

# CHAPTER 1 INTRODUCTION

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## 1.1 GEOGRAPHY AND ENVIRONMENT

The Pacific Island nation of Kiribati consists of 33 remote and widely scattered coral atolls. In 2005, Kiribati's population was 92,500 people. The islands are divided into three distinct groups: the Gilbert Islands, the Phoenix Islands, and the Line Islands. Kiritimati Island, which is part of the Line Island Group, All three island groups span the equator. These low-lying islands have few areas that are more than two meters above sea level, which makes them vulnerable to rising sea level. People rely on fresh groundwater and rainfall for their freshwater supply.

Like many Pacific Island countries, subsistence and sustainable means of livelihood are based on indigenous agro-forestry and crops, particularly coconut, pandanus, *bwabwai* (giant taro), breadfruit and banana. Productivity of these crops depends on a healthy environment. The coconut tree produces the important export product, copra; the pandanus tree bears fruits that are traditionally preserved for consumption, especially during times of drought; *bwabwai* is a prestigious crop; and breadfruit and banana are the only fruits that provide a varied diet from the mainstay of coconut, *bwabwai* and fish (Government of Kiribati 2008).

The larger atolls have a fresh groundwater lens that 'floats' on top of seawater. The quality and depth of the groundwater lens varies within an atoll, and affects the agricultural productivity of crops, particularly *bwabwai* plantations. For most people, the groundwater lens is the only source of potable water. Recharge to the groundwater lens is from rainfall that amounts to about 2,350 mm per year. The northern Gilbert Islands and Line Islands are wetter than the southern Gilberts. Risks to land resource-based livelihoods are from drought, inundation from storm surge, salt water intrusion to groundwater lenses, and excessive rainfall that results in runoff that reaches drinking groundwater wells (ADB 2008).

Global temperature increases affect coral growth and sea level. It is well known that ocean temperatures have increased, and this could mean an increase in internal energy (e.g. turbidity enhancement) of the oceans and/or an increase in sea level rise. In Kiribati, coastal erosion, inundation from storm surge, extensive sea spray, and coral bleaching are being observed. These changes are adversely affecting people's livelihoods (Government of Kiribati 2008).

Tuna resources are seasonal but abundant within Kiribati's exclusive economic zone (which is the largest in the Pacific) during an El Niño episode. Kiribati could lose some of these tuna resources if climate change causes the tuna to migrate farther north. Inshore fisheries are also known to be less productive during drought conditions, which are normally associated with a La Niña episode (Government of Kiribati 2008).

## 1.2 SOCIOECONOMIC CIRCUMSTANCES

The Asian Development Bank (ADB 2010) has noted that Kiribati's gross domestic product (GDP) contracted by an estimated 0.7% in 2009, at a time when 1) copra prices fell, 2) the demand for the country's seafarers waned due to the global downturn (reducing remittances from them), and 3) returns declined on offshore investments held in the Revenue Equalization Reserve Fund. The subsectors that were affected were transport and storage, manufacturing, and hotels and restaurants. Unsustainable fiscal deficits over several years have required large draw-downs from the reserve fund. Coupled with the global decline in asset values, the reserve fund has dropped below the government's 1996 benchmark level of AUD 4,500 in real per capita terms.

ADB (2010) also noted in the absence of current measures that the economy is forecast to pick up a little in 2010, benefiting from higher copra prices, an expected increase in the demand for seafarers, and better returns from offshore investments. GDP growth was forecast to be 0.8% in 2010, and is expected to increase to 1.2% in 2011 as global demand continues to improve, and recent reforms in economic management begin to show benefits. A decline in international fuel

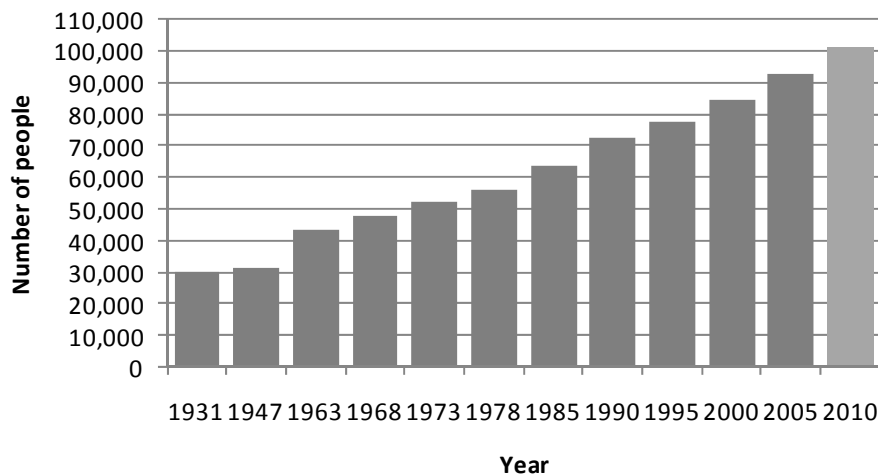
prices slowed inflation to 6.6% in 2009 from double-digit rates in 2008. In the absence of current estimates in 2010, inflation is forecasted to subside further, to 5.9%.

Improving the economic outlook over the medium and longer term will depend in large part on better management of the reserve fund and other resources. Kiribati will continue to depend on assistance from abroad for socioeconomic development. This dependency is likely to increase into the foreseeable future because of the additional problems associated with climate variability and climate change, and the adverse affects on key infrastructure and environmental resources.

### 1.3 POPULATION DEVELOPMENT ISSUES AND RELATED GOVERNMENT POLICY

Population censuses have been carried out in Kiribati since 1931, mostly in five-year intervals (Fig. 1.1). Kiribati’s population has increased significantly since 1931, from around 30,000 in 1931 to 92,500 in 2005. The projected population size in 2010 is slightly more than 100,000 people.

**Figure 1.1: Population size, Kiribati: 1931–2010**



Note: The years 1931–2005 are based on population census counts, while 2010 is based on a projection.  
Source: Statistics for Development Programme, SPC

Kiribati’s population density has increased significantly, from 42 people/km<sup>2</sup> in 1931 to 127 people/km<sup>2</sup> in 2005.

Male life expectancy is 59 and female life expectancy is 63. In 2005, 44% of Kiribati’s population lived in the urban area.

The impact of this rapid population growth in one small area is obvious. Population densities in South Tarawa have increased, and now, nearly 12,509 people live in Betio, a small islet with an area of only 1.75 km<sup>2</sup>. New houses are needed to accommodate the growing population, but vacant land is becoming scarce. Overcrowding and the lack of safe drinking water and proper sanitation affect health. Kiribati has high rates of infectious diseases, including respiratory, diarrhoea, and skin diseases, and an increasing incidence of hepatitis B. Families that cannot grow enough food must buy imported products that are low in fiber and high in sugar and fat, which contributes to the growing incidence of diabetes, cancer and other related diseases.

Two-thirds of all wage earning jobs in Kiribati are in the public service, and 64% of these jobs are in South Tarawa. Only about 1 in 10 I-Kiribati (the native people of Kiribati) is a wage earner. These few wage earners must provide the cash needs of many non-workers in their extended

families. This is especially difficult in South Tarawa, where most people who have come in search of work do not have their own land and depend largely on store-bought goods.

### **1.3.1 Population policy**

The strategic objective of the Kiribati Population Policy is to stabilise population growth to ensure a balance between population and resources, which will lead to improved living standards and well-being for the people. The population policy was formed to address both sides of the balance between population and resources; that is, the policy supports strategies to increase the value of human resources, including improved health, education, living conditions and increased employment opportunities. This will lead to a reduction in the population growth rate, which in turn will lead to economic growth, social progress and raised living standards.

### **1.3.2 Health policy**

Kiribati is disadvantaged both geographically and economically, and health problems remain a concern. Kiribati is currently in the process of an epidemiological transition, with communicable diseases still the main causes of morbidity and mortality. Non-communicable diseases and HIV and AIDS are on the rise. Lifestyle changes are rapidly bringing in a new dimension to the country's health profile.

The government, through its Ministry of Health (MOH), has been searching for an appropriate system that will address these health and socioeconomic problems with the country's existing resources. The system that was chosen, following the advice of the World Health Organization (WHO), was the primary health care (PHC) system.

Prior to adopting the PHC approach in 1981, the healthcare system had been similar to that of neighbouring Pacific Island countries; that is, based on the developed countries model. That model, however, emphasises the curative management of diseases, and places relatively less emphasis on preventative health or on PHC.

From 1982 onwards, the Kiribati National Health Plan's guiding policies on PHC were (and still are) as follows:

1. The efficiency and effectiveness of the programme must be improved by encouraging and ensuring intersectoral collaboration.
2. The efficiency and effectiveness of the programme must be increased by encouraging the involvement of communities.
3. The community's potential to establish self-sufficiency and self-reliance must be developed by encouraging communities to use available local resources as much as possible, and make maximum use of their land for subsistence activities.
4. The programmes must be made acceptable by the communities by respecting the communities' cultural and religious beliefs and traditional practices.

The PHC system that has been promoted in Kiribati is one in which affordable, acceptable and equitable health care is provided to everyone through communities' full participation and use of local resources. Under WHO's guidance, Kiribati has systematically changed the way it provides health care to its people.

The overall impact of implementing the national health policy, particularly the PHC system, has been an improvement in the health status of Kiribati's people. Although PHC alone cannot be solely responsible for this, it cannot be denied that it is the main determining factor in bringing about this outcome.

## **1.4 SURVEY OBJECTIVES**

The main objective of the 2009 Kiribati Demographic and Health Survey (2009 KDHS) is to provide current and reliable data on fertility and family planning behaviour, child mortality, adult

and maternal mortality, children's nutritional status, the use of maternal and child healthcare services, and knowledge of HIV and AIDS. Specific objectives are to:

- collect data (at the national level) that will allow the calculation of key demographic rates;
- analyse the direct and indirect factors that determine the level and trends of fertility;
- measure the level of contraceptive knowledge and practice among women and men by method, urban–rural residence and region;
- collect high-quality data on family health, including immunisation coverage among children, prevalence and treatment of diarrhoea and other diseases among children under age 5 years, and maternity care indicators (including antenatal visits, assistance at delivery, and postnatal care);
- collect data on infant and child mortality;
- obtain data on child feeding practices, including breastfeeding, and collect 'observation' information to use in assessing the nutritional status of women and children;
- collect data on knowledge and attitudes of women and men about sexually transmitted infections (STIs), HIV and AIDS, and evaluate patterns of recent behaviour regarding condom use; and
- collect data on knowledge and attitudes of women and men about tuberculosis.

This information is essential for making informed policy decisions, planning, monitoring, and evaluating programmes on health in general, and reproductive health in particular, at the national level and in the urban and rural areas. A long-term objective of the survey is to strengthen the technical capacity of government organisations to plan, conduct, process and analyse data from complex national population and health surveys. Moreover, the 2009 KDHS provides national, rural and urban estimates on population and health that are comparable with data collected in similar surveys in other Pacific DHS pilot countries and other developing countries.

## **1.5 SURVEY ORGANISATION**

The 2009 KDHS was carried out with funding support from ADB and the United Nations Population Fund, with technical assistance from the Secretariat of the Pacific Community (SPC). The survey was executed by the Kiribati National Statistics Office (KNSO) in collaboration with MOH. Other technical assistance was sought as and when required.

A steering committee was formed to coordinate, oversee, advise, and make decisions on all major aspects of the survey. The steering committee comprised representatives from various ministries and key stakeholders, including MOH, KNSO and non-governmental organisations (NGOs).

## **1.6 SAMPLE DESIGN**

The primary focus of the 2009 KDHS was to provide estimates of key population and health indicators, including fertility and mortality rates, for the country as a whole, for the urban area and rural areas (separately) – urban is South Tarawa and urban settlement on Kiritimati Island while the rest of Kiribati is defined as rural areas. The survey used the sampling frame provided by the list of census enumeration areas, with population and household information coming from the 2005 Kiribati Population and Housing Census.

The survey was designed to obtain completed interviews of 2,193 women aged 15–49. In addition, males aged 15–59 in every second household were interviewed. To take non-response into account, 1,280 households countrywide were selected: 640 in the urban area and 840 in rural areas.

## **1.7 QUESTIONNAIRES**

Three questionnaires were administered during the 2009 KDHS: a household questionnaire, a women's questionnaire, and a men's questionnaire. These were adapted to reflect population and health issues relevant to Kiribati, and were presented at a series of meetings with various stakeholders, including government ministries and agencies, NGOs and international donors. The final draft of each questionnaire was discussed at a questionnaire design workshop organised by KNSO in March 2009 in Tarawa. Survey questionnaires were then translated into the local language (I-Kiribati) and pretested from 7–19 August 2009.

The household questionnaire was used to list all the usual members and visitors in selected households, and to identify women and men who were eligible for the individual interview. Some basic information was collected on the characteristics of each person listed, including age, sex, education and relationship to the head of the household. For children under age 18 years, the survival status of their parents was ascertained. The household questionnaire also collected information on characteristics of each household's dwelling unit, such as source of drinking water, type of toilet facility, material used for the floor, and ownership of various durable goods.

