of an estimate from the actual clustered sample with what the error would have been had the sample been selected entirely at random is called the 'design factor' or DEFT.

$$DEFT = SE/SR \qquad (1)$$

where SE is the standard error for the clustered sample (computed from equation (2) given in Section III.3), and SR is the standard error computed as if the sample had been selected entirely at random (equation (3) in Section III.3).

For a particular sample design, cluster size, and variable, DEFT is a measure of the loss of sampling precision due to clustering of the sample. The two main factors on which its magnitude depends are the average cluster size and the relative homogeneity (corresponding to a particular variable) within these clusters.

For samples (or subclasses thereof) with very small clusters, or for variables with little within-cluster homogeneity, DEFT can be expected to approach unity, which implies that little sampling precision has been lost through clustering.

The last point mentioned above is of particular relevance in the present context where sampling errors for sample subclasses or subclass differences, rather than for the sample as a whole, are the main concern. The effective cluster sizes for sample subclasses, and specially for their differences, can be much smaller than the cluster sizes for the total sample, making DEFT smaller (nearer unity), that is, making the loss in sampling efficiency due to clustering generally less significant than would be the case if estimates based on the total sample were the main objective of the survey.

III.2 DISCUSSION OF THE MAIN RESULTS

The WFS package program CLUSTERS has been used to compute sampling errors for variables of substantive interest. For each variable, sampling errors were computed over the whole sample, as well as for various subclasses and differences for pairs of subclasses.

Definition of the Variables

Sampling errors have been computed for the following variables based on the individual questionnaire:

1. Age at first marriage - Mean age at first marriage for ever-married women aged 15-49.†
2. Age at first marriage (<25) - Mean age at first marriage for women aged 25-49 who married before age 25.†
3. First marriage dissolved - Percentage of ever-married women whose first marriage was dissolved.
4. Time spent in union - Percentage of time spent in union since first marriage.
5. Currently married (all women) - Percentage of all women who are currently married.
6. Births in first five years (married) - Mean number of births before or during the first five years of first marriage, for women married at least five years ago.
7. Births in past five years (married) - Mean number of births during the past five years, for women who have been continuously married in the past five years.

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* This assertion can be made with 95 per cent confidence. Incidentally, it follows, with even greater confidence, that in the example the difference is not zero - in other words, that the two subclasses differ for the variable concerned. Sampling errors for differences are often used in this way to test whether two subclasses differ.

† This mean has been computed from individual ages at first marriage in completed years. For mean in 'exact' years, add 0.5 to all values shown.

8. Births in past five years (all) - Mean number of births during the past five years to all women.

9. Currently pregnant (married) - Percentage of currently married women who are currently pregnant.

10. Children ever born (all women) - Mean number of children ever born to all women.

11. Living children (all women) - Mean number of living children born to all women.

12. Months breastfed in closed interval - Mean number of months breastfed in the last closed pregnancy interval (until child died cases excluded from base)

13. Wants no more children (married) - Percentage of currently married fecund women who want no more children.

14. Desired family size (married) - Mean total of children desired by currently married women.

15. Knows effective methods (all) - Percentage of all women who have heard of at least one effective method of contraception.

16. Ever used contraceptives (all) - Percentage of all women who have ever used any method of contraception.

17. Ever used effective methods (all) - Percentage of all women who have ever used any effective method of contraception.

18. Currently using (exposed) - Percentage of non-pregnant currently married fecund or contraceptively sterilized women who are currently using any method of contraception.

19. Using effective (exposed) - Percentage of non-pregnant currently married fecund or contraceptively sterilized women who are currently using any effective method of contraception.

20. Wants no more children and using effective methods (exposed) - Of non-pregnant currently married fecund or contraceptively sterilized women who want no more children, the percentage who are currently using any effective method of contraception.

21. Never used contraception (married) - Percentage of ever-married women who have never used contraception.

22. Used in past (married) - Percentage of ever-married women who have used contraception in the past.

23. Currently using (married) - Percentage of ever-married women who are currently using contraception.

Estimates over the Total Sample

Table III.1 shows sampling errors computed over the total sample for the variables based on the individual questionnaire. For each variable the following quantities are shown.

r = the ratio, mean, proportion or percentage estimated for the whole sample. Note that estimates given as proportions may be changed to percentages by shifting the decimal point two places to the right. In such cases, the standard errors given for the proportions must be multiplied by 100 to correspond to percentages. Similarly, estimates given as percentages may be changed to proportions by shifting the decimal point two places to the left. In such cases, the standard errors given for the percentages must be divided by 100 to correspond to proportions.

SE = standard error for the actual clustered sample (defined by equation (2) given below).

95% CON. INT. = the '95 per cent confidence interval', defined earlier as r ± 2SE.

n = the appropriate unweighted sample base. The sample for Ghana consists of 6125 completed individual interviews. However, only a minority of the variables are defined for the entire sample of 6125 women. Many of the variables are relevant only for subpopulations satisfying certain criteria; for example, the variable "Births in past five years (married)" has been defined only for the 3073 women who have continuously married for the past five years.

s = standard deviation, defined as $s = SR \sqrt{n}$, where SR is the standard error computed on the assumption that the sample of individuals was selected entirely at random. Though s is estimated from the sample results, it is a characteristic of the study population, not of a particular sample design or sample size.

DEFT=the Design Factor, DEFT = SE/SR (as equation (1) above). It measures the sampling efficiency lost due to clustering of the sample. DEFT values near unity imply that little has been lost by clustering of respondents into sample areas.

b = the average 'cluster size', i.e. the (unweighted) average number of interviews per PSU. For the sample as a whole, b = 6125/299 = 20.5. The value is smaller if a variable is not applicable to all individuals in the sample. (Note that the average cluster size can be used to calculate rates of homogeneity - see equation (6) below.)

For the total sample, sampling errors for variables taken from the individual questionnaire are relatively small - under 5 per cent of the

mean.* However, the DEFT values encountered are relatively large. The overall average DEFT is around 1.38, implying that the variance (the square of the standard error) is 1.91, less than twice as large as it would have been for a sample of the same size selected entirely at random. DEFT for the variables concerning contraception tend to be somewhat larger than the average for the other groups of variables.

III.3 SOME TECHNICAL CONSIDERATIONS

Computational Formulae

In outline, the procedure used for estimating sampling errors for a stratified clustered sample is as follows.

Consider a ratio statistic $r = y/x$, where y and x are two variables the ratio of which is being estimated. (The procedure also applies to estimates like means, proportions or percentages which can be regarded as special cases of ratios). Let the suffix 'j' represent an individual, suffix 'i' the PSU to which the individual belongs, and suffix 'h' the stratum in which the PSU lies. Hence,

y_{hij} = value of variable y for the individual j, in PSU i and stratum h

w_{hij} = sample weight for the individual

$y_{hi} = \sum_j w_{hij} \cdot y_{hij}$, the weighted sum of y's for all individuals in the PSU

$y_h = \sum_i y_{hi}$, the sum of y_{hi} for all PSUs in the stratum

$y = \sum_h y_h$, the sum of y_h for all strata in the sample.

Similar expressions can be defined for variable x.

The variance ($=SE^2$, square of the standard error) of the ratio estimate $r = y/x$ is estimated as

$$SE^2 = \mathrm{var}(r) = \frac{1-f}{x^2} \sum_{h=1}^{H} \left[\frac{m_h}{m_h - 1} \left(\sum_{i=1}^{m_h} z_{hi}^2 - \frac{z_h^2}{m_h} \right) \right] \quad (2)$$

where

f = overall sampling fraction, here negligible

m_h = number of PSUs in the stratum h

H = number of strata in the sample

r = ratio of the two sample aggregates y and x

$z_{hi} = y_{hi} - r \cdot x_{hi}$

$z_h = \sum_i z_{hi} = y_h - r \cdot x_h$

Equation (2) applies also for estimates computed over a particular subclass of the sample. Individuals or PSUs or strata not belonging to the subclass are simply ignored in the computation. The summations 'Σ' are taken over only the units belonging to the subclass being considered.

SR, the standard error of a ratio estimate r corresponding to an equivalent sample selected entirely at random, is required to estimate DEFT = SE/SR, and is given by

$$SR^2 = \frac{1-f}{n-1} \left(\sum w_{hij} z_{hij}^2 \Big/ \sum w_{hij} \right) \quad (3)$$

where $z_{hij} = y_{hij} - r \cdot x_{hij}$

and r is the ratio estimate,

$r = y/x = \sum w_{hij} y_{hij} \Big/ \sum w_{hij} x_{hij}$

n is the total sample size, and 'Σ' is the sum for all individuals over the sample. As before, means, proportions, or percentages are merely special cases of ratios.

The variance of the difference of two subclass means for a stratified clustered sample is given by the following formulae. Denoting the second subclass in the pair by a prime (′),

$$SE^2_{r-r'} = \mathrm{var}(r-r') = \mathrm{var}(r) + \mathrm{var}(r') - 2\mathrm{cov}(r,r') \quad (4)$$

where var(r) and var(r′) are given by equation (2) and the covariance is given by

$$\mathrm{cov}(r,r') = \frac{1-f}{xx'} \sum_{h=1}^{H} \left[\frac{m_h}{m_h - 1} \left(\sum_{i=1}^{m_h} z_{hi} \cdot z'_{hi} - \frac{z_h z'_h}{m_h} \right) \right] \quad (5)$$

Usually cov(r,r′) is positive due to positive correlation between individuals in the two subclasses who belong to the same cluster in the sample.

Rates of homogeneity (ROH), which indicate to what extent responses for a particular variable are more homogeneous within PSUs than in the sample as a whole, may be calculated from the

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* Of the twenty-three variables considered, the standard error over the sample is under 1 per cent of the mean for three, between 1-3 per cent for eleven, between 3-5 per cent for five and above 5 per cent for four.

average PSU size and DEFT. ROH is calculated as:

$$ROH = \frac{DEFT^2 - 1}{b - 1} \qquad (6)$$

where b is the mean PSU size.

Strata Needed for the Sampling Errors Computations

Before selection of a sample, the population is usually divided into a number of parts called strata which are expected to be homogeneous in some way, and PSUs are then selected from each stratum independently. The aim of stratification is to reduce sampling errors, or sometimes to permit a change in sample design or sampling rate between strata. It should be noted that the strata used for computation of sampling errors are not necessarily identical to the original explicit strata used in sample selection. The difference between the two may arise for two main reasons.

1. Whenever PSUs are selected by systematic sampling from an ordered list, i.e. selection at a fixed interval from a list starting from a randomly determined point, neighbouring selected PSUs should be grouped, two at a time if possible, three if not, within explicit strata to form new smaller 'implicit' strata which are used for sampling error computations. In the case of an explicit stratum in which an odd number of PSUs (greater than 3) have been selected by systematic sampling, there will be a choice to be made as to where in the ordered list to make the grouping of three. A simple rule for this is as follows: Look for the smallest sized PSU. If this is at the beginning (end) of the list in that explicit stratum, make the group of three the first (last) three members of the list. Otherwise, make the group of three around the smallest PSU and the smaller of its two neighbours, bearing in mind that the first member of any group (whether of two or of three) must be odd-numbered as counted from the beginning of the list in that explicit stratum.

2. Sampling error computations require that there be at least two PSUs per stratum. Any strata from each of which only one PSU has been selected must be 'collapsed' together to form pairs (or other groups) of PSUs. Such grouping is done on the basis of characteristics of the whole strata population (pairing most similar strata), and not on the characteristics of selected PSUs. Collapsing of strata in this way tends to lead to slight overestimation of the sampling error.

   For CLUSTERS, the strata to be defined are obviously those which are to be used for sampling error computations and these strata are identified on the WFS standard recode tapes. The original explicit strata, if they differ from the above, are of no interest.

Approximating Standard Errors when Standard Errors are Not Given

Approximating Standard Errors for Sample Subclasses

Under the assumption that only the size of a subclass, not its nature, affects the sampling error, the standard error for a subclass of any size is well approximated from the results computed over the total sample as follows. We use the suffix 't' to refer to the total sample (of size n_t) and the suffix 's' to refer to any subclass (of size n_s). The approximate relationship (empirically valid in an approximate sense)

$$SE_s = f_s \cdot SE_t \qquad (7)$$

where f_s is a factor determined semi-empirically as

$$f_s = \left[\left(\frac{n_t}{n_s}\right) + \left(\frac{n_t}{n_s}\right)^{2/3} \cdot (DEFT_t^2 - 1)\right]^{1/2} / DEFT_t \qquad (8)$$

can be used to approximate the standard error for a sample subclass. Note that f_s depends only on the results for the total sample and the proportion of the sample belonging to the subclass. Note that the above equations are applied separately to each of the substantive variables of interest. For certain variables, e.g. the mean number of children ever born, these equations were found inadequate for predicting SEs for certain subclasses and the values determined from the above equations required some adjustment to make them better correspond to the results actually computed. Those variables strongly related to the life-cycle, i.e. to age or marriage duration, have a standard error which is obviously related to the mean or proportion being estimated, which in turn varies considerably from one subclass to another. Nevertheless we find that in these particular cases, the exceptional subclasses (with, say, an exceptionally low value of the mean or proportion for the variable) can be dealt with by multiplying SEs by a simple adjustment factor such as 0.5.

Approximating Standard Errors for Subclass Differences

The standard error for subclass differences can be approximated by assuming that the standard error for the difference is 'mid-way' between two limits: the higher limit assuming that there is no covariance term in equation (4) (actually the covariance is generally positive), and the lower limit assuming that there is no effect at all of clustering of the sample. The procedure is based on the assumption that

equations (7) and (8) are valid also for the standard error of the difference of two subclass means if n_s in (8) is replaced by n_d, half the harmonic mean of the two subclass sizes, i.e.

$$n_d = \frac{n_1 \cdot n_2}{n_1 + n_2} \qquad (9)$$

Note that the upper and lower limits are usually not widely apart in practice, since n_d tends to be much smaller than n_s.

Variation of DEFT with Subclass Size

Under the assumption that only the size of a subclass, not its nature, affects the sampling error, equations (7) and (8) are equivalent to:

$$\frac{DEFT_s^2 - 1}{DEFT_t^2 - 1} = (n_s/n_t)^{1/3} \qquad (10)$$

Equation (10) implies that for small subclasses, i.e. subclasses with size n_s much smaller than n_t, DEFT for the subclass tends to one. In other words, loss in sampling precision due to clustering of the sample tends to become smaller for smaller subclasses. In the present context, this means that where survey estimates for relatively small subclasses such as five-year age of marriage cohorts are of major interest, the effect of clustering of the sample tends to be relatively less important. For example, for a subclass with $n_s/n_t = 0.1$ and $DEFT_t = 2.0$, the corresponding $DEFT_s$ is around 1.5.

LIST OF TABLES

Table III.1 - Sampling errors over the total sample

Variable name	Mean or per cent	SE	Mean or per cent -2SE	Mean or per cent +2SE	n	s	DEFT	b
Age at first marriage	17.70	.06	17.58	17.81	4943	3.33	1.20	16.5
Age at first marriage (<25)	17.57	.06	17.44	17.69	3296	2.92	1.24	11.0
First marriage dissolved	27.72	.93	25.86	29.57	4943	44.76	1.46	16.5
Time spent in union	93.58	.31	92.96	94.19	4943	17.19	1.25	16.5
Currently married (all women)	72.42	.82	70.79	74.06	6125	44.69	1.43	20.5
Births in first 5 years (married)	1.66	.02	1.63	1.70	3826	.96	1.16	12.8
Births in past 5 years (married)	1.22	.02	1.18	1.25	3073	.91	1.09	10.3
Births in past 5 years (all)	.89	.01	.86	.92	6125	.89	1.25	20.5
Currently pregnant (married)	13.82	.54	12.73	14.91	4436	34.51	1.05	14.8
Children ever born (all women)	2.97	.04	2.89	3.05	6125	2.82	1.12	20.5
Living children (all women)	2.54	.03	2.47	2.60	6125	2.41	1.10	20.5
Months breastfed closed interval	14.82	.18	14.47	15.18	3414	6.90	1.51	11.4
Wants no more children (married)	11.75	.54	10.66	12.83	4027	32.20	1.07	13.5
Desired family size (married)	6.07	.06	5.95	6.20	3923	2.23	1.76	13.1
Knows effective methods (all)	59.33	1.22	56.90	61.76	6125	49.13	1.94	20.5
Ever used contraceptives (all)	38.04	1.14	35.77	40.31	6125	48.55	1.83	20.5
Ever used effective methods (all)	17.73	.86	16.02	19.44	6125	38.20	1.76	20.5
Currently using (exposed)	12.39	.72	10.95	13.83	3414	32.95	1.28	11.4
Using effective (exposed)	7.18	.61	5.95	8.40	3414	25.81	1.38	11.4
Wants no more and using eff.(exp)	16.92	2.45	12.03	21.81	396	37.54	1.30	1.6
Never used contraception (marr.)	60.13	1.24	57.64	62.61	4943	48.97	1.78	16.5
Used in past (married)	31.28	1.06	29.15	33.40	4943	46.37	1.61	16.5
Currently using (married)	8.60	.49	7.61	9.58	4943	28.04	1.23	16.5

Table III.2a - Sampling errors by current age

Variable name	<20				20-24				25-29				30-34			
	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT
Age at first marriage	15.78	.08	424	1.09	17.15	.08	1032	1.07	17.98	.11	981	1.12	17.92	.13	795	1.03
Age at first marriage (<25)	.00	.00	0	.00	.00	.00	0	.00	17.76	.10	954	1.08	17.52	.12	760	1.05
First marriage dissolved	15.33	1.75	424	1.00	22.00	1.29	1032	1.00	22.83	1.38	981	1.03	29.94	1.85	795	1.14
Time spent in union	94.25	.96	424	.99	92.86	.61	1032	1.02	95.10	.42	981	1.01	93.54	.56	795	1.03
Currently married (all women)	26.84	1.51	1371	1.26	75.90	1.45	1220	1.18	90.60	1.05	1011	1.14	91.52	1.08	802	1.10
Births in first 5 years (married)	1.09	.16	22	.98	1.61	.04	475	1.07	1.63	.03	840	1.02	1.66	.04	785	1.13
Births in past 5 years (married)	1.31	.19	16	.97	1.55	.04	343	.94	1.47	.03	682	.96	1.42	.04	642	1.14
Births in past 5 years (all)	.24	.01	1371	1.06	1.07	.02	1220	1.07	1.33	.03	1011	1.09	1.31	.04	802	1.19
Currently pregnant (married)	25.27	2.29	368	1.01	18.25	1.43	926	1.13	15.94	1.24	916	1.02	13.90	1.44	734	1.13
Children ever born (all women)	.24	.01	1371	1.08	1.37	.03	1220	1.10	2.69	.06	1011	1.16	4.04	.08	802	1.14
Living children (all women)	.22	.01	1371	1.11	1.20	.03	1220	1.13	2.37	.05	1011	1.15	3.51	.08	802	1.20
Months breastfed closed interval	13.75	.96	48	.95	13.99	.35	512	1.20	14.38	.26	739	1.12	15.02	.39	655	1.42
Wants no more children (married)	.27	.27	368	1.00	2.50	.48	919	.93	5.21	.64	902	.87	10.99	1.21	710	1.03
Desired family size (married)	5.20	.14	324	1.20	5.19	.07	823	1.15	5.50	.09	828	1.40	6.30	.10	643	1.20
Knows effective methods (all)	53.32	1.67	1371	1.24	68.20	1.74	1220	1.31	67.16	1.91	1011	1.29	57.36	2.15	802	1.23
Ever used contraceptives (all)	27.43	1.59	1371	1.32	41.07	1.71	1220	1.21	45.30	1.88	1011	1.20	41.52	2.31	802	1.33
Ever used effective methods (all)	12.25	.96	1371	1.08	22.87	1.45	1220	1.21	23.44	1.74	1011	1.30	19.58	1.80	802	1.29
Currently using (exposed)	6.55	1.58	275	1.06	10.13	1.18	750	1.07	14.55	1.44	756	1.12	15.13	1.44	608	.99
Using effective (exposed)	2.91	1.02	275	1.00	6.40	.96	750	1.07	10.45	1.29	756	1.16	7.89	1.10	608	1.00
Wants no more and using eff.(exp)	.00	.00	1	.00	9.09	8.67	11	.95	11.43	4.44	35	.81	20.34	4.96	59	.94
Never used contraception (marr.)	71.70	2.55	424	1.17	59.79	1.89	1032	1.24	54.74	1.88	981	1.18	58.36	2.32	795	1.33
Used in past (married)	24.06	2.59	424	1.25	32.85	1.74	1032	1.19	34.05	1.70	981	1.12	30.06	1.90	795	1.17
Currently using (married)	4.25	1.05	424	1.07	7.36	.85	1032	1.05	11.21	1.11	981	1.10	11.57	1.15	795	1.02

Variable name	35-39				40-44				45-49			
	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT
Age at first marriage	17.97	.14	697	.97	18.49	.18	576	1.03	18.34	.19	438	1.09
Age at first marriage (<25)	17.27	.12	650	1.04	17.57	.13	524	1.05	17.68	.14	408	1.10
First marriage dissolved	30.70	1.87	697	1.07	39.41	2.23	576	1.09	39.95	2.85	438	1.22
Time spent in union	94.35	.51	697	1.03	93.09	.60	576	1.00	92.48	.81	438	1.10
Currently married (all women)	89.90	1.08	703	.95	86.01	1.59	579	1.10	82.46	1.93	439	1.06
Births in first 5 years (married)	1.72	.04	692	1.01	1.68	.05	574	1.03	1.72	.06	438	1.04
Births in past 5 years (married)	1.14	.04	588	1.02	.91	.05	461	1.06	.52	.04	341	.94
Births in past 5 years (all)	1.06	.04	703	1.09	.83	.04	579	1.08	.47	.03	439	.92
Currently pregnant (married)	9.81	1.10	632	.93	6.63	1.06	498	.95	2.21	.77	362	1.00
Children ever born (all women)	5.36	.08	703	.99	6.12	.12	579	1.03	6.71	.14	439	1.02
Living children (all women)	4.62	.07	703	.97	5.10	.10	579	1.02	5.37	.12	439	.97
Months breastfed closed interval	15.29	.31	613	1.09	15.38	.32	483	.97	15.17	.36	364	.93
Wants no more children (married)	21.94	1.90	556	1.08	33.87	2.46	375	1.01	38.07	3.43	197	.99
Desired family size (married)	6.86	.10	550	1.11	7.21	.13	442	1.19	7.32	.15	313	1.06
Knows effective methods (all)	55.62	2.01	703	1.07	57.69	2.49	579	1.21	47.15	2.47	439	1.04
Ever used contraceptives (all)	40.54	2.01	703	1.09	39.72	2.19	579	1.08	33.49	2.49	439	1.10
Ever used effective methods (all)	16.64	1.55	703	1.10	15.03	1.76	579	1.18	9.34	1.84	439	1.32
Currently using (exposed)	13.16	1.63	494	1.07	12.57	2.02	342	1.12	10.05	2.69	189	1.23
Using effective (exposed)	6.68	1.19	494	1.06	5.56	1.51	342	1.22	5.29	2.37	189	1.45
Wants no more and using eff.(exp)	21.90	4.70	105	1.16	15.32	3.91	111	1.14	13.51	5.65	74	1.41
Never used contraception (marr.)	59.11	2.02	697	1.08	60.24	2.19	576	1.07	66.44	2.49	438	1.10
Used in past (married)	31.56	2.10	697	1.19	31.94	1.98	576	1.02	29.22	2.46	438	1.13
Currently using (married)	9.33	1.18	697	1.07	7.81	1.25	576	1.11	4.34	1.21	438	1.24

Table III.2a - Sampling errors by current age (cont.)