The women's questionnaire collected information from all women aged 15–49 about:

- education, residential history and media exposure;
- pregnancy history and childhood mortality;
- knowledge and use of family planning methods;
- fertility preferences;
- antenatal, delivery and postnatal care;
- breastfeeding and infant feeding practices;
- immunisation and childhood illnesses;
- marriage and sexual activity;
- their own work and their husband's background characteristics; and
- awareness and behaviour regarding HIV and other STIs.

The men's questionnaire was administered to all men aged 15–49 living in every second household. It collected much of the same information as the women's questionnaire, but was shorter because it did not contain questions about reproductive history or maternal and child health or nutrition.

## **1.8 LISTING, PRETESTING, TRAINING AND FIELDWORK**

### **1.8.1 Listing**

Household listing was implemented by survey teams two days prior to data collection. All private households within the selected village or enumeration area were listed and recorded along with the head of the household and total number of household members. From the total updated household list, 20 households were randomly selected to be interviewed. Supervisors and field editors assisted their teams with updating the listing of households on the forms and maps. The maps used in the 2009 KDHS were prepared by KNSO with assistance from SPC.

All women aged 15–49 who slept in the sample household on the night prior to the interview were eligible to be interviewed using the women's questionnaire. Every second household was sub-selected for the men's survey. All men aged 15 or over in sub-selected households were eligible to be interviewed.

### **1.8.2 Pretesting**

Pretest training was conducted from 7–19 August. The purpose of pretesting was to test the suitability of the questionnaires such as the translation, skips (skips to next question if it is not

applicable to the respondent) and filtering instructions. The training of future supervisors was also conducted at this time.

In total, 22 fieldworkers (15 women, 7 men) were trained as supervisors and interviewers. Pretest training consisted of classroom lectures, PowerPoint presentations, demonstration interviews, front-of class interviews, mock interviews, quizzes and tests, and some field practice that consisted of interviewing selected sample households. The interview team spent less than one week interviewing 20 households. After pretesting, the KDHS team reviewed and discussed the results. Pretesting revealed that the translation of some questions and skip instructions (skips to next question if it is not applicable to the respondent) needed revising.

### **1.8.3 Training**

The main training of KDHS fieldworkers was from 17–29 August 2009. Interviewers were recruited two weeks prior to the training. Recruitment of fieldworkers involved interviewing and testing for selection. In total, 63 fieldworkers were trained, 56 of whom were selected to be supervisors, field editors and interviewers. The remaining seven were assigned as data editors and data entry operators.

This training was held at the Kiribati Institute of Technology, and was conducted in both English and I-Kiribati. Fieldworkers were taught the importance of the survey and each question, and how to ask each question. Training included an explanation of all questions in the questionnaire, and instructions on how to follow skips and filtering within the questionnaire. Fieldworkers were tested on their ability to understand the questionnaire and their performance in conducting an interview. Quiz and test results were used for selecting the best supervisors and field editors. In addition to classroom training, fieldworkers underwent several days of field practice to gain more experience in conducting interviews and handling fieldwork logistics.

During fieldwork practice, seven teams were formed, consisting of one supervisor, one field editor, four female interviewers and two male interviewers. Three days were assigned for fieldwork practice, with each team covering twelve households. During fieldwork practice, some issues were identified (e.g. some questionnaires were printed incorrectly and transport was insufficient). These were dealt with before the actual survey was conducted.

### **1.8.4 Fieldwork**

Fieldwork was conducted from 21 September to 18 December, and fieldworkers were sent to their respected island the following week after the training.

Four teams were sent to the outer islands while the remaining three teams carried out interviews on South Tarawa in selected enumeration areas. For teams outside of South Tarawa, the supervisor and field editor were responsible for carrying out data quality control as well as team management. The supervisor's role was to ensure that all questionnaires were completed and sent back to the office for a control check and data processing. Similarly, it was the supervisor and field editor's responsibility to communicate with the KDHS manager about any issue the teams encountered in the field. This approach was also used in South Tarawa.

## **1.9 DATA PROCESSING**

Processing the 2009 KDHS results began three weeks after the start of fieldwork. Completed questionnaires were returned periodically from the field to the KNSO data processing center in South Tarawa, where the data were entered and edited by seven data processing personnel specially trained for this task. Data processing personnel were supervised by KNSO staff. Data entry and editing of questionnaires was completed by 30 March 2010. CSPRo was used for data processing.

### **1.10 RESPONSE RATES**

Table 1.2 shows household and individual response rates for the 2009 KDHS. In total, 1,477 households were selected for the sample, of which 1,451 were found to be occupied during data

collection. Of these existing households, 1,422 were successfully interviewed, giving a household response rate of 98%.

In households, 2,193 women were identified as being eligible for the individual interview. Interviews were completed with 1,978 women, yielding a response rate of 90%. Of the 1,337 eligible men identified in the selected sub-sample of households, 85% were successfully interviewed. Response rates were higher in rural areas than in the urban area, with the rural–urban difference in response rates being the greatest among eligible men.

**Table 1.1: Results of household and individual interviews**

*Number of households, number of interviews, and response rates, according to residence (unweighted), Kiribati 2009*

Result	Residence		Total
	Urban	Rural	
<b>Household interviews</b>			
Households selected	631	846	1,477
Households occupied	617	834	1,451
Households interviewed	600	822	1,422
<b>Household response rate<sup>1</sup></b>	97.2	98.6	98.0
<b>Interviews with women aged 15–49</b>			
Number of eligible women	1,232	961	2,193
Number of eligible women interviewed	1,044	934	1,978
<b>Eligible women response rate<sup>2</sup></b>	84.7	97.2	90.2
<b>Interviews with men aged 15+</b>			
Number of eligible men	701	636	1,337
Number of eligible men interviewed	552	583	1,135
<b>Eligible men response rate</b>	78.7	91.7	84.9

<sup>1</sup> Households interviewed and/or households occupied.

<sup>2</sup> Respondents interviewed and/or eligible respondents

## CHAPTER 2 HOUSEHOLD POPULATION AND HOUSING CHARACTERISTICS

This chapter provides a descriptive summary of some demographic and socioeconomic characteristics of Kiribati's population in 2009. For the purposes of the 2009 KDHS, a household was defined as a person or a group of people, related or unrelated, who live together and share a common source of food. Information on basic demographic and socioeconomic characteristics for all usual residents and visitors (e.g. age, sex, educational attainment and current school attendance) were collected using a household questionnaire. This data collection method allows for the analysis of results for either the *de jure* (usual residents) or *de facto* (those who were there at the time of the survey) populations. The household questionnaire also obtained information on housing facilities (e.g. sources of water, sanitation facilities) and household possessions. Information collected from the household questionnaire provides a snapshot picture of household characteristics in Kiribati.

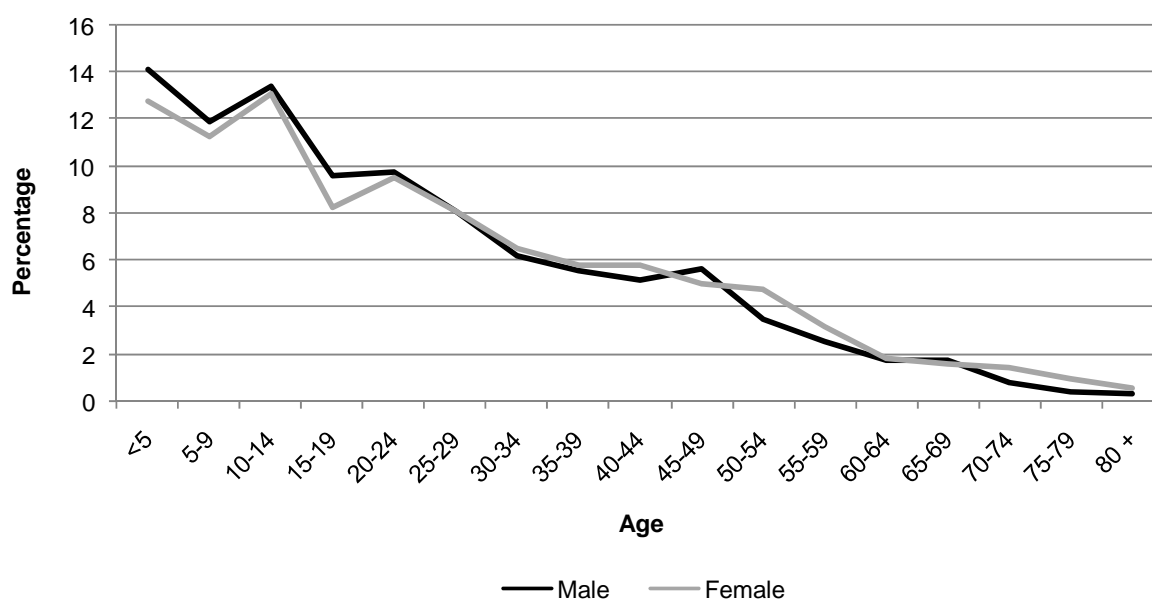
### 2.1 HOUSEHOLD POPULATION BY AGE AND SEX

Age and sex are two key important demographic variables and are the primary basis of demographic classification.

They are also important in determining fertility and mortality levels.

The quality of age reporting can be measured by means of age-heaping indices to detect the degree of preference or avoidance for certain ages. An examination of the quality of the 2009 KDHS data reveals some irregularities. The population age distribution shows signs of so-called *age shifting* from age 15–19 to 10–14 years, meaning that people aged 15–19 years stated wrongfully that their age was below age 15 in order to avoid being eligible to be interviewed. As a result there are much more 10–14 years olds than 15–19 year olds (Fig. 2.1).

**Figure 2.1: Distribution of the *de facto* household population by sex and five-year age groups, Kiribati 2009**



The 2009 KDHS interviewed 8,570 people (Table 2.1). Overall, there are slightly more women than men in Kiribati, resulting in a sex ratio of 95 men per 100 women. The sex ratio is found to be even lower in the urban area (South Tarawa) than in rural areas.



Kiribati's population is characterised by a young age structure (Fig. 2.2). About 38% of the population is aged less than 15 years, while 50% is in the 15–49 age group, and 12% is aged 50 and older. Fewer men than women are aged 70 and older.

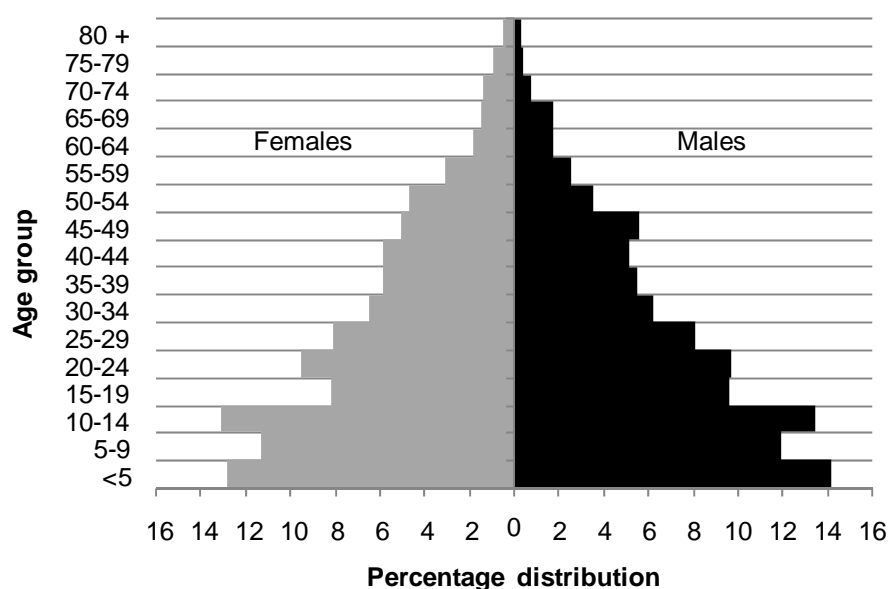
**Table 2.1: Household population by age, sex, and residence**

*Percent distribution of the de facto household population by five-year age groups, according to sex and residence, Kiribati 2009*

Age	Urban			Rural			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
<5	13.6	11.3	12.4	14.6	14.0	14.3	14.1	12.8	13.4
5–9	9.8	9.3	9.5	13.6	13.2	13.4	11.9	11.3	11.6
10–14	12.7	12.2	12.4	14.0	13.8	13.9	13.4	13.1	13.2
15–19	11.3	10.7	11.0	8.1	6.0	7.0	9.6	8.2	8.9
20–24	10.8	12.0	11.4	8.9	7.2	8.0	9.7	9.5	9.6
25–29	9.4	8.6	9.0	7.1	7.7	7.4	8.1	8.1	8.1
30–34	6.5	6.0	6.2	6.0	7.0	6.5	6.2	6.5	6.4
35–39	5.8	5.3	5.5	5.2	6.2	5.7	5.5	5.8	5.6
40–44	4.9	5.8	5.4	5.3	5.8	5.5	5.1	5.8	5.5
45–49	5.2	5.7	5.5	5.9	4.3	5.1	5.6	5.0	5.3
50–54	3.5	4.5	4.0	3.4	4.8	4.1	3.5	4.7	4.1
55–59	2.2	2.9	2.6	2.7	3.4	3.0	2.5	3.1	2.8
60–64	1.5	2.2	1.8	1.9	1.5	1.7	1.7	1.8	1.8
65–69	1.4	1.3	1.3	1.9	1.7	1.8	1.7	1.5	1.6
70–74	0.5	1.2	0.9	1.0	1.5	1.3	0.8	1.4	1.1
75–79	0.5	0.6	0.6	0.3	1.3	0.8	0.4	0.9	0.7
80 +	0.4	0.4	0.4	0.2	0.6	0.4	0.3	0.5	0.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	1,888	2,077	3,966	2,292	2,312	4,604	4,180	4,390	8,570

Note: Total includes people whose sex was not stated.