Variable name	<25				25-34				35-44				45-49			
	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT
Age at first marriage	16.75	.06	1456	1.06	17.95	.08	1776	1.06	18.20	.12	1273	1.04	18.34	.19	438	1.09
Age at first marriage (<25)	.00	.00	0	.00	17.66	.08	1714	1.10	17.40	.09	1174	1.10	17.68	.14	408	1.10
First marriage dissolved	20.05	1.09	1456	1.04	26.01	1.26	1776	1.21	34.64	1.55	1273	1.16	39.95	2.85	438	1.22
Time spent in union	93.07	.53	1456	.99	94.23	.37	1776	1.05	93.72	.42	1273	1.08	92.48	.81	438	1.10
Currently married (all women)	49.94	1.36	2591	1.39	91.01	.81	1813	1.21	88.14	1.06	1282	1.18	82.46	1.93	439	1.06
Births in first 5 years (married)	1.58	.04	497	1.10	1.64	.02	1625	1.12	1.70	.03	1266	1.01	1.72	.06	438	1.04
Births in past 5 years (married)	1.54	.03	359	.91	1.44	.03	1324	1.09	1.04	.03	1049	1.03	.52	.04	341	.94
Births in past 5 years (all)	.63	.02	2591	1.15	1.32	.03	1813	1.22	.96	.03	1282	1.07	.47	.03	439	.92
Currently pregnant (married)	20.25	1.19	1294	1.06	15.03	.88	1650	1.00	8.41	.79	1130	.96	2.21	.77	362	1.00
Children ever born (all women)	.77	.02	2591	1.17	3.29	.05	1813	1.20	5.70	.07	1282	1.04	6.71	.14	439	1.02
Living children (all women)	.68	.02	2591	1.16	2.87	.05	1813	1.24	4.84	.06	1282	1.05	5.37	.12	439	.97
Months breastfed closed interval	13.97	.33	560	1.19	14.68	.25	1394	1.41	15.33	.24	1096	1.13	15.17	.36	364	.93
Wants no more children (married)	1.86	.35	1287	.93	7.75	.68	1612	1.02	26.75	1.66	931	1.15	38.07	3.43	197	.99
Desired family size (married)	5.20	.07	1147	1.21	5.85	.08	1471	1.50	7.02	.10	992	1.31	7.32	.15	313	1.06
Knows effective methods (all)	60.32	1.38	2591	1.44	62.82	1.69	1813	1.49	56.55	1.82	1282	1.32	47.15	2.47	439	1.04
Ever used contraceptives (all)	33.85	1.25	2591	1.34	43.63	1.64	1813	1.41	40.17	1.71	1282	1.25	33.49	2.49	439	1.10
Ever used effective methods (all)	17.25	.94	2591	1.26	21.73	1.36	1813	1.40	15.91	1.23	1282	1.20	9.34	1.84	439	1.32
Currently using (exposed)	9.17	.97	1025	1.07	14.81	1.09	1364	1.13	12.92	1.28	836	1.10	10.05	2.69	189	1.23
Using effective (exposed)	5.46	.73	1025	1.03	9.31	.91	1364	1.15	6.22	1.01	836	1.20	5.29	2.37	189	1.45
Wants no more and using eff.(exp)	8.33	7.98	12	.96	17.02	3.33	94	.85	18.52	3.05	216	1.15	13.51	5.65	74	1.41
Never used contraception (marr.)	63.26	1.63	1456	1.29	56.36	1.63	1776	1.38	59.62	1.71	1273	1.25	66.44	2.49	438	1.10
Used in past (married)	30.29	1.51	1456	1.25	32.26	1.40	1776	1.26	31.74	1.70	1273	1.30	29.22	2.46	438	1.13
Currently using (married)	6.46	.67	1456	1.04	11.37	.84	1776	1.11	8.64	.86	1273	1.09	4.34	1.21	438	1.24

Table III.3a - Sampling errors by age at first marriage

Variable name	<15				15-17				18-19				20-21			
	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT
Age at first marriage	13.13	.05	610	.97	16.05	.02	2050	1.01	18.42	.01	1134	.99	20.41	.02	571	.97
Age at first marriage (<25)	13.04	.06	417	1.00	16.04	.02	1293	.95	18.44	.02	777	1.01	20.42	.02	452	.94
First marriage dissolved	38.36	2.04	610	1.03	28.54	1.13	2050	1.13	26.63	1.45	1134	1.10	22.59	1.87	571	1.07
Time spent in union	91.27	.66	610	.89	94.04	.36	2050	1.02	93.49	.59	1134	1.12	94.12	.82	571	1.11
Currently married (all women)	86.07	1.55	610	1.11	89.76	.73	2050	1.10	90.04	.91	1134	1.02	92.29	1.05	571	.94
Births in first 5 years (married)	1.53	.03	553	.90	1.64	.02	1590	1.07	1.66	.03	841	1.09	1.63	.05	417	1.09
Births in past 5 years (married)	1.15	.05	418	1.01	1.22	.03	1293	1.05	1.20	.04	673	1.05	1.29	.05	342	1.06
Births in past 5 years (all)	1.08	.04	610	1.04	1.10	.02	2050	1.08	1.07	.03	1134	1.06	1.12	.04	571	1.00
Currently pregnant (married)	12.76	1.45	525	.99	13.10	.77	1840	.98	15.96	1.17	1021	1.02	13.85	1.57	527	1.04
Children ever born (all women)	4.44	.10	610	.91	3.79	.06	2050	1.01	3.42	.08	1134	1.01	3.33	.11	571	1.06
Living children (all women)	3.73	.10	610	.99	3.20	.05	2050	1.02	2.92	.07	1134	.99	2.93	.10	571	1.07
Months breastfed closed interval	14.97	.33	464	.97	15.25	.25	1413	1.29	14.65	.24	757	1.01	14.50	.36	384	1.06
Wants no more children (married)	12.28	1.36	464	.89	11.47	.75	1674	.96	10.27	1.09	935	1.10	12.63	1.49	475	.98
Desired family size (married)	6.69	.11	461	1.09	6.18	.08	1589	1.41	5.97	.08	903	1.15	5.82	.12	487	1.18
Knows effective methods (all)	51.97	2.57	610	1.27	58.15	1.60	2050	1.47	62.26	1.64	1134	1.14	64.97	2.23	571	1.12
Ever used contraceptives (all)	33.77	2.56	610	1.34	37.17	1.60	2050	1.49	42.33	1.84	1134	1.26	44.83	2.38	571	1.14
Ever used effective methods (all)	14.10	1.48	610	1.05	15.76	.99	2050	1.23	19.14	1.48	1134	1.27	21.72	1.93	571	1.12
Currently using (exposed)	10.33	1.67	397	1.09	10.61	1.00	1433	1.23	13.08	1.39	772	1.14	15.42	1.86	402	1.03
Using effective (exposed)	4.53	1.08	397	1.03	5.58	.67	1433	1.10	6.61	.92	772	1.03	11.44	1.75	402	1.10
Wants no more and using eff. (exp)	21.28	6.57	47	1.09	10.49	2.37	162	.98	15.38	3.48	78	.85	23.91	6.97	46	1.10
Never used contraception (marr.)	66.23	2.56	610	1.34	62.83	1.60	2050	1.49	57.67	1.84	1134	1.26	55.17	2.38	571	1.14
Used in past (married)	27.05	2.29	610	1.27	29.66	1.36	2050	1.35	33.42	1.66	1134	1.18	33.98	2.14	571	1.08
Currently using (married)	6.72	1.11	610	1.10	7.51	.70	2050	1.20	8.91	.96	1134	1.14	10.86	1.34	571	1.03

Variable name	22-24				25-29				30+			
	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT
Age at first marriage	22.85	.04	387	1.04	26.30	.09	165	.93	32.46	.50	26	.85
Age at first marriage (<25)	22.89	.05	357	1.09	.00	.00	0	.00	.00	.00	0	.00
First marriage dissolved	22.48	2.05	387	.96	16.36	3.27	165	1.13	23.08	8.97	26	1.06
Time spent in union	94.27	.84	387	.92	96.88	1.01	165	1.03	93.11	4.05	26	1.13
Currently married (all women)	89.66	1.66	387	1.07	92.12	2.11	165	1.00	92.31	5.04	26	.95
Births in first 5 years (married)	1.95	.06	278	.95	1.97	.11	129	.96	2.06	.41	18	1.05
Births in past 5 years (married)	1.28	.07	218	1.01	1.20	.09	115	1.03	1.14	.24	14	.96
Births in past 5 years (all)	1.09	.05	387	1.02	1.06	.08	165	1.03	1.00	.15	26	.88
Currently pregnant (married)	15.27	1.98	347	1.03	9.87	2.53	152	1.04	4.17	4.09	24	.98
Children ever born (all women)	3.19	.12	387	.98	3.12	.16	165	.92	3.65	.44	26	.97
Living children (all women)	2.82	.11	387	1.00	2.75	.15	165	.95	3.42	.43	26	1.00
Months breastfed closed interval	14.24	.47	248	1.17	12.71	.62	110	1.07	13.50	2.16	20	.97
Wants no more children (married)	12.11	1.97	322	1.08	18.38	3.55	136	1.06	19.05	6.06	21	.69
Desired family size (married)	5.77	.13	318	1.09	5.17	.17	143	1.05	5.73	.40	22	.98
Knows effective methods (all)	65.63	2.76	387	1.14	65.45	4.10	165	1.10	69.23	9.83	26	1.06
Ever used contraceptives (all)	47.55	2.73	387	1.07	44.85	4.35	165	1.12	34.62	8.58	26	.90
Ever used effective methods (all)	26.36	2.70	387	1.21	26.06	4.41	165	1.29	19.23	7.50	26	.95
Currently using (exposed)	18.59	2.49	269	1.05	12.40	3.85	121	1.28	10.00	6.71	20	.97
Using effective (exposed)	14.50	2.31	269	1.07	8.26	3.66	121	1.46	5.00	4.87	20	.97
Wants no more and using eff. (exp)	28.57	7.48	35	.97	25.00	12.06	24	1.34	25.00	19.76	4	.79
Never used contraception (marr.)	52.45	2.73	387	1.07	55.15	4.35	165	1.12	65.38	8.58	26	.90
Used in past (married)	34.63	2.56	387	1.06	35.76	3.79	165	1.01	26.92	8.00	26	.90
Currently using (married)	12.92	1.81	387	1.06	9.09	2.84	165	1.26	7.69	5.26	26	.99

Table III.4a - Sampling errors by years since first marriage

Variable name	<5				5-9				10-14				15-19			
	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT
Age at first marriage	18.33	.10	1117	1.07	17.98	.11	1084	1.06	17.90	.13	820	1.03	17.67	.15	718	1.12
Age at first marriage (<25)	22.29	.13	114	1.03	19.15	.10	571	1.02	17.51	.10	742	1.04	17.12	.12	677	1.08
First marriage dissolved	14.50	1.18	1117	1.12	24.72	1.39	1084	1.06	28.05	1.80	820	1.15	32.03	1.90	718	1.09
Time spent in union	95.00	.49	1117	.96	93.98	.49	1084	1.05	94.78	.49	820	1.13	93.93	.51	718	.99
Currently married (all women)	89.53	1.04	1117	1.13	91.24	.90	1084	1.05	92.32	.95	820	1.02	91.64	1.00	718	.97
Births in first 5 years (married)	.00	.00	0	.00	1.62	.03	1084	1.06	1.73	.04	820	1.03	1.65	.04	718	1.13
Births in past 5 years (married)	.00	.00	0	.00	1.52	.03	841	.97	1.44	.04	668	1.10	1.25	.04	600	1.06
Births in past 5 years (all)	.90	.02	1117	.95	1.46	.02	1084	1.01	1.36	.03	820	1.14	1.18	.04	718	1.10
Currently pregnant (married)	22.10	1.35	1000	1.03	14.96	1.25	989	1.10	14.13	1.28	757	1.01	12.46	1.24	658	.97
Children ever born (all women)	.96	.02	1117	.95	2.33	.03	1084	.94	3.81	.06	820	1.07	5.02	.08	718	1.10
Living children (all women)	.87	.02	1117	.96	2.08	.03	1084	.98	3.32	.06	820	1.16	4.31	.07	718	1.06
Months breastfed closed interval	13.06	.39	249	.99	14.34	.28	828	1.25	14.57	.29	681	1.12	15.34	.36	624	1.25
Wants no more children (married)	1.00	.31	997	1.00	3.68	.60	979	1.00	10.85	1.29	728	1.12	19.44	1.68	602	1.04
Desired family size (married)	5.02	.07	901	1.18	5.44	.08	880	1.34	6.04	.10	669	1.30	6.63	.10	574	1.16
Knows effective methods (all)	66.16	1.78	1117	1.26	65.04	1.71	1084	1.18	58.90	2.10	820	1.22	56.96	2.37	718	1.28
Ever used contraceptives (all)	38.94	1.72	1117	1.18	41.51	1.83	1084	1.22	42.20	2.05	820	1.19	40.67	2.27	718	1.24
Ever used effective methods (all)	21.67	1.49	1117	1.21	20.76	1.45	1084	1.17	18.78	1.66	820	1.22	18.52	1.69	718	1.16
Currently using (exposed)	11.47	1.22	776	1.06	12.39	1.20	831	1.05	12.56	1.36	621	1.02	14.62	1.66	520	1.07
Using effective (exposed)	7.73	.98	776	1.02	8.06	1.02	831	1.08	6.92	1.13	621	1.11	8.85	1.56	520	1.25
Wants no more and using eff.(exp)	.00	.00	4	.00	11.54	6.27	26	.98	16.95	4.83	59	.98	27.84	5.46	97	1.19
Never used contraception (marr.)	61.06	1.72	1117	1.18	58.49	1.83	1084	1.22	57.80	2.05	820	1.19	59.33	2.27	718	1.24
Used in past (married)	30.98	1.54	1117	1.11	32.01	1.76	1084	1.24	32.68	1.87	820	1.14	30.08	1.96	718	1.14
Currently using (married)	7.97	.85	1117	1.05	9.50	.91	1084	1.02	9.51	1.04	820	1.01	10.58	1.21	718	1.06

Variable name	20-24				25-29				30+			
	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT
Age at first marriage	17.23	.14	630	1.17	16.55	.13	409	.98	15.30	.15	165	1.04
Age at first marriage (<25)	17.06	.14	618	1.22	16.55	.13	409	.98	15.30	.15	165	1.04
First marriage dissolved	38.57	2.19	630	1.13	39.36	3.01	409	1.24	46.06	4.05	165	1.04
Time spent in union	93.07	.61	630	1.07	92.75	.85	409	1.17	92.15	1.33	165	1.16
Currently married (all women)	87.62	1.44	630	1.10	84.60	1.86	409	1.04	81.21	3.03	165	.99
Births in first 5 years (married)	1.67	.04	630	.99	1.69	.06	409	1.03	1.58	.08	165	1.02
Births in past 5 years (married)	.91	.04	509	1.03	.69	.05	328	1.05	.43	.07	127	1.01
Births in past 5 years (all)	.83	.04	630	1.07	.63	.04	409	1.05	.39	.06	165	1.04
Currently pregnant (married)	7.79	1.07	552	.93	2.89	.87	346	.97	1.49	1.04	134	.99
Children ever born (all women)	5.93	.10	630	1.01	6.97	.13	409	.98	7.31	.23	165	.99
Living children (all women)	5.00	.09	630	1.01	5.67	.12	409	.99	5.72	.20	165	.98
Months breastfed closed interval	15.59	.33	532	1.06	15.18	.41	348	1.07	16.02	.54	134	.82
Wants no more children (married)	28.18	2.08	440	.97	38.01	3.15	221	.96	38.33	6.11	60	.97
Desired family size (married)	7.18	.12	487	1.16	7.66	.14	300	1.05	7.68	.25	112	1.00
Knows effective methods (all)	55.56	2.12	630	1.07	52.08	2.82	409	1.14	40.61	3.86	165	1.01
Ever used contraceptives (all)	39.21	2.06	630	1.06	35.70	2.41	409	1.02	33.33	3.66	165	.99
Ever used effective methods (all)	13.97	1.45	630	1.05	11.25	1.76	409	1.13	7.27	2.73	165	1.34
Currently using (exposed)	11.59	1.75	397	1.09	10.90	2.24	211	1.04	13.79	4.21	58	.92
Using effective (exposed)	4.53	1.16	397	1.11	3.32	1.24	211	1.01	6.90	3.30	58	.98
Wants no more and using eff.(exp)	15.09	3.85	106	1.10	8.54	3.15	82	1.01	18.18	7.95	22	.94
Never used contraception (marr.)	60.79	2.06	630	1.06	64.30	2.41	409	1.02	66.67	3.66	165	.99
Used in past (married)	31.75	2.08	630	1.12	29.83	2.31	409	1.02	28.48	3.62	165	1.03
Currently using (married)	7.46	1.11	630	1.06	5.87	1.16	409	1.00	4.85	1.57	165	.93

Table III.5a - Sampling errors by number of living children

Variable name	0				1				2				3			
	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT
Age at first marriage	18.56	.16	502	1.05	17.75	.10	948	.99	17.64	.11	891	1.00	17.92	.13	708	1.00
Age at first marriage (<25)	19.19	.28	130	.97	19.03	.20	250	1.05	17.90	.13	542	1.03	17.88	.12	580	1.04
First marriage dissolved	21.12	1.87	502	1.03	24.68	1.47	948	1.05	28.84	1.49	891	.98	28.81	1.70	708	1.00
Time spent in union	87.01	1.95	502	1.16	89.70	.97	948	1.04	91.04	.79	891	.97	93.46	.59	708	.96
Currently married (all women)	27.46	1.24	1624	1.12	83.92	1.25	995	1.08	89.10	1.06	899	1.02	89.86	1.20	710	1.06
Births in first 5 years (married)	.33	.06	147	1.06	1.12	.03	357	1.01	1.47	.03	742	.94	1.67	.04	692	1.15
Births in past 5 years (married)	.21	.06	100	.98	.79	.04	240	.92	1.17	.03	574	.98	1.35	.04	555	1.06
Births in past 5 years (all)	.05	.01	1624	1.03	.93	.02	995	1.03	1.24	.03	899	1.02	1.33	.04	710	1.09
Currently pregnant (married)	35.87	2.57	446	1.13	16.89	1.34	835	1.03	11.24	1.09	801	.98	12.23	1.38	638	1.06
Children ever born (all women)	.09	.01	1624	1.09	1.25	.02	995	.96	2.44	.03	899	1.11	3.52	.03	710	.90
Living children (all women)	.00	.00	1624	.00	1.00	.00	995	.00	2.00	.00	899	.00	3.00	.00	710	.00
Months breastfed closed interval	8.92	2.76	12	.96	13.00	.59	227	1.13	15.09	.36	798	1.46	14.67	.29	643	1.05
Wants no more children (married)	.93	.46	429	.98	1.71	.49	821	1.07	2.98	.60	771	.98	7.36	1.10	598	1.03
Desired family size (married)	5.13	.11	380	1.07	5.05	.08	742	1.14	5.30	.10	720	1.39	5.76	.11	561	1.26
Knows effective methods (all)	56.90	1.65	1624	1.34	62.61	1.98	995	1.29	59.29	1.94	899	1.18	61.83	2.07	710	1.14
Ever used contraceptives (all)	28.94	1.34	1624	1.19	39.60	1.89	995	1.22	39.71	2.00	899	1.23	40.56	1.99	710	1.08
Ever used effective methods (all)	15.70	1.07	1624	1.18	19.40	1.46	995	1.16	19.02	1.39	899	1.06	19.30	1.71	710	1.15
Currently using (exposed)	8.18	1.94	269	1.16	10.59	1.22	680	1.04	12.92	1.32	681	1.02	13.85	1.72	520	1.13
Using effective (exposed)	5.58	1.47	269	1.05	6.91	1.09	680	1.12	7.93	1.06	681	1.03	7.88	1.40	520	1.18
Wants no more and using eff.(exp)	.00	.00	2	.00	33.33	19.25	6	.91	27.78	10.78	18	.99	18.75	6.76	32	.96
Never used contraception (marr.)	73.51	2.31	502	1.17	60.34	1.87	948	1.18	60.27	2.02	891	1.23	59.32	2.00	708	1.08
Used in past (married)	22.11	2.17	502	1.17	32.07	1.76	948	1.16	29.63	1.70	891	1.11	30.51	1.88	708	1.08
Currently using (married)	4.38	1.08	502	1.18	7.59	.90	948	1.04	10.10	1.03	891	1.02	10.17	1.30	708	1.15

Variable name	4				5				6				7			
	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT
Age at first marriage	17.80	.17	614	1.15	17.33	.17	434	1.05	17.42	.17	359	.93	16.93	.21	237	1.03
Age at first marriage (<25)	17.36	.13	555	1.10	17.05	.14	417	1.05	17.00	.16	343	1.03	16.74	.20	233	1.10
First marriage dissolved	25.90	1.84	614	1.04	32.03	2.58	434	1.15	32.31	2.48	359	1.00	31.65	3.40	237	1.12
Time spent in union	95.14	.55	614	1.06	94.85	.58	434	1.00	94.31	.80	359	1.10	95.85	.75	237	1.21
Currently married (all women)	92.35	1.10	614	1.02	89.86	1.67	434	1.15	89.75	1.70	361	1.07	89.92	2.33	238	1.19
Births in first 5 years (married)	1.80	.04	611	1.07	1.92	.05	432	1.03	1.96	.05	359	.99	2.03	.06	237	.92
Births in past 5 years (married)	1.32	.04	522	1.01	1.28	.05	358	.93	1.32	.05	306	.97	1.30	.07	205	1.02
Births in past 5 years (all)	1.28	.04	614	.99	1.20	.04	434	.92	1.26	.05	361	.96	1.23	.07	238	1.10
Currently pregnant (married)	10.58	1.18	567	.91	8.21	1.35	390	.97	7.72	1.50	324	1.01	6.54	1.53	214	.90
Children ever born (all women)	4.67	.05	614	1.10	5.91	.07	434	1.05	6.81	.06	361	1.00	7.91	.07	238	1.03
Living children (all women)	4.00	.00	614	.00	5.00	.00	434	.00	6.00	.00	361	.00	7.00	.00	238	.00
Months breastfed closed interval	15.24	.32	558	1.07	15.74	.34	399	.99	15.23	.39	333	1.07	14.07	.39	210	.99
Wants no more children (married)	15.29	1.72	510	1.08	20.67	2.27	329	1.01	35.41	3.10	257	1.04	41.33	4.05	150	1.00
Desired family size (married)	6.30	.11	494	1.23	6.97	.11	351	1.08	7.45	.11	280	1.07	8.11	.12	193	.94
Knows effective methods (all)	57.33	2.31	614	1.16	56.68	2.79	434	1.17	59.28	2.44	361	.94	60.50	3.13	238	.99
Ever used contraceptives (all)	42.18	2.38	614	1.19	41.47	2.50	434	1.06	44.60	2.30	361	.88	43.28	3.39	238	1.05
Ever used effective methods (all)	17.75	1.81	614	1.17	16.13	2.20	434	1.25	15.51	2.02	361	1.06	21.43	2.83	238	1.06
Currently using (exposed)	13.56	1.82	450	1.13	11.45	2.18	297	1.18	15.09	2.06	232	.88	11.03	2.60	136	.96
Using effective (exposed)	8.00	1.73	450	1.35	6.06	1.62	297	1.17	6.47	1.56	232	.97	5.88	1.94	136	.96
Wants no more and using eff.(exp)	26.87	6.98	67	1.28	14.04	4.93	57	1.06	13.75	3.81	80	.98	13.46	4.59	52	.96
Never used contraception (marr.)	57.82	2.38	614	1.19	58.53	2.50	434	1.06	55.43	2.31	359	.88	56.54	3.42	237	1.06
Used in past (married)	32.25	2.21	614	1.17	33.64	2.22	434	.98	34.82	2.52	359	1.00	37.13	3.35	237	1.06
Currently using (married)	9.93	1.35	614	1.12	7.83	1.51	434	1.17	9.75	1.37	359	.87	6.33	1.56	237	.98

Table III.5a - Sampling errors by number of living children (cont.)

Variable name	8				9+			
	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT
Age at first marriage	17.09	.28	148	.97	16.59	.29	102	1.01
Age at first marriage (<25)	16.86	.21	146	.93	16.39	.26	100	1.01
First marriage dissolved	32.43	3.77	148	.98	31.37	4.47	102	.97
Time spent in union	95.83	.80	148	1.00	96.88	.67	102	1.03
Currently married (all women)	88.51	2.38	148	.91	88.24	3.29	102	1.03
Births in first 5 years (married)	2.12	.07	147	.96	2.40	.13	102	1.10
Births in past 5 years (married)	1.30	.09	125	.95	1.45	.10	88	.95
Births in past 5 years (all)	1.29	.09	148	.98	1.39	.09	102	.93
Currently pregnant (married)	9.92	2.64	131	1.01	.00	.00	90	.00
Children ever born (all women)	8.93	.09	148	.97	10.16	.11	102	.97
Living children (all women)	8.00	.00	148	.00	9.51	.07	102	1.02
Months breastfed closed interval	13.69	.49	136	1.01	14.36	.48	98	.95
Wants no more children (married)	55.56	4.30	99	.86	53.97	5.84	63	.92
Desired family size (married)	8.83	.14	120	1.01	9.78	.18	82	.85
Knows effective methods (all)	64.86	4.58	148	1.16	61.76	4.34	102	.90
Ever used contraceptives (all)	49.32	4.08	148	.99	44.12	4.20	102	.85
Ever used effective methods (all)	17.57	3.33	148	1.06	17.65	4.12	102	1.09
Currently using (exposed)	22.09	4.35	86	.97	7.94	3.09	63	.90
Using effective (exposed)	9.30	3.24	86	1.03	4.76	2.69	63	.99
Wants no more and using eff.(exp)	16.67	5.66	48	1.04	5.88	4.10	34	1.00
Never used contraception (marr.)	50.68	4.08	148	.99	55.88	4.20	102	.85
Used in past (married)	36.49	3.99	148	1.01	39.22	4.02	102	.83
Currently using (married)	12.84	2.79	148	1.01	4.90	1.94	102	.90

Table III.5b - Sampling errors for differences between number of living children subclasses