**Figure 2.2: Population pyramid, Kiribati 2009**



## 2.2 HOUSEHOLD COMPOSITION

Information on other key aspects of household composition (e.g. sex of the head of the household and household size) is presented in Table 2.2. These characteristics are important because they provide information on the welfare of a household and its members. Economic resources are often more limited in larger households than in smaller households. Evidence shows that female heads

of households are more disadvantaged than male heads of households. Moreover, in large households, crowding can lead to health problems. A household's size and composition influence the allocation of limited resources and affect the living conditions of household members.

About 24% of households in Kiribati are headed by women. This proportion is higher in the urban area (28%) than in rural areas (21%). The mean household size for the country is six people. In the urban area, the average household size is seven, whereas in rural areas, the average household size is five. The 2005 census reported an average household size of six people.

**Table 2.2: Household composition**

*Percent distribution of households by sex of head of household and by household size; mean household size; and percentage of households with orphans and foster children under age 18 years, according to residence, Kiribati 2009*

Characteristic	Residence		Total
	Urban	Rural	
<b>Household headship</b>			
Male	71.8	79.5	76.5
Female	28.2	20.5	23.5
Total	100.0	100.0	100.0
<b>Number of usual members</b>			
0	0.2	0.0	0.1
1	2.5	3.1	2.9
2	2.9	8.2	6.1
3	9.1	14.0	12.1
4	9.9	18.0	14.9
5	12.3	17.2	15.3
6	10.9	14.8	13.3
7	13.2	8.0	10.0
8	9.3	5.6	7.0
9+	29.7	11.1	18.2
Total	100.0	100.0	100.0
<b>Mean household size</b>	7.2	5.3	6.0
<b>Percentage of households with orphans and foster children under age 18 years</b>			
Foster children <sup>1</sup>	37.0	36.0	36.4
Double orphans	3.5	1.3	2.1
Single orphans	12.5	10.2	11.1
Foster <sup>1</sup> and/or orphan children	42.2	39.1	40.3
<b>Number of households</b>	547	875	1,422

Note: Table is based on *de jure* household members (i.e. usual residents).

<sup>1</sup> Foster children are those under age 18 years living in households with neither their mother nor their father present.

### 2.3 FOSTERHOOD AND ORPHANHOOD

As in most other Pacific Island countries, a child in Kiribati is defined as someone who is less than 18 years old. Information on fosterhood and orphanhood of children is presented in Table 2.3. The results show that about 4 in 10 Kiribati households have foster children. There is an equal number of foster children among urban and rural households. There is a higher percentage of households in the urban area with foster and/or orphan children (42%) than in rural areas (39%). The results show that 1 in 10 Kiribati households include orphans. There are more households with single<sup>1</sup> orphans (11%) than with double orphans (2%). There are no major variations between rural areas (outer islands) and the urban area (South Tarawa) regarding households with orphans.

Table 2.3 shows 1) the percent distribution of *de jure* children under age 18 years by living arrangements and parental survival status, 2) the percentage of children not living with a biological parent, and the 3) percentage of children with one or both parents dead, according to background characteristics. Overall, 22% of *de jure* children under age 18 years do not live with a biological parent. There are more children under age 18 years in rural areas who do not stay with a biological parent than in the urban area. The number of these children increases as their age increases.

The parents of about 8% of children are dead.

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<sup>1</sup> A single orphan is a child who only has one parent, which could be either a mother or a father.

**Table 2.3: Children's living arrangements and orphanhood**

*Percent distribution of de jure children under age 18 years by living arrangements and parental survival status, the percentage of children not living with a biological parent, and the percentage of children with one or both parents dead, according to background characteristics, Kiribati 2009*

Background characteristic	Living with both parents	Living with mother but not with father		Living with father but not with mother		Not living with either parent					Total	% not living with a biological parent	% with one or both parents dead	Number of children
		Father alive	Father dead	Mother alive	Mother dead	Both alive	Only father alive	Only mother alive	Both dead	Missing information on father/mother				
<b>Age</b>														
0-4	69.3	13.5	2.3	1.1	0.1	11.6	0.1	0.7	0.6	0.6	100	13.1	3.9	1,143
..<2	71.7	16.1	2.9	0.4	0.0	6.8	0.0	1.1	0.4	0.6	100	8.3	4.5	486
..2-4	67.6	11.5	1.8	1.6	0.2	15.1	0.2	0.5	0.8	0.6	100	16.6	3.5	657
5-9	61.4	11.3	2.7	1.8	0.7	17.8	1.2	1.2	1.2	0.6	100	21.4	7.0	989
10-14	55.9	6.0	4.5	2.3	1.7	21.8	1.4	2.6	1.6	2.2	100	27.4	12.0	1,131
15-17	42.5	7.3	3.5	2.1	1.5	29.1	1.3	3.4	2.0	7.2	100	35.8	12.2	436
<b>Sex</b>														
Male	59.6	10.4	3.3	1.8	0.7	18.2	1.0	1.7	1.2	2.1	100	22.1	8.0	1,874
Female	60.3	9.4	3.1	1.7	1.1	18.7	0.9	1.8	1.3	1.7	100	22.7	8.3	1,825
<b>Residence</b>														
Urban	60.7	10.5	4.1	1.6	1.2	16.3	0.8	1.2	1.6	2.0	100	19.9	9.1	1,594
Rural	59.4	9.4	2.5	1.9	0.8	20.1	1.0	2.2	1.0	1.8	100	24.2	7.5	2,106
<b>Wealth quintile</b>														
Lowest	64.1	11.5	2.8	2.3	1.3	13.7	1.6	1.2	0.1	1.4	100	16.7	7.0	799
Second	64.2	6.3	2.2	2.0	0.5	18.9	0.3	2.7	1.3	1.5	100	23.2	7.0	747
Middle	57.8	8.1	3.7	0.6	0.8	22.2	1.4	1.7	1.8	1.8	100	27.1	9.4	782
Fourth	58.8	10.5	4.7	2.7	0.6	16.6	0.8	1.5	1.2	2.6	100	20.1	9.1	691
Highest	53.8	13.3	2.8	1.3	1.4	20.9	0.5	1.7	2.0	2.3	100	25.1	8.5	680
<b>Total &lt;15</b>	<b>62.3</b>	<b>10.2</b>	<b>3.2</b>	<b>1.7</b>	<b>0.8</b>	<b>17.0</b>	<b>0.9</b>	<b>1.5</b>	<b>1.2</b>	<b>1.2</b>	<b>100</b>	<b>20.6</b>	<b>7.6</b>	<b>3,263</b>
<b>Total &lt;18</b>	<b>59.9</b>	<b>9.9</b>	<b>3.2</b>	<b>1.8</b>	<b>0.9</b>	<b>18.4</b>	<b>0.9</b>	<b>1.7</b>	<b>1.3</b>	<b>1.9</b>	<b>100</b>	<b>22.4</b>	<b>8.2</b>	<b>3,700</b>

Note: Table is based on *de jure* members (i.e. usual residents).

## 2.4 EDUCATION OF HOUSEHOLD POPULATION

Most studies show that education is one of the major socioeconomic factors that influence a person's behaviour, attitudes and way of living. In general, better educated women are more knowledgeable and aware about the use of health facilities, family planning methods, and the health of their children. Uneducated women are the least likely population group in terms of using healthcare facilities and being aware of health issues of their children.

For the purposes of the analysis presented below, the official age for entry into primary school is six. Education in Kiribati is provided free and is compulsory from ages 6–15 at the primary level. Secondary education in Kiribati is not provided free nationally, although the Kiribati government subsidises school fees for private secondary education.

Table 2.4 presents the percentage of *de jure* children aged 10–14 years who attend school by parental survival status, according to their background characteristics. Only 78% of children aged 10–14 whose parents are both dead attend school compared with 95% of children whose parents are both alive. However, it should be noted that the number of children whose parents are both dead (19%) is very low.

**Table 2.4: School attendance by parental survival status**

*The percentage of de jure children aged 10–14 years who attend school by parental survival, according to background characteristics, Kiribati 2009*

Background characteristic	Percentage attending school by survivorship of parents				
	Both parents dead	Number	Both parents alive and living with at least one parent	Number	Ratio <sup>1</sup>
<b>Sex</b>					
Male	79.2	10	91.8	346	0.86
Female	75.7	9	97.2	379	0.78
<b>Residence</b>					
Urban	89.1	9	93.7	329	0.95
Rural	66.2	9	95.4	397	0.69
<b>Wealth quintile</b>					
Lowest	-	0	92.6	162	-
Second	49.1	6	95.3	146	0.52
Middle	100	4	97.4	153	1.03
Fourth	100	3	92.3	125	1.08
Highest	82.6	6	95.1	140	0.87
Total	77.6	19	94.6	725	0.82

Note: Table is based only on children who usually live in the household.

<sup>1</sup> Ratio of the percentage of children with both parents dead to the percentage with both parents alive and living with a parent.

The 2009 KDHS also collected information on individual school attainment. Tables 2.5 and 2.6 show the percent distribution of the *de facto* male and female household population aged 6 and over by highest level of educational attainment. The median years of school completed is also shown.

In general there is very little difference in educational achievement between males and females in Kiribati.

Overall 5 percent of males and females completed secondary level 2 & higher education. However, there was a slightly higher proportion of females (16.8%) than males (14.5%) with secondary 1 level education. About one 1 in 3 males and females had no education & only some primary.

Not surprisingly, the proportion of males and females with the highest education were predominantly found in the urban areas, and in households with the highest wealth quintiles.

**Table 2.5: Educational attainment of the female household population**

*Percent distribution of the de facto female household population age six and over by highest level of schooling attended or completed and median grade completed, according to background characteristics, Kiribati 2009*

Background characteristic	No education & some primary	Primary & some secondary	Secondary level 1 <sup>1</sup>	Secondary level 2 & higher <sup>2</sup>	Don't know/missing	Total	Number	Median years completed
<b>Age</b>								
6-9	99.3	0.5	0.0	0.0	0.2	100.0	415	0.7
10-14	73.8	26.2	0.0	0.0	0.0	100.0	574	4.6
15-19	9.0	62.5	26.5	2.0	0.0	100.0	360	8.8
20-24	6.5	32.7	46.9	13.4	0.5	100.0	416	10.6
25-29	4.2	44.6	39.3	11.7	0.2	100.0	357	10.1
30-34	5.2	58.3	27.7	8.5	0.3	100.0	287	8.8
35-39	6.7	65.7	20.8	6.8	0.0	100.0	254	8.7
40-44	9.8	72.7	11.6	5.6	0.3	100.0	254	8.5
45-49	15.5	69.4	7.7	6.9	0.5	100.0	217	8.4
50-54	30.7	58.5	6.4	2.6	1.8	100.0	205	8.1
55-59	50.6	47.9	1.5	0.0	0.0	100.0	137	7.0
60-64	49.5	43.6	3.4	1.1	2.4	100.0	79	6.1
65+	63.9	32.1	2.0	1.4	0.5	100.0	192	5.2
<b>Residence</b>								
Urban	28.5	40.4	23.4	7.3	0.5	100.0	1,809	8.5
Rural	40.2	46.1	10.7	2.7	0.3	100.0	1,939	7.5
<b>Wealth quintile</b>								
Lowest	44.4	48.4	6.4	0.4	0.3	100.0	703	7.0
Second	41.4	46.6	10.2	1.5	0.3	100.0	728	7.3
Middle	34.4	44.3	16.4	4.6	0.2	100.0	730	8.1
Fourth	30.8	40.2	23.6	4.9	0.3	100.0	790	8.4
Highest	23.4	38.0	25.7	12.3	0.6	100.0	796	8.8
Total	34.6	43.3	16.8	4.9	0.4	100.0	3,748	8.1

<sup>1</sup> Completed forms 5 and 6 at the secondary level.

<sup>2</sup> Completed from 7 at the secondary level.

Although primary education is provided free in Kiribati, about 8% of both women and men have no formal education. Those with no educational attainment are usually in the lowest wealth quintile households. Two in five men and women have completed some primary school only, while three in ten have completed only some secondary high school. About 3% have more than a secondary education. Not surprisingly, a higher percentage of women and men with secondary or higher education are in the urban area than in rural areas.

**Table 2.6: Educational attainment of the male household population**

*Percent distribution of the de facto male household population age six and over by highest level of schooling attended or completed and median grade completed, according to background characteristics, Kiribati 2009*

Background characteristic	No education & some primary	Primary & some secondary	Secondary level 1 <sup>1</sup>	Secondary level 2 & higher <sup>2</sup>	Don't know/missing	Total	Number	Median years completed
<b>Age</b>								
6-9	99.0	0.8	0.0	0.0	0.2	100.0	391	0.5
10-14	76.9	22.2	0.7	0.0	0.2	100.0	559	4.4
15-19	18.3	63.6	16.2	1.4	0.5	100.0	400	8.4
20-24	12.3	39.7	39.5	8.3	0.3	100.0	406	9.8
25-29	8.6	51.7	31.2	8.3	0.3	100.0	339	9.0
30-34	7.0	64.7	18.1	7.8	2.3	100.0	260	8.6
35-39	9.3	63.0	20.3	7.0	0.4	100.0	229	8.6
40-44	8.6	67.9	12.3	11.2	0.0	100.0	215	8.6
45-49	12.5	70.3	10.4	6.8	0.0	100.0	233	8.4
50-54	17.9	67.0	4.6	10.5	0.0	100.0	145	8.4
55-59	24.6	62.1	7.3	6.0	0.0	100.0	104	8.3
60-64	34.8	55.8	5.3	4.1	0.0	100.0	72	7.7
65+	46.5	40.2	6.7	5.2	1.4	100.0	130	7.0
<b>Residence</b>								
Urban	29.6	42.0	20.0	7.9	0.5	100.0	1,597	8.4
Rural	38.2	49.0	9.9	2.6	0.4	100.0	1,886	7.6
<b>Wealth quintile</b>								
Lowest	39.9	52.7	6.2	0.7	0.6	100.0	687	7.3
Second	39.2	50.1	8.9	1.7	0.1	100.0	707	7.3
Middle	35.5	47.6	12.9	3.6	0.4	100.0	715	7.8
Fourth	30.6	41.1	22.3	5.5	0.6	100.0	673	8.4
Highest	26.0	37.4	22.6	13.7	0.4	100.0	701	8.7
Total	34.3	45.8	14.5	5.0	0.4	100.0	3,483	8.1

<sup>1</sup> Completed forms 5 and 6 at the secondary level.

<sup>2</sup> Completed form 7 at the secondary level.

## 2.5 SCHOOL ATTENDANCE RATIO

Kiribati uses a 6-3-4-3 formal education system: six years of free universal primary, three years of free universal junior secondary starting from Form 1 to Form 3, four years of senior secondary starting from Form 4 to Form 7, and three years of post-secondary or university or tertiary. The official age ranges for these levels are 6–11 years for primary, 12–14 for junior secondary, 15–18 for senior secondary, and 19–21 for post-secondary.

The net attendance ratio (NAR) for the primary level is the percentage of primary-school-age children (ages 6–11) who attend primary school. Overall, the primary school NAR is 84% (Table 2.7) and is slightly higher for females (85%) than for males (83%). In the urban area, 81% of children aged 6–11 attend primary school compared with 86% in rural areas.

Compared with the primary level NAR, the secondary level NAR is lower, with 59% of children aged 12–17 years attending secondary school. The NAR is lower among children in rural areas and those living in the lowest wealth quintile households. The secondary NAR is lower for male children than for female children.

The gross attendance ratio (GAR) measures attendance irrespective of the official age at each level. The GAR for primary school is the total number of children attending primary school expressed as a percentage of the official primary-school-age population (ages 6–11). A major contributing factor to high GAR is

children starting primary school earlier or later than the recommended age of 6 years. Overall, the primary-school GAR is 107. There is no significant variation in the primary-school GAR by sex or wealth quintile.

The gender parity index (GPI) is a measure of the ratio of females to males attending school, regardless of age. For primary school, the GPI is almost the same for female and male students. Nevertheless, secondary school GPI indicates that there are more females than males (i.e. a GPI of 1.16).

**Table 2.7: School attendance ratios**

*The net attendance ratio (NAR)<sup>1</sup> and gross attendance ratio (GAR)<sup>2</sup> for the de facto household population by sex and level of schooling; and the gender parity index (GPI)<sup>3</sup>, according to background characteristics, Kiribati 2009*

Background characteristic	Net attendance ratio				Gross attendance ratio			
	Male	Female	Total	Gender parity index	Male	Female	Total	Gender parity index
<b>PRIMARY SCHOOL</b>								
<b>Residence</b>								
Urban	78.1	83.5	80.9	1.07	101.6	107.5	104.6	1.06
Rural	85.9	86.2	86	1	110.1	106.5	108.3	0.97
<b>Wealth quintile</b>								
Lowest	85.8	83	84.2	0.97	115.2	103.1	108.5	0.89
Second	83.5	84.2	83.8	1.01	103.6	107.3	105.4	1.04
Middle	80.2	83.8	82	1.05	114.6	105.6	110.1	0.92
Fourth	80.7	86.2	83.5	1.07	93	107.4	100.3	1.16
Highest	83.6	90	86.8	1.08	106.3	113.1	109.8	1.06
Total	82.8	85.1	84	1.03	106.7	106.9	106.8	1
<b>SECONDARY SCHOOL</b>								
<b>Residence</b>								
Urban	60.4	67.6	64	1.12	86.3	96.5	91.4	1.12
Rural	49.5	59.2	54.1	1.2	57.2	68.7	62.7	1.2
<b>Wealth quintile</b>								
Lowest	40.2	51	45.3	1.27	46.1	59.9	52.6	1.3
Second	43.2	57.7	50.4	1.34	51	70	60.4	1.37
Middle	52.2	62.6	56.9	1.2	61.1	76	67.8	1.24
Fourth	66.4	64.7	65.5	0.97	97.8	90.2	93.6	0.92
Highest	69.5	76.8	73	1.11	98.6	109	103.6	1.11
Total	54.7	63.4	58.9	1.16	71	82.6	76.7	1.16

<sup>1</sup> The NAR for primary school is the percentage of the primary-school-age (ages 6–11 years) population that attends primary school. The NAR for secondary school is the percentage of the secondary-school-age (ages 12–17 years) population that attends secondary school. By definition, the NAR cannot exceed 100%.

<sup>2</sup> The GAR for primary school is the total number of primary school students expressed as a percentage of the official primary-school-age population. The GAR for secondary school is the total number of secondary school students expressed as a percentage of the official secondary-school-age population. If there are significant numbers of overage and underage students at a given level of schooling, the GAR can exceed 100%.

<sup>3</sup> The gender parity index for primary school is the ratio of the primary school NAR(GAR) for females to the NAR(GAR) for males. The gender parity index for secondary school is the ratio of the secondary school NAR(GAR) for females to the NAR(GAR) for males.

## 2.6 GRADE REPETITION AND DROPOUT RATES

Repetition and dropout rates presented in Table 2.8 describe the flow of pupils through Kiribati's educational system at the primary level. Repetition rates indicate the percentage of pupils who attended a particular grade during the school year that started in 2008 who again attended that same class during the following school year. Dropout rates show the percentage of pupils in a grade during the school year that started in 2008 who no longer attended school the following school year.

Table 2.8 presents the repetition and dropout rates for the *de facto* household population aged 5–24 who attended primary school in 2008 by school grade, according to background characteristics. Overall, about



3% of the primary school population repeat grade 1. Also, the results show that female students and children living in the urban area are most likely to repeat grade 1.

Overall, dropout rates were higher among males than females, and dropout rates in grade 1 and grade 5 were higher in the urban area than in rural areas.

**Table 2.8: Grade repetition and dropout rates**

*Repetition and dropout rates for the de facto household population (ages 5–24) who attended primary school in the previous school year by school grade, according to background characteristics, Kiribati 2009*

Background characteristic	School grade					
	1	2	3	4	5	6
<b>REPETITION RATE<sup>1</sup></b>						
<b>Sex</b>						
Male	0.9	4.9	7.4	0.8	0.8	1.1
Female	5.8	1.6	3.8	1.7	1.3	2
<b>Residence</b>						
Urban	5.2	3.2	6	2.1	0.9	3.6
Rural	1.7	3.1	5.1	0.8	1.2	0
<b>Wealth quintile</b>						
Lowest	0	0	2.4	2.1	0	0
Second	0	6.3	8.2	0	1.6	0
Middle	8.2	0	3.2	1.6	1.8	0
Fourth	4.6	5	7.3	0	2.1	5.3
Highest	2.5	5.5	6.3	2.8	0	2.8
Total	3.2	3.1	5.6	1.3	1.1	1.6
<b>DROPOUT RATE<sup>2</sup></b>						
<b>Sex</b>						
Male	3.7	0	1	0.9	3.1	3.6
Female	0	0.8	0	0	0.7	2.2
<b>Residence</b>						
Urban	3.2	0	0	0	1.1	5
Rural	1.1	0.7	1	0.7	2.3	1.1
<b>Wealth quintile</b>						
Lowest	0	1.7	0	2	4.5	3.7
Second	3.1	0	2.7	0	1.6	0
Middle	0	0	0	0	0	4.4
Fourth	6.6	0	0	0	2.5	0
Highest	0	0	0	0	0	5.8
Total	2	0.4	0.5	0.4	1.8	2.9

<sup>1</sup> The repetition rate is the percentage of students in a given grade in the previous school year who repeat that grade in the current school year.

<sup>2</sup> The dropout rate is the percentage of students in a given grade in the previous school year who do not attend school.

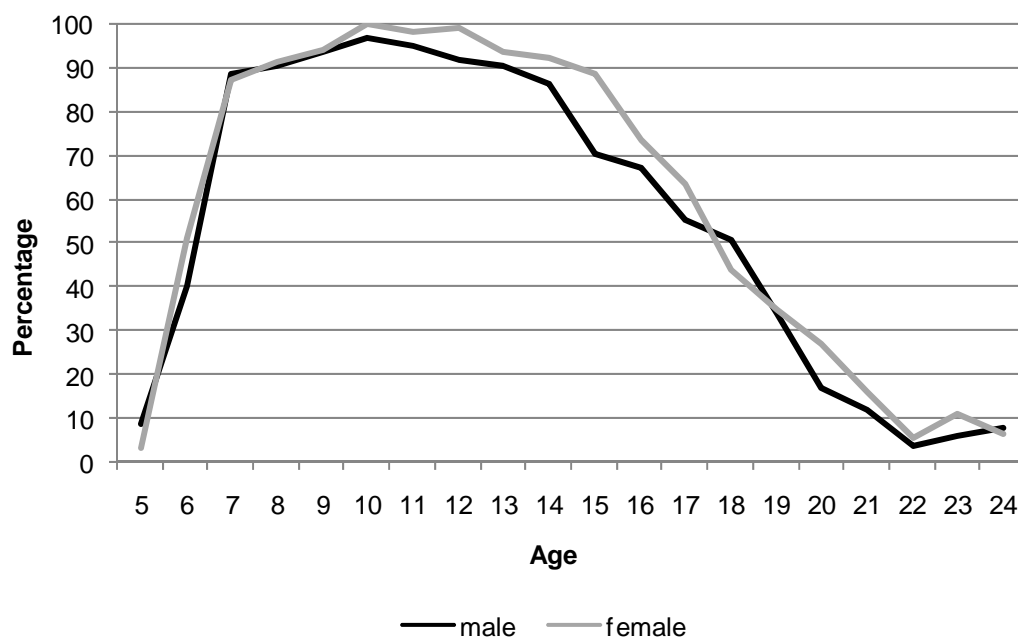
## 2.7 AGE-SPECIFIC ATTENDANCE RATE

Figure 2.3 presents information on school attendance among youth aged 5–24 by age. The figure includes students who attended primary school, secondary school, or higher education during the 2009 school year.

The vast majority of children aged 10–12 in Kiribati attend school (over 90%). Attendance rates are under 10% for 5-year olds, and between 40% and 50% for 6-year olds. Attendance rates decline noticeably for all children after age 13. For example, the attendance rate for males aged 18 is 51% while it is 44% for females of the same age. The attendance rate for 21-year-old males is only 16% but is 12% for 21-year-old females.

Although entry into primary school starts at age 6 in Kiribati, only 50% of children aged 6 actually begin primary school. However, attendance rates for children aged 7 are 75% and are 86% for children aged 8. It should be noted that children aged 6 at the time of the 2009 KDHS may not yet have turned 6 at the beginning of the school year and, therefore, were still in preschool. It can be expected that not all 6-year-olds attend school. However, all children aged 7 and 8 should have attended primary school during the 2009 school year. This was not the case. The results show that more than 10% of children do not attend primary school. This is an important point to consider because primary education is provided free in Kiribati.

**Figure 2.3: Age-specific attendance rates of the *de facto* population aged 5–24 years, Kiribati 2009**



## 2.8 HOUSEHOLD ENVIRONMENT

The physical characteristics of the household dwelling are important determinants of health status of household members, especially children, and can also be used as indicators of the socioeconomic status of a household. The 2009 KDHS contained a set of questions that asked respondents and the head of the household about their household environment, such as source of drinking water; type of sanitation facility; type of flooring, walls and roof; and number of rooms in the dwelling. The results are presented both in terms of households and of the *de jure* population.