Variable name	(0) - (1) Mean or per cent	SE	n	DEFT	(1) - (2) Mean or per cent	SE	n	DEFT	(2) - (3) Mean or per cent	SE	n	DEFT
Age at first marriage	.81	.18	656	1.01	.11	.14	918	.97	-.28	.17	789	1.01
Age at first marriage (<25)	.16	.32	171	.95	1.13	.24	342	1.07	.02	.17	560	1.02
First marriage dissolved	-3.57	2.26	656	.98	-4.16	1.95	918	.94	.03	2.04	789	.89
Time spent in union	-2.69	2.15	656	1.12	-1.34	1.27	918	1.02	-2.42	.97	789	.94
Currently married (all women)	-56.46	1.59	1233	.99	-5.18	1.45	944	.93	-.76	1.60	793	1.04
Births in first 5 years (married)	-.79	.07	208	1.06	-.35	.04	482	.99	-.20	.04	716	1.06
Births in past 5 years (married)	-.58	.07	141	.97	-.38	.05	338	.92	-.18	.05	564	.99
Births in past 5 years (all)	-.87	.02	1233	1.05	-.32	.03	944	1.01	-.08	.04	793	1.01
Currently pregnant (married)	18.99	2.84	581	1.09	5.65	1.74	817	1.02	-.99	1.80	710	1.05
Children ever born (all women)	-1.17	.02	1233	.99	-1.19	.04	944	.97	-1.08	.04	793	.91
Living children (all women)	-1.00	.00	1233	.00	-1.00	.00	944	.00	-1.00	.00	793	.00
Months breastfed closed interval	-4.08	2.72	22	.93	-2.09	.66	353	1.13	.42	.36	712	.98
Wants no more children (married)	-.77	.67	563	1.03	-1.28	.84	795	1.11	-4.37	1.39	673	1.12
Desired family size (married)	.08	.11	502	.89	-.25	.10	730	1.01	-.46	.11	630	.97
Knows effective methods (all)	-5.72	2.19	1233	1.11	3.32	2.22	944	.99	-2.54	2.41	793	.98
Ever used contraceptives (all)	-10.66	1.82	1233	.95	-.11	2.17	944	.96	-.85	2.36	793	.96
Ever used effective methods (all)	-3.70	1.42	1233	.92	.38	1.76	944	.97	-.27	2.00	793	1.01
Currently using (exposed)	-2.41	2.33	385	1.14	-2.33	1.71	680	.98	-.92	2.16	589	1.09
Using effective (exposed)	-1.34	1.85	385	1.09	-1.02	1.53	680	1.08	.04	1.68	589	1.07
Wants no more and using eff.(exp)	-33.33	19.25	3	.91	5.56	21.02	9	.89	9.03	12.57	23	.97
Never used contraception (marr.)	13.17	2.52	656	1.00	.07	2.14	918	.94	.95	2.40	789	.97
Used in past (married)	-9.96	2.45	656	1.02	2.44	2.06	918	.96	-.88	2.15	789	.93
Currently using (married)	-3.21	1.44	656	1.15	-2.51	1.31	918	.99	-.07	1.68	789	1.11

Variable name	(3) - (4) Mean or per cent	SE	n	DEFT	(4) - (5) Mean or per cent	SE	n	DEFT	(5) - (6) Mean or per cent	SE	n	DEFT
Age at first marriage	.12	.21	657	1.09	.47	.22	508	1.00	-.09	.22	392	.92
Age at first marriage (<25)	.52	.16	567	.99	.31	.18	476	1.00	.05	.18	376	.91
First marriage dissolved	2.92	2.22	657	.90	-6.13	3.07	508	1.08	-.28	3.29	392	.99
Time spent in union	-1.68	.79	657	.98	.29	.82	508	1.04	.54	.97	392	1.04
Currently married (all women)	-2.49	1.62	658	1.04	2.48	1.89	508	1.04	.11	2.33	394	1.08
Births in first 5 years (married)	-.13	.05	648	1.03	-.12	.06	506	1.02	-.04	.07	392	1.01
Births in past 5 years (married)	.03	.06	537	1.08	.04	.06	424	.98	-.04	.06	329	.88
Births in past 5 years (all)	.04	.05	658	1.04	.08	.06	508	.96	-.06	.06	394	.90
Currently pregnant (married)	1.64	1.88	600	1.03	2.38	1.75	462	.92	.49	2.00	353	.98
Children ever born (all women)	-1.14	.06	658	1.03	-1.25	.08	508	.99	-.89	.09	394	1.01
Living children (all women)	-1.00	.00	658	.00	-1.00	.00	508	.00	-1.00	.00	394	.00
Months breastfed closed interval	-.57	.38	597	.94	-.51	.44	465	.96	.51	.52	363	1.05
Wants no more children (married)	-7.94	1.77	550	.92	-5.37	2.76	399	1.01	-14.74	3.69	288	.99
Desired family size (married)	-.54	.12	525	1.00	-.67	.12	410	.93	-.48	.13	311	.95
Knows effective methods (all)	4.50	2.72	658	1.01	.65	3.04	508	.98	-2.60	3.70	394	1.05
Ever used contraceptives (all)	-1.62	2.77	658	1.02	.71	2.92	508	.94	-3.12	3.15	394	.89
Ever used effective methods (all)	1.54	2.05	658	.96	1.62	2.59	508	1.10	.62	2.93	394	1.13
Currently using (exposed)	.29	2.38	482	1.07	2.11	2.69	357	1.10	-3.64	2.82	260	.94
Using effective (exposed)	-.12	2.10	482	1.20	1.94	2.23	357	1.18	-.40	2.22	260	1.04
Wants no more and using eff.(exp)	-8.12	9.09	43	1.02	12.83	7.90	61	1.10	.29	5.72	66	.95
Never used contraception (marr.)	1.50	2.78	657	1.02	-.71	2.92	508	.94	3.09	3.16	392	.89
Used in past (married)	-1.74	2.77	657	1.08	-1.39	2.85	508	.96	-1.18	3.07	392	.91
Currently using (married)	.23	1.73	657	1.04	2.10	1.92	508	1.08	-1.92	1.91	392	.94

Table III.5b - Sampling errors for differences between number of living children subclasses (cont.)

Variable name	(6) - (7) Mean or per cent	SE	n	DEFT	(7) - (8) Mean or per cent	SE	n	DEFT	(8) - (9+) Mean or per cent	SE	n	DEFT
Age at first marriage	.49	.26	285	.96	-.16	.34	182	.97	.50	.41	120	1.00
Age at first marriage (<25)	.26	.26	277	1.09	-.12	.29	179	.98	.47	.34	118	.99
First marriage dissolved	.67	3.68	285	.94	-.79	5.01	182	1.02	1.06	5.73	120	.95
Time spent in union	-1.54	1.00	285	1.05	.02	.99	182	.98	-1.05	1.01	120	.97
Currently married (all women)	-.17	2.87	286	1.13	1.40	3.56	182	1.09	.28	3.89	120	.94
Births in first 5 years (married)	-.07	.08	285	.94	-.09	.10	181	.99	-.29	.15	120	1.08
Births in past 5 years (married)	.02	.09	245	.98	.00	.11	155	.94	-.16	.12	103	.86
Births in past 5 years (all)	.03	.08	286	1.01	-.06	.11	182	.97	-.10	.11	120	.87
Currently pregnant (married)	1.17	2.22	257	.99	-3.38	3.13	162	1.00	9.92	2.64	106	1.01
Children ever born (all women)	-1.11	.09	286	1.01	-1.01	.12	182	.98	-1.23	.15	120	.97
Living children (all women)	-1.00	.00	286	.00	-1.00	.00	182	.00	-1.51	.07	120	1.02
Months breastfed closed interval	1.16	.48	257	.90	.38	.58	165	.93	-.67	.69	113	.98
Wants no more children (married)	-5.92	5.12	189	1.02	-14.22	6.12	119	.95	1.59	7.84	77	.97
Desired family size (married)	-.66	.16	228	1.00	-.72	.18	147	.94	-.95	.21	97	.85
Knows effective methods (all)	-1.22	3.71	286	.90	-4.36	5.30	182	1.05	3.10	6.14	120	.99
Ever used contraceptives (all)	1.32	4.10	286	.99	-6.05	5.22	182	1.00	5.21	5.62	120	.87
Ever used effective methods (all)	-5.92	3.27	286	1.00	3.86	4.50	182	1.09	-.08	4.83	120	.98
Currently using (exposed)	4.06	3.38	171	.94	-11.06	5.05	105	.96	14.16	5.31	72	.94
Using effective (exposed)	.58	2.46	171	.95	-3.42	3.66	105	.98	4.54	3.97	72	.96
Wants no more and using eff.(exp)	.29	6.50	63	1.06	-3.21	6.91	49	.95	10.78	6.23	39	.92
Never used contraception (marr.)	-1.11	4.11	285	.99	5.86	5.23	182	1.00	-5.21	5.62	120	.87
Used in past (married)	-2.31	4.26	285	1.06	.64	5.10	182	1.01	-2.73	5.60	120	.89
Currently using (married)	3.42	2.09	285	.94	-6.51	3.18	182	1.00	7.94	3.34	120	.96

Table III.6a - Sampling errors by woman's education in years

Variable name	0				1-6				7-10				11+			
	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT
Age at first marriage	17.44	.07	2955	1.11	17.54	.14	527	1.05	17.94	.08	1293	1.03	21.22	.36	157	1.22
Age at first marriage (<25)	17.21	.07	2252	1.24	17.78	.16	320	.95	18.34	.11	618	.97	20.25	.32	99	1.14
First marriage dissolved	26.67	1.20	2955	1.48	33.97	2.09	527	1.01	29.54	1.36	1293	1.07	10.19	1.87	157	.77
Time spent in union	94.21	.35	2955	1.21	92.28	.86	527	1.02	91.19	.62	1293	1.10	96.15	.95	157	.90
Currently married (all women)	85.22	.82	3152	1.29	70.37	2.05	648	1.14	55.38	1.14	2046	1.04	58.24	3.60	261	1.18
Births in first 5 years (married)	1.64	.02	2548	1.15	1.76	.04	397	.99	1.72	.03	775	1.04	1.65	.08	99	.87
Births in past 5 years (married)	1.17	.02	2128	1.11	1.35	.05	301	.97	1.32	.04	552	1.01	1.10	.12	88	1.25
Births in past 5 years (all)	1.00	.02	3152	1.14	.98	.04	648	1.09	.73	.02	2046	1.05	.57	.04	261	.89
Currently pregnant (married)	11.80	.66	2686	1.05	15.79	1.65	456	.96	17.39	1.16	1133	1.03	16.45	3.48	152	1.15
Children ever born (all women)	4.10	.06	3152	1.21	2.79	.11	648	1.07	1.53	.05	2046	1.22	1.30	.11	261	1.08
Living children (all women)	3.42	.05	3152	1.21	2.48	.10	648	1.09	1.37	.05	2046	1.22	1.23	.11	261	1.08
Months breastfed closed interval	16.10	.24	2203	1.50	13.52	.27	360	.97	12.45	.18	755	1.01	8.81	.59	90	1.17
Wants no more children (married)	12.31	.77	2356	1.13	13.48	1.72	423	1.03	9.42	.90	1093	1.01	14.97	4.19	147	1.42
Desired family size (married)	6.77	.08	2217	1.70	5.76	.11	432	1.15	5.02	.06	1116	1.21	4.37	.10	150	.87
Knows effective methods (all)	44.54	1.56	3152	1.76	66.67	1.88	648	1.01	75.37	1.33	2046	1.40	94.64	1.78	261	1.27
Ever used contraceptives (all)	28.81	1.48	3152	1.84	40.59	2.22	648	1.15	47.41	1.40	2046	1.27	70.88	3.19	261	1.13
Ever used effective methods (all)	7.65	.59	3152	1.26	17.59	1.87	648	1.25	28.25	1.12	2046	1.12	58.62	3.22	261	1.06
Currently using (exposed)	7.75	.76	2039	1.28	14.53	1.88	351	1.00	17.75	1.33	896	1.04	45.08	4.95	122	1.09
Using effective (exposed)	2.55	.40	2039	1.15	8.55	1.62	351	1.09	13.06	1.15	896	1.02	37.70	5.48	122	1.24
Wants no more and using eff.(exp)	11.24	2.14	249	1.07	24.44	6.66	45	1.03	18.75	4.56	80	1.04	61.90	11.66	21	1.07
Never used contraception (marr.)	70.39	1.53	2955	1.82	53.89	2.48	527	1.14	43.85	1.63	1293	1.18	21.02	2.94	157	.90
Used in past (married)	24.20	1.38	2955	1.75	36.43	2.18	527	1.04	43.85	1.49	1293	1.08	43.95	4.67	157	1.17
Currently using (married)	5.41	.52	2955	1.25	9.68	1.26	527	.98	12.30	.92	1293	1.01	35.03	4.62	157	1.21

Table III.6b - Sampling errors for differences between woman's education subclasses