### 2.8.1 Drinking water

The source of drinking water is an indication of whether it is suitable for drinking. Increased access to safe drinking water results in improved health outcomes in the form of reduced cases of water-borne diseases such as dysentery and cholera. Sources that are likely to provide suitable drinking water are identified as improved sources in Table 2.9. They include a piped source within the dwelling or plot, public tap, tube well or borehole, protected well and rainwater.<sup>2</sup>

Overall, 90% of all households in Kiribati have an improved source of drinking water, whether it is from a piped source, protected well or from rain water. Rural households have less access to improved drinking water sources than urban households. For instance, 87% of all households in rural areas have access to an improved drinking water source while about 96% of urban households have access to an improved drinking water source. However, not all households have an improved drinking water source. About 10% of all households use a non-improved drinking water source, which is common among rural households. The majority of households have water on the premises, which reduces the time spent fetching water. However, 17% of households spend, on average, less than 30 minutes fetching water. Adult males aged 15 and over (12%) have the burden of collecting water for their household's water consumption. About 3% of adult females share the burden of collecting water for their household.

Home water treatment can be effective in improving the quality of household drinking water. The majority of households use some type of appropriate treatment method to improve the quality of household water. The most commonly used water treatment method in Kiribati is boiling (88%). About 8% of all households use no method of water treatment. A higher proportion of households in rural areas use an appropriate water treatment method than in the urban area.

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<sup>2</sup> The categorisation of improved and non-improved drinking water sources follows that proposed by the WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (WHO and UNICEF 2004).

**Table 2.9: Household drinking water**

*Percent distribution of households and de jure population by source, time to collect, and person who usually collects drinking water; and percentage of households and the de jure population by treatment of drinking water, according to residence, Kiribati 2009*

Characteristic	Households			Population		
	Urban	Rural	Total	Urban	Rural	Total
<b>Source of drinking water</b>						
Improved source	95.2	86.7	90.0	95.2	86.7	90.6
Piped water into dwelling/yard/plot	27.3	3.4	12.6	27.8	2.9	14.4
Public tap/standpipe	9.5	1.3	4.4	9.1	1.3	4.9
Tube well or borehole	0.7	1.6	1.2	0.9	2.0	1.5
Protected dug well	9.9	57.6	39.3	8.7	58.3	35.4
Rainwater	47.8	22.8	32.4	48.7	22.3	34.4
Non-improved source	3.9	13.1	9.6	4.1	12.9	8.9
Unprotected dug well	3.9	13.1	9.6	4.1	12.9	8.9
Bottled water, improved source for cooking/washing <sup>1</sup>	0.2	0.0	0.1	0.1	0.0	0.0
Other	0.7	0.1	0.3	0.6	0.3	0.5
Total	100.0	100.0	100.0	100.0	100.0	100.0
Percentage using any improved source of drinking water	95.4	86.7	90.1	95.3	86.7	90.7
<b>Time to obtain drinking water (round trip)</b>						
Water on premises	91.8	73.4	80.5	92.9	73.4	82.4
Less than 30 minutes	7.7	22.1	16.5	6.6	21.3	14.5
30 minutes or longer	0.2	1.6	1.0	0.1	2.0	1.1
Don't know/missing	0.3	3.0	2.0	0.3	3.3	1.9
Total	100.0	100.0	100.0	100.0	100.0	100.0
<b>Person who usually collects drinking water</b>						
Adult female aged 15+	1.9	3.7	3.0	1.5	3.3	2.5
Adult male aged 15+	4.5	16.4	11.8	4.2	15.9	10.5
Female child under age 15	0.2	1.9	1.2	0.1	2.3	1.3
Male child under age 15	0.2	2.9	1.8	0.1	3.0	1.7
Other	1.3	1.7	1.6	1.0	2.1	1.6
Water on premises	91.8	73.4	80.5	92.9	73.4	82.4
Missing	0.2	0.0	0.1	0.2	0.0	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0
<b>Water treatment prior to drinking<sup>2</sup></b>						
Boiled	84.2	91.0	88.4	84.8	91.2	88.3
Bleach/chlorine	0.4	0.3	0.3	0.4	0.1	0.2
Strained through cloth	10.5	2.1	5.3	10.4	2.6	6.2
Ceramic, sand or other filter	5.1	3.1	3.8	5.0	2.9	3.9
Solar disinfection	0.5	0.0	0.2	0.4	0.0	0.2
Other	8.0	1.3	3.9	7.6	1.3	4.2
No treatment	10.5	6.0	7.7	9.1	5.2	7.0
Percentage using an appropriate treatment method <sup>3</sup>	88.2	93.7	91.6	89.3	94.3	92.0
Number	547	875	1,422	3,936	4,604	8,540

<sup>1</sup> Because the quality of bottled water is not known, households using bottled water for drinking are classified as using an improved or non-improved source according to their water source for cooking and washing.

<sup>2</sup> Respondents may report multiple treatment methods so the sum of treatment may exceed 100%.

<sup>3</sup> Appropriate water treatment methods include boiling, bleaching, straining, filtering and solar disinfecting.

## 2.8.2 Household sanitation facilities

Poor sanitation, coupled with unsafe water sources, increases the risk of water-borne diseases and illnesses due to poor hygiene, which subsequently contributes immensely to Kiribati's disease burden. Households without proper toilet facilities are more exposed to the risk of diseases such as dysentery, diarrhoea and typhoid fever than those with improved sanitation facilities. Table 2.10 shows the percent distribution of households and *de jure* population by type of toilet facility. Seven in ten households have non-improved toilet and/or latrine facilities. About one-half of all households in rural areas have non-improved toilet facilities, and about 22% of urban households have no access to toilet facilities and, therefore, using the beach or bush instead.

**Table 2.10: Household sanitation facilities**

*Percent distribution of households and de jure population by type of toilet or latrine facility, according to residence, Kiribati 2009*

Type of toilet or latrine facility	Households			Population		
	Urban	Rural	Total	Urban	Rural	Total
<b>Improved, not shared facility</b>						
Flush/pour flush to piped sewer system	14.1	9.5	11.3	14.8	9.6	12.0
Flush/pour flush to septic tank	23.1	8.6	14.2	25.4	9.3	16.7
Flush/pour flush to pit latrine	0.7	2.4	1.7	0.7	2.2	1.5
Ventilated improved pit latrine	0.5	1.4	1.0	0.4	1.4	1.0
<b>Non-improved facility</b>						
Any facility shared with other households	12.6	3.1	6.7	11.4	2.9	6.8
Flush/pour flush not to sewer/septic tank/pit latrine	1.8	2.3	2.1	2.1	2.0	2.0
Bucket	24.9	22.3	23.3	26.3	22.8	24.4
No facility/bush/field	21.8	50.2	39.3	18.4	49.4	35.1
Other	0.5	0.2	0.3	0.4	0.3	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number	547	875	1,422	3,936	4,604	8,540

## 2.8.3 Housing characteristics

Table 2.11 presents information on a number of dwelling characteristics that reflect households' socioeconomic status. They also may influence environmental conditions. For example, in the case of biomass fuel use, exposure to indoor pollution has a direct bearing on the health and welfare of household members.

Overall, 47% of all households have access to electricity as a source of energy. About 80% of rural households and 10% of urban households have no access to electricity.

Less than one-half of all households (40%) have earth and sand flooring, which is more common among rural households (45%) than urban households (33%). More than one in five households have cement and ceramic tile flooring (24%). Urban households are more likely to have cement and ceramic tiles flooring (49%) than rural households (8%). Wood and planks are used as flooring materials in 19% of rural households.

**Table 2.11: Household characteristics**

*Percent distribution of households and de jure population by housing characteristics, and percentage using solid fuel for cooking. Among those using solid fuels, the percent distribution by type of fire/stove, according to residence, Kiribati 2009*

Housing characteristic	Households			Population		
	Urban	Rural	Total	Urban	Rural	Total
<b>Electricity</b>						
Yes	89.8	19.7	46.6	92.4	22.0	54.5
No	10.2	80.3	53.4	7.6	78.0	45.5
Total	100.0	100.0	100.0	100.0	100.0	100.0
<b>Flooring material</b>						
Earth, sand	32.6	45.0	40.2	31.7	46.7	39.8
Wood/planks	3.7	18.8	13.0	3.0	18.3	11.2
Palm/bamboo	0.5	0.4	0.5	0.4	0.4	0.4
Parquet or polished wood	2.2	12.8	8.7	2.2	12.8	7.9
Vinyl or asphalt strips	9.1	1.6	4.5	9.2	1.7	5.2
Ceramic tiles	48.1	7.9	23.4	50.4	8.2	27.6
Cement	0.7	0.0	0.3	0.6	0.0	0.3
Other	3.1	13.4	9.4	2.5	12.0	7.6
Total	100.0	100.0	100.0	100.0	100.0	100.0
<b>Rooms used for sleeping</b>						
One	25.5	25.6	25.6	20.8	21.0	20.9
Two	35.5	40.8	38.7	32.4	40.0	36.5
Three or more	38.3	33.0	35.0	45.8	38.1	41.7
Missing	0.7	0.6	0.6	1.0	0.8	0.9
Total	100.0	100.0	100.0	100.0	100.0	100.0
<b>Place for cooking</b>						
In the house	40.4	3.4	17.7	39.3	3.4	19.9
In a separate building	45.4	86.0	70.4	47.0	85.6	67.8
Outdoors	14.1	10.4	11.9	13.7	11.0	12.2
Other	0.0	0.1	0.1	0.0	0.1	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
<b>Cooking fuel</b>						
Electricity	0.3	0.2	0.3	0.2	0.2	0.2
LPG/natural gas/biogas	7.5	0.5	3.2	7.9	0.5	3.9
Kerosene	65.1	3.7	27.3	64.1	3.8	31.6
Charcoal	0.2	0.6	0.4	0.2	0.6	0.4
Wood	21.6	58.9	44.5	22.0	58.9	41.9
Coconut husks/shells	4.1	36.1	23.8	4.7	36.0	21.6
Other	0.9	0.0	0.3	0.5	0.0	0.2
Missing	0.3	0.0	0.1	0.5	0.0	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
Percentage using solid fuel for cooking <sup>1</sup>	25.9	95.5	68.8	26.8	95.5	63.8
Number of households	547	875	1,422	3,936	4,604	8,540
<b>Type of fire/stove among households using solid fuel</b>						
Closed stove with chimney	1.4	0.0	0.2	1.6	0.0	0.3
Open fire/stove with chimney	0.6	1.2	1.1	0.4	1.2	1.1
Open fire/stove with hood	1.3	0.1	0.3	1.9	0.2	0.5
Open fire/stove without chimney or hood	96.7	98.4	98.2	96.0	98.4	97.9
Missing	0.0	0.3	0.2	0.0	0.2	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of households/population using solid fuel	142	836	978	1,054	4,398	5,452

LPG = liquid petroleum gas

<sup>1</sup> Includes coal/lignite, charcoal, wood/straw/shrubs/grass, agricultural crops, and animal dung.

One in four households uses one room for sleeping. The percent distribution of households with one room for sleeping is similar among the urban and rural households. About 35% of households use three or more rooms for sleeping.

Smoke from solid cooking fuels — such as charcoal, wood and other biomass fuels — is a major cause of respiratory infections. The type of fuel used for cooking, the location where food is cooked, and the type of stove used are all related to indoor air quality and the degree to which household members are exposed to the risk of respiratory infections and other diseases.

Almost one in five households cooks in the same house. Cooking in the same household is more common among urban households (40%) than rural households (3%). About 12% of households cook outdoors.

The majority of households have a separate room for cooking. Cooking in a separate room is more common in rural households.

Cooking fuel affects household air quality. Clean fuel is not affordable for many households, which means that solid fuels, which emit considerable amounts of smoke, are used instead. As a result, household members are likely to be exposed to air pollution. Reducing the proportion of the population relying on solid fuels is a Millennium Development Goal target. In Kiribati, the proportion of the population using solid fuels is 69%. The majority of households (98%) have open fire or stove with no chimney or hood.

## 2.9 HOUSEHOLD POSSESSIONS

The availability of durable consumer goods is an indicator of a household's socioeconomic status. Moreover, particular goods have specific benefits. For instance, having access to a radio or a television exposes household members to innovative ideas; a refrigerator prolongs the wholesomeness of foods; and a means of transport allows greater access to many services away from the local area. Table 2.12 shows the availability of selected consumer goods by residence.

During the 2009 KDHS, information on the possession of selected durable consumer goods was collected at the household level. The percentages of households possessing various durable consumer goods are shown in Table 2.12. There is a vast difference between urban and rural households, with urban households much more likely to own durable consumer items than rural households. However, rural households are more likely to own a bicycle and motorcycle as well as their own land. Other than these items, rural households are much more likely than urban households to own less consumer goods.

**Table 2.12: Household durable goods**

*Percentage of households and de jure population possessing various household effects, means of transportation, agricultural land and livestock/farm animals by residence, Kiribati 2009*

Possession	Households			Population		
	Urban	Rural	Total	Urban	Rural	Total
Radio	59.8	43.0	49.5	64.2	44.5	53.6
Television	21.1	1.5	9.1	23.5	2.1	12.0
Mobile telephone	58.0	2.1	23.6	62.7	2.5	30.3
Non-mobile telephone	23.4	2.3	10.4	25.6	2.9	13.4
Refrigerator	17.8	1.2	7.5	17.8	1.5	9.0
Bicycle	17.1	54.6	40.2	18.6	57.1	39.4
Motorcycle/scooter	12.6	30.2	23.4	14.8	31.3	23.7
Car/truck	18.6	1.2	7.9	20.1	1.3	10.0
Boat with a motor	12.7	8.4	10.1	14.5	8.8	11.4
Ownership of agricultural land	28.2	57.5	46.3	27.0	57.2	43.3
Ownership of farm animals <sup>1</sup>	76.0	92.2	86.0	79.2	94.4	87.4
Number	547	875	1,422	3,936	4,604	8,540

<sup>1</sup> Cattle, cows, bulls, horses, donkeys, goats, sheep or chickens.

## 2.10 WEALTH INDEX

The wealth index is a background characteristic that is used as a proxy for long-term standard of living of the household. It is based on a household's ownership of consumer goods, dwelling characteristics, type of drinking water source, toilet facilities, and other characteristics related to a household's socioeconomic status. To construct the index, each of these assets was assigned a weight (factor score) generated through principal component analysis. The resulting asset scores were standardised in relation to a standard normal distribution with a mean of zero and standard deviation of one (Gwatkin et al. 2000). Each household was then assigned a score for each asset, and the scores were summed for each household. Individuals were ranked according to the total score of the household in which they resided. The sample was then divided into quintiles from one (lowest) to five (highest). A single asset index was developed on the basis of data from the entire country sample and this index was used in all the tabulations presented.

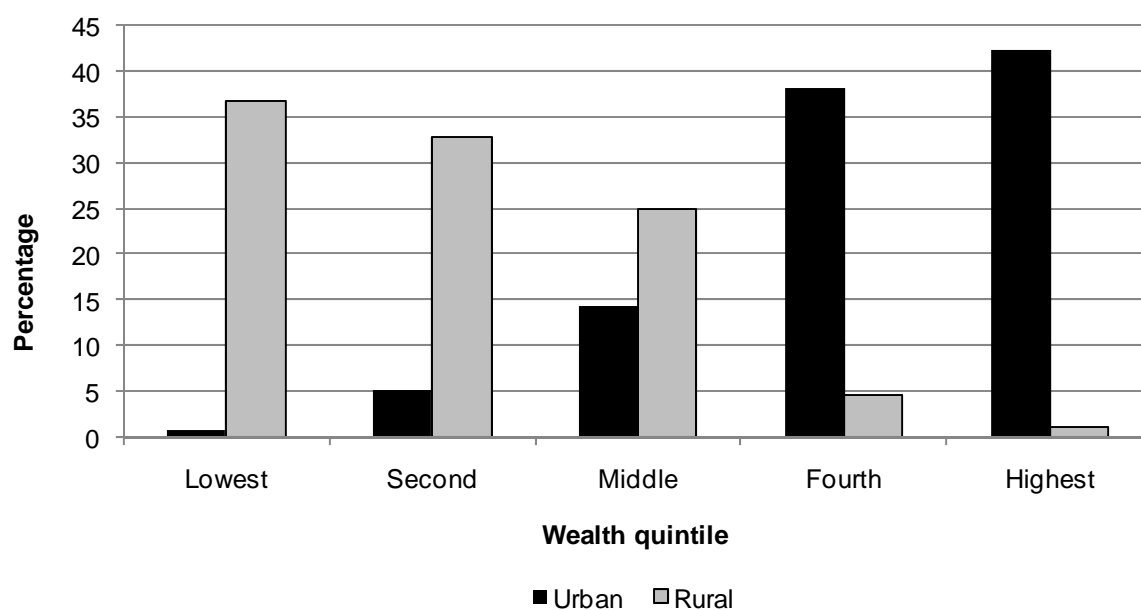
Table 2.13 and Figure 2.4 show the distribution of the *de jure* household population in five wealth levels (quintiles) based on the wealth index by residence. These distributions indicate the degree to which wealth is evenly (or unevenly) distributed by geographic area. The 2009 KDHS findings indicate that wealth is concentrated in the urban area. About 42% of the urban population is in the highest wealth quintile, compared with just over 1% of the rural population. About 37% of the population in rural areas is in the lowest wealth quintile, compared to about 1% of the population in the urban area.

**Table 2.13: Wealth quintiles**

*Percent distribution of the de jure population by wealth quintiles by residence, Kiribati 2009*

Residence/region	Wealth quintile					Total	Number of population
	Lowest	Second	Middle	Fourth	Highest		
Urban	0.6	5	14.3	38	42.1	100	3,936
Rural	36.6	32.8	24.9	4.6	1.2	100	4,604
Total	20	20	20	20	20	100	8,540

**Figure 2.4: Percent of distribution of the de jure population by wealth quintiles, Kiribati 2009**





## 2.11 BIRTH REGISTRATION

Birth registration is the inscription of facts about a birth into an official log kept at the registrar's office. A birth certificate is issued at the time of registration, or later as proof of birth registration. Birth registration is basic to ensuring a child's legal status and, thus, basic rights and services (UNICEF 2006; UNGA 2002). The birth registration system in Kiribati needs considerable improvement in terms of quality control and coverage. Birth registration is being undertaken on all islands of Kiribati.

Apart from being the first legal acknowledgment of a child's existence, birth registration is fundamental to the realisation of a number of rights and practical needs, including but not limited to, the provision of access to health care and the provision of access to immunisation. Birth registration in a well-established and functioning system ensures that the country has an up-to-date and reliable database for planning. This is as useful for national-level planning as it is for local government agencies that are responsible for maintaining education, health and other social services for the community.

Table 2.14 presents the percentage of children aged less than 5 years whose births are officially registered and the percentage who had a birth certificate at the time of the survey. Not all children who are registered have a birth certificate because some certificates may have been lost or were never issued. However, all children with a certificate have been registered.

The majority of children (94%) in Kiribati under age 5 years are registered. However, more than one-half (57%) do not have a birth certificate. There is no variation by background for those children whose births have been registered.

**Table 2.14: Birth registration of children under age 5 years**

*Percentage of de jure children under age 5 years whose births are registered with civil authorities, according to background characteristics, Kiribati 2009*

Background characteristic	Percentage of children whose births are registered		Total registered	Number of children
	Have a birth certificate	Does not have a birth certificate		
<b>Age</b>				
<2	40.0	53.7	93.7	486
2-4	34.0	59.5	93.4	657
<b>Sex</b>				
Male	36.5	58.0	94.5	588
Female	36.6	55.9	92.5	555
<b>Residence</b>				
Urban	36.5	58.0	94.5	485
Rural	36.6	56.3	92.8	658
<b>Wealth quintile</b>				
Lowest	33.6	59.0	92.6	268
Second	34.7	55.9	90.6	223
Middle	36.4	59.0	95.4	238
Fourth	39.8	55.1	94.9	218
Highest	39.0	55.3	94.3	197
<b>Total</b>	36.5	57.0	93.5	1,143

## **CHAPTER 3      CHARACTERISTICS OF RESPONDENTS**

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This chapter describes the reproductive status of men and women in Kiribati, and presents information on the following variables: age at the time of the survey, marital status, residence, education, literacy and media access. In addition, the chapter explores factors that enhance women's empowerment, including employment, occupation, earnings, and continuity of employment. An analysis of these variables provides the socioeconomic context in which demographic and reproductive health issues are examined in subsequent chapters.

### **3.1      CHARACTERISTICS OF SURVEY RESPONDENTS**

Table 3.1 presents background characteristics of 1,978 women aged 15–49 and 1,135 men aged 15+ (15–54) who were interviewed during the 2009 KDHS. The distribution of respondents according to age shows a similar pattern for men and women. As expected with Kiribati's young age structure, the proportion of respondents in each age group declines with increasing age for both sexes. About 37% of women and 39% of men aged 15–24, 30% of women and 28% of men are aged 25–34, while the remaining respondents are women aged 35–49 and men aged 35–54.

Over one-half of women (52%) and 39% of men are formally married.<sup>3</sup> Men are much more likely than women to have never married (38% men, 24% women). It is interesting to note that only 16% of women declare themselves to be living with a man or in a consensual union, which is less than the corresponding percentage of 21% for men. Women are slightly more likely than men to be divorced, separated or widowed.

Although a larger proportion of the Kiribati population lives in the urban area (South Tarawa), the distribution of male and female respondents by residence shows that slightly more people live in rural areas than in the urban area (53% of women, 55% of men).

Data in Table 3.1 also show there is not much variation in the educational attainment of women and men. Whereas 58% of women have completed primary school and some secondary school, the corresponding proportion for men is 60%. Furthermore, whereas 8% of women have a secondary level 2 education or higher, 6% of men have attained this education level.

Women and men are more or less evenly distributed across wealth quintiles, indicating an even distribution of household wealth across the households sampled.

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<sup>3</sup> In this report, 'married' refers to those in a formal or official marriage, while 'living together' refers to those in informal or consensual unions. In the remainder of the report, marriage refers to both categories (i.e. formal and informal unions).

**Table 3.1: Background characteristics of respondents***Percent distribution of women and men aged 15–49 by selected background characteristics, Kiribati 2009*

Background characteristic	Women			Men		
	Weighted percent	Weighted	Unweighted	Weighted percent	Weighted	Unweighted
<b>Age</b>						
15–19	16.9	334	337	17.4	164	168
20–24	19.7	391	398	22.0	207	208
25–29	16.5	327	324	16.3	154	155
30–34	13.2	262	258	11.9	112	106
35–39	11.8	233	229	10.2	96	97
40–44	12.0	237	233	12.0	114	114
45–49	9.9	195	199	10.2	96	97
<b>Marital status</b>						
Never married	23.6	467	480	37.7	356	358
Married	52.1	1,031	1,030	39.3	371	372
Living together	16.2	320	308	20.8	196	194
Divorced/separated	5.4	108	108	*	20	21
Widowed	2.6	52	52	*	0	0
<b>Residence</b>						
Urban	47.4	937	1,044	44.8	423	470
Rural	52.6	1,041	934	55.2	520	475
<b>Education</b>						
No education and some primary	5.8	114	115	9.4	89	92
Primary and some secondary	58.0	1,148	1,130	59.9	564	555
Secondary level 1	28.3	560	573	24.6	231	234
Secondary level 2 and higher	7.9	156	160	6.2	58	64
<b>Wealth quintile</b>						
Lowest	18.5	365	332	22.3	210	200
Second	19.3	383	360	21.9	206	198
Middle	19.7	390	374	15.4	145	135
Fourth	21.6	428	464	20.1	190	202
Highest	20.9	413	448	20.3	191	210
Total aged 15–49	100.0	1,978	1,978	100.0	943	945
50+	-	-	-	-	192	190
Total men aged 15+	-	-	-	-	1,135	1,135

Note: Education categories refer to the highest level of education attended, whether or not that level was completed.

\*.\* = not applicable

Note: An asterisk indicates that the figure is based on fewer than 25 cases and has been suppressed.

### 3.2 EDUCATIONAL ATTAINMENT BY BACKGROUND CHARACTERISTICS

Tables 3.2 and 3.3 show the distribution of women and men according to their highest level of education attended. As mentioned before, the data show little variation between women and men in terms of educational attainment. Generally, younger people are more likely to be better educated and to reach higher education levels than older people; however, older people are more likely to attain some secondary level education. About 6% of women and 14% of men have no formal education or have some primary education. An equal proportion of men and women (58% each) have a primary education and some secondary education. Most men and women have completed primary school and attained some secondary level education, which is followed by those who have completed a secondary level 1 education.

As expected, people in rural areas are less educated than their urban counterparts. The median number of years completed at school are likely to be higher in the urban area than in rural areas. Urban women and men are more likely to attain a secondary level 1 education and higher than rural women and men. For instance, only 5% of rural women have attained a secondary level 2

education and higher compared with 11% of urban women, while the corresponding figures for men are 3% and 10%.