Variable name	(0) - (1-6)				(1-6) - (7-10)				(7-10) - (11+)			
	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT
Age at first marriage	-.10	.15	894	1.03	-.40	.15	748	.98	-3.29	.36	280	1.20
Age at first marriage (<25)	-.57	.17	560	.94	-.56	.17	421	.86	-1.91	.34	170	1.12
First marriage dissolved	-7.30	2.17	894	.98	4.42	2.21	748	.91	19.35	2.13	280	.78
Time spent in union	1.94	.91	894	1.02	1.08	.98	748	.97	-4.96	1.02	280	.85
Currently married (all women)	14.85	2.03	1074	1.07	14.99	2.35	984	1.11	-2.86	3.81	462	1.17
Births in first 5 years (married)	-.12	.05	686	1.00	.04	.06	525	1.05	.07	.09	175	.86
Births in past 5 years (married)	-.17	.05	527	.95	.03	.06	389	.94	.22	.12	151	1.19
Births in past 5 years (all)	.03	.04	1074	1.07	.25	.04	984	1.03	.16	.05	462	.88
Currently pregnant (married)	-3.99	1.85	779	1.02	-1.60	1.89	650	.92	.94	3.68	268	1.14
Children ever born (all women)	1.31	.13	1074	1.11	1.26	.12	984	1.06	.23	.12	462	1.11
Living children (all women)	.94	.12	1074	1.13	1.11	.11	984	1.08	.14	.12	462	1.12
Months breastfed closed interval	2.57	.34	618	1.06	1.08	.31	487	.94	3.63	.58	160	1.08
Wants no more children (married)	-1.17	1.89	717	1.05	4.05	1.94	609	1.03	-5.54	4.40	259	1.43
Desired family size (married)	1.01	.13	723	1.25	.74	.12	622	1.13	.66	.11	264	.86
Knows effective methods (all)	-22.12	2.21	1074	1.08	-8.70	2.07	984	.99	-19.27	2.12	462	1.25
Ever used contraceptives (all)	-11.78	2.29	1074	1.09	-6.82	2.40	984	1.08	-23.47	3.26	462	1.08
Ever used effective methods (all)	-9.95	1.81	1074	1.15	-10.66	2.07	984	1.15	-30.37	3.27	462	1.02
Currently using (exposed)	-6.78	1.98	598	1.00	-3.22	2.36	504	1.04	-27.34	5.10	214	1.08
Using effective (exposed)	-6.00	1.61	598	1.05	-4.51	1.99	504	1.07	-24.65	5.49	214	1.21
Wants no more and using eff.(exp)	-13.20	6.78	76	1.00	5.69	8.56	57	1.09	-43.15	12.21	33	1.04
Never used contraception (marr.)	16.50	2.58	894	1.11	10.04	2.81	748	1.09	22.83	3.43	280	.97
Used in past (married)	-12.24	2.31	894	1.03	-7.42	2.62	748	1.04	-.10	4.80	280	1.14
Currently using (married)	-4.26	1.34	894	.99	-2.62	1.60	748	1.01	-22.73	4.68	280	1.19

Table III.7a - Sampling errors by woman's pattern of last work since marriage

Variable name	Did not work				Self/family employed				Employed by someone else			
	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT
Age at first marriage	17.31	.14	505	1.00	17.61	.06	3935	1.11	18.80	.23	496	1.40
Age at first marriage (<25)	17.43	.24	191	1.13	17.48	.06	2820	1.18	18.51	.25	281	1.31
First marriage dissolved	18.02	1.77	505	1.03	28.77	1.07	3935	1.49	29.44	1.99	496	.97
Time spent in union	95.22	.83	505	1.16	93.64	.34	3935	1.26	91.31	.90	496	.95
Currently married (all women)	90.10	1.51	505	1.14	89.83	.60	3935	1.24	88.51	1.24	496	.86
Births in first 5 years (married)	1.47	.07	239	.97	1.67	.02	3246	1.17	1.69	.05	335	.99
Births in past 5 years (married)	1.19	.09	196	1.62	1.22	.02	2635	1.06	1.16	.07	237	1.19
Births in past 5 years (all)	.89	.04	505	1.12	1.13	.02	3935	1.10	1.00	.04	496	1.05
Currently pregnant (married)	21.98	2.05	455	1.06	12.45	.59	3535	1.06	16.63	1.73	439	.97
Children ever born (all women)	2.08	.12	505	1.26	4.01	.05	3935	1.04	2.54	.09	496	.99
Living children (all women)	1.74	.10	505	1.21	3.41	.04	3935	1.12	2.28	.08	496	.99
Months breastfed closed interval	15.02	.67	225	1.43	15.19	.20	2870	1.58	11.12	.32	296	1.02
Wants no more children (married)	5.01	1.10	439	1.06	12.71	.67	3162	1.13	11.67	2.05	420	1.30
Desired family size (married)	5.62	.14	397	1.31	6.30	.06	3097	1.54	4.83	.08	422	1.14
Knows effective methods (all)	47.13	3.76	505	1.69	58.60	1.43	3935	1.82	84.07	1.88	496	1.14
Ever used contraceptives (all)	25.15	2.61	505	1.35	38.78	1.34	3935	1.72	63.31	2.71	496	1.25
Ever used effective methods (all)	11.29	1.73	505	1.23	15.37	.86	3935	1.50	47.78	3.04	496	1.35
Currently using (exposed)	6.19	1.81	339	1.38	11.13	.72	2722	1.20	28.53	2.66	347	1.10
Using effective (exposed)	2.65	1.27	339	1.46	5.73	.52	2722	1.17	23.05	2.72	347	1.20
Wants no more and using eff.(exp)	12.50	11.43	16	1.34	13.57	1.95	339	1.05	46.34	8.82	41	1.12
Never used contraception (marr.)	74.85	2.61	505	1.35	61.22	1.34	3935	1.72	36.69	2.71	496	1.25
Used in past (married)	20.99	2.15	505	1.18	31.03	1.18	3935	1.60	43.35	2.57	496	1.15
Currently using (married)	4.16	1.23	505	1.39	7.75	.50	3935	1.17	19.96	2.10	496	1.17

Table III.8a - Sampling errors by husband's occupation

Variable name	Prof.,tech. & clerical				Sales & service				Agricultural				Manual workers			
	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT
Age at first marriage	18.54	.15	756	1.24	17.82	.14	529	.97	17.40	.07	2472	1.09	17.71	.10	1107	1.05
Age at first marriage (<25)	18.39	.15	470	1.06	17.59	.15	351	.96	17.30	.09	1779	1.30	17.65	.11	673	.97
First marriage dissolved	28.04	1.74	756	1.07	29.30	2.21	529	1.12	26.86	1.22	2472	1.37	28.64	1.43	1107	1.05
Time spent in union	92.08	.66	756	.99	92.86	.85	529	1.04	94.36	.38	2472	1.19	92.54	.60	1107	1.08
Currently married (all women)	87.57	1.21	756	1.00	91.30	1.39	529	1.13	90.01	.76	2472	1.26	90.70	.87	1107	.99
Births in first 5 years (married)	1.72	.03	528	.85	1.65	.05	406	1.09	1.66	.03	2044	1.17	1.65	.03	816	1.04
Births in past 5 years (married)	1.20	.05	393	1.07	1.24	.05	322	1.05	1.19	.02	1691	1.11	1.29	.04	640	.99
Births in past 5 years (all)	1.02	.03	756	.98	1.11	.04	529	1.07	1.10	.02	2472	1.18	1.14	.03	1107	1.11
Currently pregnant (married)	14.95	1.21	662	.87	14.08	1.69	483	1.07	12.49	.74	2225	1.06	15.34	1.28	1004	1.12
Children ever born (all women)	2.90	.09	756	1.01	3.54	.11	529	1.01	4.13	.07	2472	1.18	3.34	.08	1107	1.06
Living children (all women)	2.59	.07	756	.98	3.09	.10	529	1.00	3.45	.06	2472	1.21	2.90	.07	1107	1.09
Months breastfed closed interval	12.23	.30	479	1.21	13.51	.39	363	1.27	16.29	.24	1796	1.34	13.68	.26	732	1.19
Wants no more children (married)	12.30	1.49	610	1.12	17.11	1.60	450	.90	10.45	.72	1980	1.04	12.12	1.08	932	1.01
Desired family size (married)	5.08	.07	639	1.09	5.59	.11	444	1.16	6.79	.09	1853	1.70	5.64	.07	929	1.13
Knows effective methods (all)	83.07	1.55	756	1.13	70.70	2.49	529	1.26	46.08	1.64	2472	1.64	70.10	1.62	1107	1.18
Ever used contraceptives (all)	54.89	2.10	756	1.16	45.94	2.60	529	1.20	31.96	1.83	2472	1.95	44.17	2.08	1107	1.40
Ever used effective methods (all)	36.90	2.50	756	1.43	25.71	2.56	529	1.35	8.94	.73	2472	1.27	22.04	1.57	1107	1.26
Currently using (exposed)	24.46	2.28	511	1.20	15.45	1.97	382	1.07	7.58	.82	1702	1.28	13.11	1.14	778	.94
Using effective (exposed)	19.96	2.32	511	1.31	10.47	1.80	382	1.15	2.53	.45	1702	1.17	7.07	.97	778	1.05
Wants no more and using eff.(exp)	29.03	7.83	62	1.35	14.93	4.51	67	1.03	13.64	3.08	176	1.19	16.48	4.00	91	1.02
Never used contraception (marr.)	45.11	2.10	756	1.16	54.06	2.60	529	1.20	68.04	1.83	2472	1.95	55.83	2.08	1107	1.40
Used in past (married)	38.36	1.70	756	.96	34.59	2.34	529	1.13	26.70	1.62	2472	1.82	34.96	1.81	1107	1.26
Currently using (married)	16.53	1.66	756	1.23	11.34	1.51	529	1.09	5.26	.57	2472	1.27	9.21	.81	1107	.93

Table III.9a - Sampling errors by type of place of residence

Variable name	Rural				Urban				Large urban			
	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT
Age at first marriage	17.46	.06	3354	1.07	18.01	.13	793	1.13	18.37	.22	796	1.71
Age at first marriage (<25)	17.38	.08	2249	1.27	17.80	.12	532	.94	18.13	.19	515	1.41
First marriage dissolved	27.46	1.17	3354	1.52	30.26	1.96	793	1.20	26.26	2.21	796	1.42
Time spent in union	94.07	.36	3354	1.26	91.91	.72	793	1.05	92.93	.88	796	1.44
Currently married (all women)	74.44	1.03	4046	1.50	68.89	1.78	1019	1.23	68.11	2.07	1060	1.45
Births in first 5 years (married)	1.65	.02	2628	1.19	1.74	.04	603	1.01	1.63	.04	595	1.14
Births in past 5 years (married)	1.23	.02	2128	1.11	1.24	.04	468	.88	1.14	.05	477	1.22
Births in past 5 years (all)	.94	.02	4046	1.23	.84	.03	1019	1.07	.75	.04	1060	1.49
Currently pregnant (married)	13.15	.70	3012	1.14	13.68	1.08	702	.83	16.76	1.20	722	.87
Children ever born (all women)	3.18	.05	4046	1.21	2.78	.06	1019	.75	2.36	.08	1060	1.05
Living children (all women)	2.68	.05	4046	1.21	2.41	.05	1019	.68	2.09	.06	1060	.92
Months breastfed closed interval	15.81	.22	2353	1.51	12.98	.30	533	1.26	12.29	.47	528	1.92
Wants no more children (married)	10.51	.66	2711	1.11	11.96	1.49	644	1.17	16.52	1.12	672	.78
Desired family size (married)	6.34	.08	2633	1.84	5.70	.10	606	1.30	5.39	.12	684	1.48
Knows effective methods (all)	51.98	1.54	4046	1.96	71.64	2.05	1019	1.45	75.57	2.36	1060	1.79
Ever used contraceptives (all)	36.73	1.44	4046	1.90	41.32	2.42	1019	1.57	39.91	2.71	1060	1.80
Ever used effective methods (all)	13.74	.85	4046	1.58	24.14	2.34	1019	1.74	26.79	2.83	1060	2.08
Currently using (exposed)	9.89	.78	2315	1.25	15.15	1.74	548	1.13	20.15	2.44	551	1.43
Using effective (exposed)	4.75	.64	2315	1.45	9.31	1.31	548	1.05	15.25	2.35	551	1.53
Wants no more and using eff.(exp)	15.25	3.30	236	1.41	19.70	5.35	66	1.08	19.15	4.90	94	1.20
Never used contraception (marr.)	61.81	1.52	3354	1.82	57.25	2.77	793	1.57	55.90	3.32	796	1.89
Used in past (married)	31.34	1.33	3354	1.66	32.16	2.37	793	1.43	30.15	2.53	796	1.56
Currently using (married)	6.86	.52	3354	1.20	10.59	1.27	793	1.16	13.94	1.65	796	1.34

Table III.9b - Sampling errors for differences between type of place of residence subclasses