**Table 3.2: Educational attainment – Women**

*Percent distribution of women aged 15–49 by highest level of schooling attended or completed, and median grade completed, according to background characteristics, Kiribati 2009*

Background characteristic	Highest level of schooling				Total	Median years completed	Number of women
	No education and some primary	Primary and some secondary	Secondary level 1 <sup>1</sup>	Secondary level 2 and higher <sup>2</sup>			
<b>Age</b>							
15–24	4.3	46.9	39.7	9.0	100.0	10.0	724
..15–19	4.5	61.5	30.9	3.1	100.0	9.2	334
..20–24	4.1	34.5	47.2	14.1	100.0	10.7	391
25–29	2.4	46.3	40.9	10.4	100.0	10.1	327
30–34	3.5	61.1	25.8	9.6	100.0	8.8	262
35–39	3.9	71.7	17.2	7.1	100.0	8.6	233
40–44	8.9	77.9	9.3	4.0	100.0	8.5	237
45–49	18.3	74.3	4.5	2.9	100.0	8.4	195
<b>Residence</b>							
Urban	3.8	48.5	36.5	11.2	100.0	9.9	937
Rural	7.6	66.6	20.9	4.9	100.0	8.6	1,041
<b>Wealth quintile</b>							
Lowest	9.5	75.9	14.0	0.6	100.0	8.5	365
Second	7.9	70.6	19.4	2.1	100.0	8.6	383
Middle	5.2	57.1	28.9	8.9	100.0	8.9	390
Fourth	4.9	49.3	36.4	9.4	100.0	9.8	428
Highest	2.0	40.6	40.3	17.1	100.0	10.4	413
<b>Total</b>	<b>5.8</b>	<b>58.0</b>	<b>28.3</b>	<b>7.9</b>	<b>100.0</b>	<b>8.9</b>	<b>1,978</b>

<sup>1</sup> Completed forms 5 and 6 at the secondary level.

<sup>2</sup> Completed from 7 at the secondary level.

The second to last column in Tables 3.2 and 3.3 shows the median number of years of schooling. The figures show that younger people, those living in the urban area, and those in the two higher wealth quintile households have had more years of schooling on average than others in Kiribati. The results also confirm that men and women have equal access to education.

**Table 3.3: Educational attainment – Men**

Percent distribution of men aged 15–49 by highest level of schooling attended or completed, and median grade completed, according to background characteristics, Kiribati 2009

Background characteristic	Highest level of schooling				Total	Median years completed	Number of men
	No education and some primary	Primary and some secondary	Secondary level 1 <sup>1</sup>	Secondary level 2 and higher <sup>2</sup>			
<b>Age</b>							
15–24	11.2	47.8	34.4	6.6	100.0	9.7	372
..15–19	16.5	58.1	23.6	1.8	100.0	9.0	164
..20–24	7.0	39.7	43.1	10.3	100.0	10.3	207
25–29	8.2	53.0	33.9	4.9	100.0	9.3	154
30–34	8.7	65.8	20.2	5.3	100.0	8.7	112
35–39	6.0	78.4	11.8	3.8	100.0	8.4	96
40–44	7.2	74.0	10.4	8.5	100.0	8.6	114
45–49	11.0	75.5	6.0	7.5	100.0	8.5	96
<b>Residence</b>							
Urban	8.0	49.5	32.5	10.0	100.0	9.6	423
Rural	10.5	68.3	18.1	3.1	100.0	8.6	520
<b>Wealth quintile</b>							
Lowest	9.7	76.9	13.0	0.4	100.0	8.5	210
Second	13.8	66.9	15.9	3.5	100.0	8.6	206
Middle	10.6	58.4	25.9	5.1	100.0	8.8	145
Fourth	10.5	46.6	36.1	6.9	100.0	9.8	190
Highest	2.4	47.9	34.2	15.5	100.0	10.0	191
Total men aged 15–49	9.4	59.9	24.6	6.2	100.0	8.8	943
50+	36.3	50.8	5.1	7.8	100.0	8.5	192
Total men aged 15+	14.0	58.3	21.2	6.5	100.0	8.8	1,135

<sup>1</sup> Completed forms 5 and 6 at the secondary level.

<sup>2</sup> Completed from 7 at the secondary level.

### 3.3 LITERACY ACHIEVEMENT

Literacy level refers to an individual's ability to read all, part, or none of a sentence in the language he/she is able to read, and write with understanding. Questions assessing literacy are asked of each respondent who has not attended any school or who has attended only primary school. An additional approach to provide more information on respondents' level of literacy is to get respondents to read aloud a simple sentence. During the 2009 KDHS, this method was applied to all respondents who had not attended school or had attended only primary school. Respondents were asked to read aloud (from a card) a simple sentence written in I-Kiribati. The interviewer then recorded whether each respondent could read all of the sentence, only parts of it, or none of it.

Data in Tables 3.4 and 3.5 reveal that 2% of both women and men aged 15–49 cannot read at all. Literacy levels decrease with increasing age among women, from 98% among women aged 15–19 to 94% among women aged 45–49. Similarly, over 95% of men in almost all age groups are literate, which shows almost universal access to education over the years in Kiribati.

There is not much variation among women and men with regard to literacy levels, but there are some interesting patterns. For example, the literacy level for women in the urban area is slightly higher than for women in rural areas. In contrast, the literacy level for rural men is likely to be higher than for urban men. The gap between men and women is not very wide in either the urban area or in rural areas.

As with wealth quintiles, literacy levels are likely to be higher among respondents from wealthier households.

**Table 3.4: Literacy – Women***Percent distribution of women aged 15–49 by education and literacy level, according to background characteristics, Kiribati 2009*

Background characteristic	Secondary school or higher	No schooling or primary school						Total	Percentage literate <sup>1</sup>	Number
		Can read a whole sentence	Can read part of a sentence	Cannot read at all	No card with required language	Blind/visually impaired	Missing			
<b>Age</b>										
15–19	34.0	62.3	1.3	1.3	0.0	0.0	1.1	100.0	97.6	334
20–24	61.3	34.1	2.4	1.4	0.0	0.0	0.7	100.0	97.9	391
25–29	51.3	43.9	3.2	1.2	0.0	0.0	0.4	100.0	98.4	327
30–34	35.4	56.5	6.4	1.4	0.0	0.0	0.3	100.0	98.3	262
35–39	24.4	64.7	6.7	2.6	0.0	0.5	1.0	100.0	95.9	233
40–44	13.3	71.5	9.0	3.0	0.0	1.3	1.9	100.0	93.8	237
45–49	7.4	77.2	9.7	4.5	0.4	0.4	0.4	100.0	94.3	195
<b>Residence</b>										
Urban	47.7	46.1	3.8	1.4	0.1	0.1	0.9	100.0	97.6	937
Rural	25.9	64.5	6.0	2.5	0.0	0.4	0.8	100.0	96.3	1,041
<b>Wealth quintile</b>										
Lowest	14.6	73.3	8.5	1.9	0.0	0.3	1.2	100.0	96.5	365
Second	21.5	67.1	7.1	3.4	0.2	0.5	0.3	100.0	95.6	383
Middle	37.8	55.7	2.5	2.5	0.0	0.3	1.3	100.0	95.9	390
Fourth	45.8	47.1	4.6	1.8	0.0	0.0	0.6	100.0	97.5	428
Highest	57.4	39.0	2.3	0.4	0.0	0.2	0.7	100.0	98.7	413
Total	36.2	55.8	4.9	2.0	0.0	0.3	0.8	100.0	96.9	1,978

<sup>1</sup> Refers to women who attended secondary school or higher and women who can read a whole sentence or part of a sentence.

**Table 3.5: Literacy – Men***Percent distribution of men aged 15–49 by level of schooling attended and level of literacy, and percentage literate, according to background characteristics, Kiribati 2009*

Background characteristic	Secondary school or higher	No schooling or primary school						Total	Percentage literate <sup>1</sup>	Number
		Can read a whole sentence	Can read part of a sentence	Cannot read at all	No card with required language	Blind/visually impaired	Missing			
<b>Age</b>										
15–19	25.4	66.7	0.9	4.6	0.0	0.0	2.5	100.0	93.0	164
20–24	53.4	41.6	1.7	0.8	0.0	0.0	2.6	100.0	96.6	207
25–29	38.8	56.5	0.8	2.6	0.0	0.0	1.4	100.0	96.1	154
30–34	25.5	72.8	0.9	0.8	0.0	0.0	0.0	100.0	99.2	112
35–39	15.5	80.0	3.6	0.9	0.0	0.0	0.0	100.0	99.1	96
40–44	18.8	75.3	5.2	0.0	0.0	0.7	0.0	100.0	99.3	114
45–49	13.5	79.8	1.6	2.7	0.0	0.9	1.5	100.0	94.9	96
<b>Residence</b>										
Urban	42.5	49.2	3.7	3.1	0.0	0.2	1.3	100.0	95.4	423
Rural	21.2	75.9	0.4	0.8	0.0	0.2	1.4	100.0	97.6	520
<b>Wealth quintile</b>										
Lowest	13.4	83.1	0.0	1.0	0.0	0.0	2.5	100.0	96.5	210
Second	19.4	76.2	1.0	1.9	0.0	0.4	1.1	100.0	96.6	206
Middle	31.0	63.3	2.3	2.7	0.0	0.0	0.6	100.0	96.7	145
Fourth	42.9	47.0	4.5	3.2	0.0	0.4	2.0	100.0	94.5	190
Highest	49.7	46.9	2.1	0.8	0.0	0.0	0.4	100.0	98.7	191
Total men aged 15–49	30.7	63.9	1.9	1.9	0.0	0.2	1.4	100.0	96.6	943
Men aged 50+	12.9	77.4	3.9	1.8	1.0	2.6	0.5	100.0	94.2	192
Total men aged 15+	27.7	66.2	2.2	1.9	0.2	0.6	1.2	100.0	96.2	1,135

<sup>1</sup> Refers to men who attended secondary school or higher and men who can read a whole sentence or part of a sentence.

### 3.4 ACCESS TO MASS MEDIA

Information is essential to increasing people's knowledge and awareness of the world around them, and may eventually affect their perceptions and behaviours. During the 2009 KDHS, exposure to the media was assessed by asking respondents how often they read a newspaper, watched television, or listened to a radio.

Most people are exposed to some form of media. In general, men are more likely than women to have access to all types of mass media. Tables 3.6 and 3.7 show that radio is the most popular medium. Around 4 in 10 women and 1 in 2 men (or 51%) listen to a radio broadcast at least once a week. About 37% of men read a newspaper at least once a week, compared with 32% of women.

**Table 3.6: Exposure to mass media – Women**

*Percentage of women aged 15–49 who are exposed to specific media on a weekly basis, by background characteristics, Kiribati 2009*

Background characteristic	Reads a newspaper at least once a week	Watches television at least once a week	Listens to the radio at least once a week	All three media at least once a week	No media at least once a week	Number
<b>Age</b>						
15–19	34.1	16.2	41.1	5.8	43.1	334
20–24	37.4	16.6	48.9	7.3	37.7	391
25–29	31.1	15.9	43.2	7.1	42.6	327
30–34	28.4	8.8	43.0	1.8	42.7	262
35–39	29.2	9.9	45.0	5.1	45.0	233
40–44	32.2	10.2	48.1	4.7	39.5	237
45–49	26.5	13.3	43.1	3.3	43.4	195
<b>Residence</b>						
Urban	45.2	23.4	56.7	9.9	25.7	937
Rural	20.0	4.6	33.9	1.2	56.2	1,041
<b>Education</b>						
No education and some primary	15.3	9.6	31.0	1.6	60.0	114
Primary and some secondary	26.5	9.6	42.3	3.2	45.7	1,148
Secondary level 1	40.7	19.4	51.1	8.9	33.8	560
Secondary level 2 and higher	52.8	23.9	50.1	10.6	27.7	156
<b>Wealth quintile</b>						
Lowest	17.6	1.9	26.4	0.8	64.6	365
Second	20.3	7.5	36.2	1.9	52.1	383
Middle	26.1	8.9	44.2	2.9	45.3	390
Fourth	41.8	21.5	57.2	8.4	26.5	428
Highest	50.7	25.5	56.4	11.6	24.3	413
Total	31.9	13.5	44.7	5.3	41.7	1,978

The percentage of women and men who watch television is about the same: 14% of women and 12% of men. The percentage of women and men who have access to all three types of media (radio, newspaper, television) at least once a week is the same (5%). About 42% of women and 37% of men access any mass media less than once a week, which poses a challenge in providing information to the population, including health information.

Tables 3.6 and 3.7 also show the variation in media exposure by background characteristics of respondents. The results indicate that the proportions of women who are exposed to at least one type of media at least once a week declines gradually with age, except for listening to radio, which is universal across all ages. Urban women are more likely to have access to mass media than rural residents. Only 20% of women in rural areas read a newspaper at least once a week, compared with 45% of urban women. About 5% of rural women watch television at least once a week compared with 23% of urban women, and 34% of rural women listen to the radio compared with 57% of urban women. There is also a gap in media



access between urban and rural men. For example, 53% of men in the urban area read a newspaper at least once a week, compared with 24% of men in rural areas.

The data further reveal that exposure to media is positively associated with educational attainment. For example, 53% of women with a secondary level 2 education and higher read a newspaper each week, compared with only 15% of women with no education or some primary level education. A similar pattern exists for men, where 65% of men with a secondary level 2 education and higher read newspaper each week, compared with 20% of men with no education or some primary level education.

The data also show that media exposure is limited among women and men in lower wealth quintile households. For instance, only 1% of women from the poorest homes are exposed to all three forms of media at least once each week, compared with 12% from the wealthiest households. Similarly, less than 1% of men from the poorest homes are exposed to all three forms of media each week, compared with 12% from the wealthiest households.