Variable name	(Rural) - (Urban)				(Urban) - (Large urban)				(Rural) - (Large urban)			
	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT
Age at first marriage	-.55	.15	1282	1.12	-.36	.26	794	1.47	-.91	.23	1286	1.62
Age at first marriage (<25)	-.42	.14	860	1.01	-.33	.22	523	1.21	-.75	.20	838	1.39
First marriage dissolved	-2.81	2.29	1282	1.27	4.01	2.96	794	1.31	1.20	2.50	1286	1.44
Time spent in union	2.16	.80	1282	1.09	-1.02	1.13	794	1.24	1.14	.95	1286	1.41
Currently married (all women)	5.55	2.06	1627	1.28	.78	2.73	1039	1.34	6.33	2.31	1679	1.46
Births in first 5 years (married)	-.09	.04	980	1.05	.11	.06	598	1.08	.03	.05	970	1.15
Births in past 5 years (married)	-.01	.04	767	.92	.09	.06	472	1.04	.09	.05	779	1.20
Births in past 5 years (all)	.09	.03	1627	1.10	.09	.05	1039	1.28	.19	.04	1679	1.43
Currently pregnant (married)	-.53	1.29	1138	.90	-3.08	1.62	711	.85	-3.61	1.39	1164	.92
Children ever born (all women)	.41	.08	1627	.87	.42	.10	1039	.90	.82	.10	1679	1.09
Living children (all women)	.27	.07	1627	.82	.32	.08	1039	.80	.59	.08	1679	1.00
Months breastfed closed interval	2.83	.37	869	1.34	.69	.56	530	1.64	3.52	.52	862	1.82
Wants no more children (married)	-1.44	1.63	1040	1.16	-4.56	1.86	657	.97	-6.01	1.30	1077	.84
Desired family size (married)	.64	.13	985	1.45	.31	.16	642	1.40	.95	.15	1085	1.57
Knows effective methods (all)	-19.66	2.57	1627	1.59	-3.93	3.13	1039	1.62	-23.59	2.82	1679	1.83
Ever used contraceptives (all)	-4.59	2.82	1627	1.64	1.41	3.63	1039	1.68	-3.18	3.07	1679	1.82
Ever used effective methods (all)	-10.40	2.49	1627	1.72	-2.65	3.67	1039	1.92	-13.05	2.96	1679	2.02
Currently using (exposed)	-5.25	1.90	886	1.15	-5.00	3.00	549	1.30	-10.25	2.56	890	1.41
Using effective (exposed)	-4.55	1.46	886	1.10	-5.94	2.69	549	1.36	-10.49	2.43	890	1.53
Wants no more and using eff.(exp)	-4.44	6.29	103	1.15	.55	7.26	77	1.13	-3.89	5.91	134	1.26
Never used contraception (marr.)	4.56	3.16	1282	1.62	1.35	4.32	794	1.74	5.90	3.65	1286	1.87
Used in past (married)	-.82	2.72	1282	1.47	2.01	3.47	794	1.49	1.18	2.86	1286	1.58
Currently using (married)	-3.74	1.37	1282	1.16	-3.35	2.08	794	1.26	-7.09	1.73	1286	1.32

Table III.10a – Sampling errors by region

Variable name	Western				Central				Greater Accra			
	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT
Age at first marriage	17.30	.13	387	.72	18.28	.18	388	.94	18.62	.33	549	2.19
Age at first marriage (<25)	17.01	.20	251	1.04	17.83	.17	250	.97	18.40	.25	362	1.53
First marriage dissolved	39.28	3.79	387	1.52	42.01	3.85	388	1.54	27.32	2.85	549	1.50
Time spent in union	91.32	1.12	387	1.08	91.66	1.31	388	1.55	91.12	.94	549	1.13
Currently married (all women)	74.40	3.23	457	1.58	66.81	2.48	464	1.13	69.82	2.76	729	1.62
Births in first 5 years (married)	1.91	.06	291	.94	1.75	.06	306	1.06	1.62	.05	411	1.10
Births in past 5 years (married)	1.31	.07	216	1.04	1.39	.04	201	.65	1.18	.06	331	1.20
Births in past 5 years (all)	1.04	.06	457	1.33	.98	.03	464	.60	.76	.06	729	1.75
Currently pregnant (married)	14.71	2.50	340	1.30	12.90	1.58	310	.83	17.29	1.33	509	.79
Children ever born (all women)	3.53	.12	457	.85	3.33	.11	464	.81	2.24	.12	729	1.34
Living children (all women)	2.83	.10	457	.85	2.71	.08	464	.73	1.99	.09	729	1.09
Months breastfed closed interval	12.82	.25	281	.67	10.73	.25	268	1.12	11.44	.62	357	2.23
Wants no more children (married)	14.85	2.18	303	1.07	8.37	1.14	263	.67	19.71	1.96	487	1.09
Desired family size (married)	5.82	.19	291	1.55	6.27	.17	297	1.29	4.91	.12	472	1.54
Knows effective methods (all)	73.30	2.94	457	1.42	73.71	3.65	464	1.79	88.75	1.50	729	1.28
Ever used contraceptives (all)	22.10	3.19	457	1.64	19.18	3.44	464	1.88	43.07	2.86	729	1.56
Ever used effective methods (all)	12.25	2.29	457	1.49	15.09	2.96	464	1.78	29.63	3.34	729	1.97
Currently using (exposed)	9.09	2.61	253	1.44	4.93	1.22	223	.84	25.56	3.62	399	1.66
Using effective (exposed)	5.93	2.15	253	1.44	4.48	1.13	223	.82	18.55	3.82	399	1.96
Wants no more and using eff.(exp)	17.14	6.83	35	1.06	23.53	7.60	17	.72	27.38	7.85	84	1.60
Never used contraception (marr.)	77.00	3.06	387	1.43	81.96	3.84	388	1.97	50.82	3.95	549	1.85
Used in past (married)	17.05	2.12	387	1.11	15.21	3.71	388	2.03	30.60	2.91	549	1.48
Currently using (married)	5.94	1.67	387	1.39	2.84	.72	388	.85	18.58	2.58	549	1.56

Variable name	Eastern				Volta				Ashanti			
	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT
Age at first marriage	18.11	.14	761	1.15	17.95	.16	478	1.02	17.59	.09	1148	.95
Age at first marriage (<25)	17.93	.18	530	1.40	17.71	.17	336	1.05	17.62	.13	710	1.20
First marriage dissolved	29.57	1.87	761	1.13	35.77	3.40	478	1.55	27.18	1.66	1148	1.26
Time spent in union	92.77	.72	761	1.07	90.56	1.32	478	1.39	94.20	.63	1148	1.30
Currently married (all women)	68.15	1.61	1011	1.10	71.45	2.12	599	1.15	67.07	1.69	1473	1.38
Births in first 5 years (married)	1.85	.05	586	1.21	1.78	.05	383	1.02	1.64	.03	844	.97
Births in past 5 years (married)	1.21	.04	474	.95	1.25	.05	283	.98	1.21	.03	656	.95
Births in past 5 years (all)	.85	.03	1011	1.21	.92	.04	599	1.13	.84	.03	1473	1.14
Currently pregnant (married)	11.76	1.44	689	1.17	10.51	1.12	428	.76	16.50	1.40	988	1.19
Children ever born (all women)	3.01	.09	1011	.94	3.10	.12	599	1.00	2.66	.10	1473	1.45
Living children (all women)	2.68	.08	1011	.93	2.65	.10	599	.98	2.38	.09	1473	1.46
Months breastfed closed interval	13.64	.21	552	.93	16.56	.50	333	1.30	12.93	.20	777	1.31
Wants no more children (married)	11.82	1.26	626	.97	16.18	2.13	377	1.12	10.72	1.24	886	1.19
Desired family size (married)	5.96	.09	660	1.17	5.82	.16	392	1.43	5.92	.08	984	1.27
Knows effective methods (all)	72.40	2.68	1011	1.90	57.76	3.73	599	1.85	56.48	2.28	1473	1.77
Ever used contraceptives (all)	64.89	2.08	1011	1.38	88.65	1.64	599	1.27	30.28	1.73	1473	1.45
Ever used effective methods (all)	29.28	2.61	1011	1.83	14.69	2.09	599	1.45	17.18	1.35	1473	1.37
Currently using (exposed)	20.73	1.99	545	1.14	18.67	2.21	332	1.03	10.37	1.32	723	1.16
Using effective (exposed)	6.06	1.25	545	1.22	6.02	1.73	332	1.32	9.13	1.29	723	1.20
Wants no more and using eff.(exp)	17.91	6.15	67	1.30	11.76	3.99	51	.88	12.33	3.88	73	1.00
Never used contraception (marr.)	30.75	2.06	761	1.23	8.58	1.33	478	1.04	64.46	2.04	1148	1.44
Used in past (married)	54.40	2.05	761	1.13	78.45	2.04	478	1.08	28.92	1.84	1148	1.38
Currently using (married)	14.85	1.40	761	1.09	12.97	1.53	478	.99	6.62	.79	1148	1.08

Table III.10a - Sampling errors by region (cont.)

Variable name	Brong Ahafo				Northern				Upper			
	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT	Mean or per cent	SE	n	DEFT
Age at first marriage	17.27	.17	392	1.06	17.28	.23	334	1.36	16.55	.08	506	.66
Age at first marriage (<25)	17.52	.19	261	1.04	17.09	.22	227	1.39	16.54	.14	369	1.04
First marriage dissolved	22.45	3.04	392	1.44	13.47	1.77	334	.95	12.65	2.16	506	1.46
Time spent in union	96.22	.73	392	1.34	96.47	.84	334	.96	97.37	.43	506	.85
Currently married (all women)	72.84	2.36	486	1.17	93.41	1.10	349	.83	88.33	4.06	557	2.98
Births in first 5 years (married)	1.82	.04	303	.86	1.24	.07	270	1.11	1.33	.07	432	1.41
Births in past 5 years (married)	1.20	.05	250	.85	1.37	.07	251	1.41	1.01	.06	411	1.45
Births in past 5 years (all)	.88	.04	486	.97	1.17	.06	349	1.25	.87	.05	557	1.57
Currently pregnant (married)	11.02	1.25	354	.75	14.11	1.98	326	1.03	12.40	1.48	492	.99
Children ever born (all women)	3.28	.09	486	.65	3.41	.11	349	.79	3.26	.16	557	1.48
Living children (all women)	2.90	.09	486	.75	2.77	.10	349	.90	2.43	.10	557	1.23
Months breastfed closed interval	16.56	.50	280	1.46	20.62	.82	224	1.83	22.50	.98	342	1.92
Wants no more children (married)	16.31	2.10	331	1.03	4.18	.81	311	.71	2.93	.87	443	1.08
Desired family size (married)	6.29	.17	339	1.48	8.68	.28	171	1.35	7.22	.38	317	2.86
Knows effective methods (all)	54.32	4.28	486	1.89	16.91	3.21	349	1.60	13.82	2.78	557	1.90
Ever used contraceptives (all)	22.22	3.28	486	1.74	5.44	1.53	349	1.26	11.85	3.92	557	2.86
Ever used effective methods (all)	17.28	3.00	486	1.75	2.58	.68	349	.80	2.51	.79	557	1.18
Currently using (exposed)	9.25	2.08	292	1.22	.75	.74	265	1.39	2.09	.84	382	1.14
Using effective (exposed)	6.85	1.55	292	1.05	.75	.74	265	1.39	1.31	.75	382	1.28
Wants no more and using eff.(exp)	14.89	5.61	47	1.07	.00	.00	9	.00	.00	.00	13	.00
Never used contraception (marr.)	77.04	3.72	392	1.75	94.61	1.51	334	1.22	87.75	4.20	506	2.88
Used in past (married)	16.07	2.76	392	1.49	4.49	1.11	334	.97	10.67	3.84	506	2.79
Currently using (married)	6.89	1.48	392	1.16	.90	.65	334	1.27	1.58	.63	506	1.14

APPENDIX IV

GLOSSARY OF TERMS IN ENGLISH, FRENCH AND SPANISH

APPENDIX IV

GLOSSARY IN ENGLISH, FRENCH AND SPANISH

Background variables	Variables socio-économiques	Variables socio-económicas
Husband's occupation:	Activité professionnelle du mari:	Ocupación del esposo:
Professional, technical and administrative	Professions libérales, techniciens, cadres sup.	Profesionales
Clerical	Employé de bureau	Oficinistas
Sales	Employé de commerce	Ventas
Farmer	Exploitant agricole	Granjeros
Agricultural worker	Ouvrier agricole	Trabajador agrícola
Household worker and service worker	Employé de maison et autre service	Servicio doméstico y otros servicios
Skilled and semi-skilled manual worker	Ouvrier qualifié	Obrero calificado
Unskilled manual worker	Ouvrier non qualifié	No-calificado
Level of education:	Niveau d'instruction:	Nivel de educación:
No schooling	Non scolarisé	Ninguna educación
1-6 years	1-6 ans	1-6 años
7-10 years	7-10 ans	7-10 años
11+ years	11 ans et plus	11 + años
Recent work status:	Dernière occupation depuis la première union:	Patrón de trabajo reciente:
Not worked	N'a pas travaillé	No trabaja
Self/family employed	A travaillé à son compte ou pour celui de sa famille	Por cuenta propia/trabajador familiar
Employed by someone else	A travaillé pour quelqu'un d'autre	Empleado
Region:	Région:	Región
Western	Western	Western
Central	Central	Central
Greater Accra	Greater Accra	Greater Accra
Eastern	Eastern	Eastern
Volta	Volta	Volta
Ashanti	Ashanti	Ashanti
Brong Ahafo	Brong Ahafo	Brong Ahafo
Northern	Northern	Northern
Upper	Upper	Upper
Religion:	Religion	Religión:
Catholic	Catholique	Católica
Other Christian	Autre chrétienne	Otro cristiano
Muslim	Musulmane	Islámico
Traditional	Traditionnelle	Tradicional
No religion	Pas de religion	Ninguna
Status of current marriage:	Nature d'unions:	Tipo de matrimonio actual:
Monogamous	Monogame	Monógamo
Polygamous	Polygame	Polígamo
Type of place of residence:	Nature de lieu de résidence	Tipo de lugar de residencia:
Large urban	Grande ville	Ciudades importantes
Urban	Petite ville	Urbano
Rural	Rural	Rural

Age, nuptiality, and exposure to childbearing	Age, nuptialité et exposition au risque de grossesse	Edad, nupcialidad y exposición al riesgo del embarazo
Age at first marriage	Age au premier mariage	Edad al primer matrimonio
Age cohort	Cohorte d'âge	Cohorte de edad
Calendar year of birth	Millésime de naissance	Año calendario de nacimiento
Continuously in the married state for the past five years	Toujours mariée durant les cinq dernières années	Ha estado continúamente casada durante los últimos cinco años
Continuously in the married state since first marriage	Toujours mariée depuis son premier mariage	Ha estado continúamente casada desde su primer matrimonio
Current age	Age actuel	Edad actual
Current marital status: Married Widowed Divorced Separated	Etat matrimonial actuel: Mariée Veuve Divorcée Séparée	Estado civil actual: Casada Viuda Divorciada Separada
Currently married: - and fecund - fecund and wants no more children - and non-pregnant	Actuellement mariée: - et fertile - fertile et ne veut plus d'autres enfants - et non-enceinte	Actualmente casada: - y fértil - fértil y no desea tener más hijos - y no-embarazada
Ever-married: - with at least two live births (including current pregnancy)	Non-célibataire: - avec au moins deux naissances vivantes (y compris grossesse actuelle)	Alguna vez casada: - tiene al menos dos nacidos vivos (incluendo embarazo ectual)
Exposure status: Exposed - with at least one live birth - and wants no more children - and wants another child and states sex preference	Statut d'exposition au risque de grossesse: Exposée au risque de grossesse - avec au moins une naissance - et ne veut plus d'autres enfants - et désire avoir un autre enfant avec préférence pour le sexe	Exposición al riesgo de embarazo: Expuesta - tiene al menos un nacido vivo - y no desea tener más hijos - y desea tener otro hijo e indica preferencia por un sexo determinado
First married at least five years ago	Mariée pour la première fois il y a au moins 5 ans	Casada por primera vez hace por lo menos cinco años
First married before age 25	Mariée pour la première fois avant d'atteindre 25 ans	Casada por primera vez antes de los 25 años de edad
First marriage dissolved - and remarried	Premier mariage dissous - et remariée	Primer matrimonio disuelto - y se ha vuelto a casar
Interval from first marriage to first birth	Intervalle entre le premier mariage et la première naissance	Intervalo entre el primer matrimonio y el primer nacimiento
Marriage cohort	Cohorte des mariages	Cohorte de matrimonio
Marriage dissolution and remarriage	Dissolution de mariage et remarriage	Disolución del matrimonio y matrimonio en segundas nupcias
Number of times married	Nombre de mariages	Número de veces que ha estado casada
Proportion of time since first marriage spent in the married state	Durée passée en état de femme mariée en proportion de la durée totale écoulée depuis le premier mariage	Tiempo transcurrido en unión desde su primer matrimonio
Status of first marriage	Statut du premier mariage	Situación del primer matrimonio
Years since first marriage	Années écoulées depuis le premier mariage	Años transcurridos desde el primer matrimonio

Knowledge and use of contraception	Connaissance et pratique de la contraception	Conocimiento y uso de anticoncepción
Contraceptive method being used	Méthode contraceptive actuellement utilisée	Método anticonceptivo que usa actualmente
Contraceptive use (excluding sterilization) in the open interval	Méthode contraceptive (stérilisation exclue) utilisée dans l'intervalle ouvert	Uso de anticoncepción (excluyendo esterilización) en el intervalo abierto
Contraceptive use in the last closed interval	Méthode contraceptive utilisée dans le dernier intervalle fermé	Uso de anticoncepción en el último intervalo cerrado
Currently using an efficient method of contraception	Utilise actuellement une méthode contraceptive efficace	Usa actualmente un método anticonceptivo eficiente
Currently using contraception (any method)	Pratique actuellement la contraception (quelle que soit la méthode)	Usa anticoncepción actualmente (cualquier método)
Ever-use of specified contraceptive methods	A déjà utilisée des méthodes précises de contraception	Ha usado métodos anticonceptivos específicos
Ever used contraception (any method)	A déjà utilisée une méthode contraceptive (quelle que soit la méthode)	Ha usado anticoncepción alguna vez (cualquier método)
Ever used efficient method of contraception	A déjà utilisée une méthode contraceptive efficace	Ha usado alguna vez un método anticonceptivo eficiente
Heard of at least one efficient method of contraception	A entendu parler d'au moins une méthode contraceptive efficace	Ha oído hablar de por lo menos un método anticonceptivo eficiente
Heard of specified contraceptive methods	A entendu parler de méthodes précises de contraception	Métodos anticonceptivos específicos de los que ha oído hablar
Pattern of contraceptive use:	Type de pratique contraceptive:	Patrón de uso de métodos anticonceptivos:
Currently using	Pratique actuellement	Usa actualmente
Contraceptively sterilized	A subi une stérilisation volontaire	Esterilizada por razones anticonceptivas
Using some other method	Utilise d'autres méthodes	Usa otro método
Past not current user	A pratiqué dans le passé mais ne pratique pas actuellement	Ha usado en el pasado pero no actualmente
Used in open interval	A pratiqué durant l'intervalle ouvert	Usó en el intervalo abierto
Used in last closed interval	A pratiqué dans le dernier intervalle fermé	Usó en el último intervalo cerrado
Used only in an earlier interval	A pratiqué seulement dans un intervalle antérieur	Usó sólamente en un intervalo anterior
Never used any method	N'a jamais pratiqué	Nunca ha usado anticoncepción
Intends future use	Pense pratiquer dans le futur	Piensa usar en el futuro
Does not intend future use	Ne pense pas pratiquer dans le futur	No tiene intenciones de usar en el futuro
Specific contraceptive method:	Méthode contraceptive:	Métodos anticonceptivos específicos:
Pill	Pilule	Píldora
IUD	DIU ou stérilet	Dispositivo intra-uterino (DIU)
Condom	Préservatif	Condón
Female sterilization	Ligature des trompes	Esterilización femenina
Male sterilization	Vasectomie	Esterilización masculina
Other female scientific	Autres méthodes scientifiques pour la femme	Otros métodos científicos femeninos
Rhythm	Continence périodique	Ritmo
Withdrawal	Retrait	Retiro
Abstinence	Abstention	Abstinencia
Douche	Injection	Ducha
Injection	Piqûre	Inyección

Fertility and child mortality	Fécondité et mortalité infantile	Fecundidad y mortalidad infantil
Age at first birth	Age de la mère à la naissance du premier enfant	Edad al primer hijo
Age-specific fertility rates	Taux de fécondité par âge	Tasas de fecundidad por edad
Birth history	Historique des naissances	Historia de nacimientos
Birth intervals: Length of the open interval Length of the last closed interval	Intervalles entre naissances: Longueur de l'intervalle ouvert Longueur du dernier intervalle fermé	Intervalos genésicos: Duración del intervalo abierto Duración del último intervalo cerrado
Birth order	Rangs de naissances	Orden de nacimiento
Child mortality by age at death	Mortalité infantile par âge au décès	Mortalidad infantil por edad al morir
Child's age at death	Age au décès	Edad del niño al morir
Children born before or within first 5 years of first marriage	Nombre d'enfants nés avant ou durant les 5 premières années du premier mariage	Hijos nacidos antes o durante los primeros 5 años de matrimonio
Children born in past 5 years	Nombre d'enfants nés durant les 5 dernières années	Hijos nacidos en los últimos 5 años
Children ever born (number of)	Nombre d'enfants déjà nés (descendance actuelle)	Número de hijos tenidos
Children ever born plus current pregnancy	Nombre d'enfants déjà nés plus la grossesse actuelle	Número de hijos tenidos, más embarazo actual
Children who died before 2 years of age	Nombre d'enfants décédés avant l'âge de 2 ans	Hijos que murieron antes de los 2 años de edad
Current pregnancy	Grossesse actuelle	Embarazo actual
Duration since first marriage	Durée écoulée depuis le premier mariage	Años desdo la primera unión
Initial fertility	Fécondité initiale du mariage	Fecundidad inicial
Interval between first marriage and first birth	Intervalle entre premier mariage et première naissance	Intervalo entre el primer matrimonio y el primer nacimiento
Living children	Nombre d'enfants vivants	Hijos actualmente vivos
Living children 5 years ago	Nombre d'enfants vivants il y a 5 ans	Número de hijos vivos hace 5 años
Living children plus current pregnancy	Nombre d'enfants vivants plus la grossesse actuelle	Número de hijos actualmente vivos más embarazo actual
Living daughters	Nombre des filles vivantes	Hijas actualmente vivas
Living sons	Nombre de garçons vivants	Hijos varones actualmente vivos
Male children born in past 5 years	Nombre de garçons nés au cours des 5 dernières années	Hijos varones nacidos en los últimos 5 años
Marital age-specific fertility rates	Taux de fécondité légitime par âge	Tasas de fecundidad marital por edad
Month of current pregnancy	Mois de grossesse actuelle	Meses de embarazo actual
Premarital fertility	Fécondité prénuptiale	Fecundidad pre-marital
Recent fertility	Fécondité récente	Fecundidad reciente
Survivorship status	Survivants	Supervivencia
Total fertility rate	Taux global de fécondité	Tasa de fecundidad total
Years since birth occurred	Années écoulées depuis la naissance	Años desde el nacimiento

Preferences for number and sex of children	Préférences relatives au nombre et au sexe des enfants	Preferencia por número y sexo de los hijos
Additional children wanted (number of)	Nombres d'enfants supplémentaires désirés	Número de hijos adicionales deseados
Desire for more children	Désire avoir d'autres enfants	Deseo de más hijos
Desire to cease childbearing	Désire ne plus avoir d'enfants	Deseo de no tener más hijos
Desired family size - exceeds number of living children	Dimension désirée de la famille - dépasse le nombre d'enfants vivants	Tamaño de familia deseado - excede el número de hijos vivos
Desires fewer than number living	Aurait désiré avoir moins d'enfants que le nombre de ses enfants actuellement vivants	Desea menos hijos de los que tiene
Desires more than number living	Désire avoir plus d'enfants que le nombre de ses enfants actuellement vivants	Desea más hijos que los que tiene
Fertility preferences and the use of contraception	Descendance désirée et pratique de la contraception	Preferencias de fecundidad y uso de anticoncepción
Preference concerning the sex of children	Préférence concernant le sexe des enfants	Preferencias en cuanto el sexo de los hijos
Prefers a boy	Préfère avoir un garçon	Prefiere un hijo
Prefers a girl	Préfère avoir une fille	Prefiere una hija
Total number of children desired	Nombre total d'enfants désirés	Número total de hijos deseados
Wants another child - and states a sex preference	Désire avoir un autre enfant - et a une préférence pour le sexe	Desea otro hijo - e indica preferencia por el sexo
Wants no more children	Ne désire plus avoir d'enfants	No desea más hijos
Factors other than contraception affecting fertility	**Facteurs autres que la contraception influant sur la fécondité**	**Factores distintos que la anticoncepción y que afectan la fecundidad**
Breastfeeding: Full breastfeeding Still breastfeeding Total duration of breastfeeding	Allaitement: Allaitement intégral Allaite encore Durée de l'allaitement	Lactancia materna: Lactancia plena Aún lactando Duración de la lactancia
Closed pregnancy interval	Intervalle fermé entre grossesses	Intervalo cerrado de embarazo
Continuously married throughout the last closed interval	Continuellement mariée durant le dernier intervalle fermé	Permanentemente unida en el último intervalo cerrado
Infecund, menopausal	Stérile et menopausée	Infértil, menopausica
Infecund, not menopausal	Stérile sans être menopausée	Infértil, no menopausica
Interval to conception	Durée écoulée entre l'avant-dernière naissance et la dernière conception	Intervalo entre el ultimo nacido vivo y el ultimo embarazo
Menarche	Puberté	Menarquia
Open pregnancy interval	Intervalle ouvert depuis la dernière grossesse	Intervalo abierto de embarazo
Penultimate pregnancy	Avant dernière grossesse	Penúltimo embarazo
Post-partum abstinence	Abstinence post-partum	Abstinencia post-partum
Post-partum amenorrhoea	Amenorrhée post-partum	Amenorrea post-partum
Self-reported fecundity status	Situation de fertilité déclarée	Declara estado fértile/no fértil