**Table 3.7: Exposure to mass media – Men**

*Percentage of men aged 15–49 who are exposed to specific media on a weekly basis, by background characteristics, Kiribati 2009*

Background characteristic	Reads a newspaper at least once a week	Watches television at least once a week	Listens to the radio at least once a week	All three media at least once a week	No media at least once a week	Number
<b>Age</b>						
15–19	31.3	13.8	42.1	3.6	42.0	164
20–24	36.0	15.7	50.5	8.0	40.4	207
25–29	40.7	14.6	48.3	4.7	35.0	154
30–34	46.7	7.9	58.5	4.6	29.7	112
35–39	34.7	3.6	47.6	2.3	39.7	96
40–44	36.2	11.1	45.6	5.2	40.8	114
45–49	35.7	8.0	61.7	5.1	26.6	96
<b>Residence</b>						
Urban	52.7	23.9	61.1	9.9	18.9	423
Rural	24.4	1.7	40.8	1.1	51.9	520
<b>Education</b>						
No education and some primary	20.2	8.7	41.6	1.0	45.0	89
Primary and some secondary	31.7	8.4	46.8	3.1	40.8	564
Secondary level 1	49.5	17.0	57.3	8.7	29.3	231
Secondary level 2 and higher	65.3	26.7	62.8	15.6	19.7	58
<b>Wealth quintile</b>						
Lowest	10.5	1.4	26.3	0.0	67.7	210
Second	26.9	1.9	48.6	0.8	43.6	206
Middle	44.4	6.3	54.8	3.0	30.0	145
Fourth	55.0	22.0	62.9	10.1	19.9	190
Highest	54.0	27.3	60.7	11.8	18.9	191
Total men aged 15–49	37.1	11.7	49.9	5.1	37.1	943
Men aged 50+	34.2	13.0	53.8	7.1	36.1	192
Total men aged 15+	36.6	11.9	50.6	5.4	36.9	1,135

### 3.5 EMPLOYMENT STATUS

Like education, employment can be a source of empowerment for women, especially when it leads them into a decision-making position and control of income. Measuring women's empowerment is a difficult task and is most often under-reported, especially women's work that deals with family or home duties, which is always referred to as 'informal work/home duties'.

To ensure complete coverage of women's empowerment, the 2009 KDHS included questions about women's employment status in both informal and formal sectors. Employed women are classified as currently employed if they worked in the 7 days preceding the survey and the 12 months preceding the survey. Additional questions asked about any kind of payment respondents received in return for service provided.

Tables 3.8 and 3.9 show that 44% of women and 38% of men aged 15–49 are classified as currently employed. The proportion currently employed increases with age, education level, and number of living children (for women). The data for men show similar variations in employment status by age, education level, and number of children. About 49% of women who are married are employed, followed by those who are divorced, separated, or widowed (45%). Never-married women and men are the least likely to be employed (29% women, 22% men). Almost one in two (47%) married men are currently employed.

The current employment level for women is higher in rural areas (47%) than in the urban area (41%). In contrast, the current employment level for men is higher in the urban area (42%) than in rural areas (34%).

**Table 3.8: Employment status – Women**

*Percent distribution of women aged 15–49 by employment status, according to background characteristics, Kiribati 2009*

Background characteristic	Employed in the 12 months preceding the survey		Not employed in the 12 months preceding the survey	Missing/ don't know	Total	Number of women
	Currently employed <sup>1</sup>	Not currently employed				
<b>Age</b>						
15–19	19.4	2.0	78.5	0.0	100.0	334
20–24	37.9	5.2	56.5	0.3	100.0	391
25–29	50.3	4.1	45.6	0.0	100.0	327
30–34	54.9	3.3	41.8	0.0	100.0	262
35–39	56.5	6.3	36.9	0.4	100.0	233
40–44	47.3	3.2	49.4	0.0	100.0	237
45–49	55.7	3.6	40.7	0.0	100.0	195
<b>Marital status</b>						
Never married	29.0	2.4	68.6	0.0	100.0	467
Married or living together	49.3	4.4	46.1	0.1	100.0	1,352
Divorced/separated/widowed	44.7	4.7	50.0	0.6	100.0	160
<b>Number of living children</b>						
0	33.5	3.6	62.6	0.3	100.0	712
1–2	49.7	4.3	46.0	0.0	100.0	594
3–4	50.3	4.2	45.5	0.0	100.0	407
5+	50.8	4.1	45.1	0.0	100.0	265
<b>Residence</b>						
Urban	41.3	4.6	53.9	0.2	100.0	937
Rural	46.7	3.4	49.9	0.0	100.0	1,041

**Table 3.8 (continued)**

Background characteristic	Employed in the 12 months preceding the survey		Not employed in the 12 months preceding the survey	Missing/ don't know	Total	Number of women
	Currently employed <sup>1</sup>	Not currently employed				
<b>Education</b>						
No education and some primary	32.9	4.7	62.4	0.0	100.0	114
Primary and some secondary	40.8	3.7	55.5	0.1	100.0	1,148
Secondary level 1	47.0	4.5	48.5	0.0	100.0	560
Secondary level 2 and higher	67.1	4.0	28.3	0.6	100.0	156
<b>Wealth quintile</b>						
Lowest	42.4	4.3	53.3	0.0	100.0	365
Second	43.0	4.6	52.4	0.0	100.0	383
Middle	49.0	2.3	48.6	0.0	100.0	390
Fourth	45.8	6.1	47.9	0.2	100.0	428
Highest	40.4	2.6	56.7	0.3	100.0	413
Total	44.2	4.0	51.8	0.1	100.0	1,978

<sup>1</sup> 'Currently employed' is defined as having done work in seven days preceding. Includes people who did not work in the past seven days but who are regularly employed and were absent from work for leave, illness, vacation, or any other such reason.

**Table 3.9: Employment status – Men**

*Percent distribution of men aged 15–49 by employment status, according to background characteristics, Kiribati 2009*

Background characteristic	Employed in the 12 months preceding the survey		Not employed in the 12 months preceding the survey	Total	Number of men
	Currently employed <sup>1</sup>	Not currently employed			
<b>Age</b>					
15–19	15.7	7.8	76.4	100.0	164
20–24	32.9	5.0	62.1	100.0	207
25–29	43.4	5.8	50.8	100.0	154
30–34	44.8	9.2	46.0	100.0	112
35–39	41.8	9.5	48.6	100.0	96
40–44	48.8	8.6	42.5	100.0	114
45–49	49.7	9.5	40.8	100.0	96
<b>Marital status</b>					
Never married	22.3	6.4	71.2	100.0	356
Married or living together	47.3	8.1	44.6	100.0	567
Divorced/separated/widowed	*	*	*	*	20
<b>Number of living children</b>					
0	27.2	7.0	65.8	100.0	439
1–2	40.9	6.5	52.6	100.0	230
3–4	49.7	9.3	41.0	100.0	160
5+	54.0	8.7	37.4	100.0	115
<b>Residence</b>					
Urban	42.2	8.9	48.9	100.0	423
Rural	33.9	6.3	59.8	100.0	520

**Table 3.9 (continued)**

Background characteristic	Employed in the 12 months preceding the survey		Not employed in the 12 months preceding the survey	Total	Number of men
	Currently employed <sup>1</sup>	Not currently employed			
<b>Education</b>					
No education and some primary	13.4	9.1	77.5	100.0	89
Primary and some secondary	37.0	8.4	54.7	100.0	564
Secondary level 1	40.2	5.2	54.6	100.0	231
Secondary level 2 and higher	70.1	5.3	24.6	100.0	58
<b>Wealth quintile</b>					
Lowest	34.5	6.1	59.4	100.0	210
Second	33.4	12.1	54.6	100.0	206
Middle	38.9	6.0	55.1	100.0	145
Fourth	42.3	8.7	49.0	100.0	190
Highest	39.9	3.9	56.2	100.0	191
Total men aged 15–49	37.6	7.5	54.9	100.0	943
Men aged 50+	28.6	7.0	64.4	100.0	192
Total men aged 15+	36.1	7.4	56.5	100.0	1,135

Note: An asterisk indicates that the figure is based on fewer than 25 cases and has been suppressed.

<sup>1</sup> 'Currently employed' is defined as having done work in the past seven days. Includes people who did not work in the past seven days but who are regularly employed and were absent from work for leave, illness, vacation, or any other such reason.

### 3.6 OCCUPATION

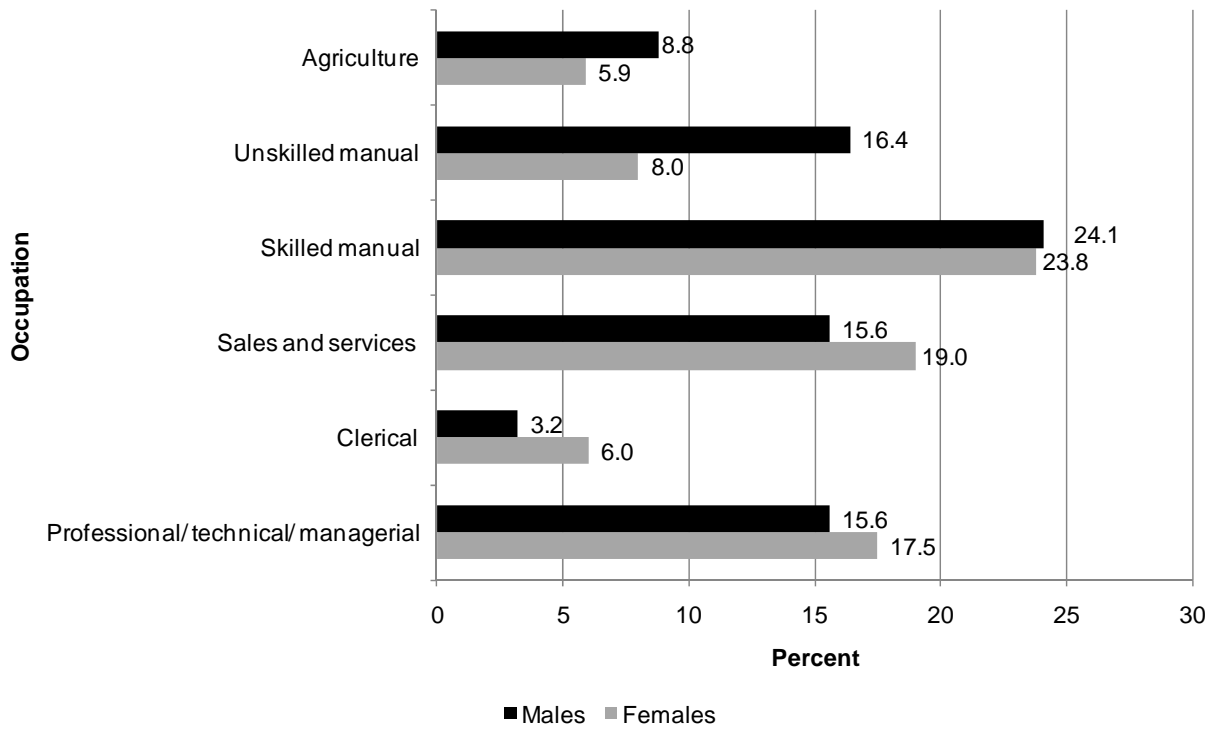
Respondents who were currently employed were asked to state their occupation; the results are presented in Figure 3.1, Table 3.10 and Table 3.11. Among women who are currently employed, 24% are engaged in 'skilled manual' occupations and 18% are involved in professional, technical and managerial occupations. The percentages for men in these same categories are 24% in 'skilled manual', and 16% in professional, technical and managerial occupations.

Professional, technical and managerial occupations — which require more skill and have higher income-earning potential — employ less than one in five working women (18%) and men (16%).

Table 3.10 shows the distribution of women employed in the 12 months preceding the survey by type of occupation and according to their background characteristics. Generally, women tend to work in skilled manual occupation jobs unless they are urban residents, have more than a secondary education, or are from the wealthiest households.

Women who are never married, live in rural areas, have a low education level, and are in less wealthy households are more likely to be in skilled manual occupations, while women with higher levels of education, and in the wealthiest households are more likely to be in professional, technical or managerial occupations.

**Figure 3.1: Occupation by sex, Kiribati 2009**



I-Kiribati men in the 25–29 age group who 1) are never married, 2) live in the urban area, 3) have a secondary level 1 education, and 4) are in middle income households are more likely to be in skilled manual occupations, while men in older age groups, with higher levels of education, and in the wealthiest households are more likely to be in professional, technical or managerial occupations.

**Table 3.10: Occupation – Women***Percent distribution of women aged 15–49 employed in the 12 months preceding the survey by occupation, according to background characteristics, Kiribati 2009*

Background characteristic	Professional/ technical/ managerial	Clerical	Sales and services	Skilled manual	Unskilled manual	Agriculture	Missing	Total	Number of women
<b>Age</b>									
15–19	6.6	1.4	18.5	24.1	7.4	8.6	33.4	100.0	72
20–24	8.1	9.2	18.9	21.4	14.1	5.7	22.6	100.0	169
25–29	23.1	12.5	18.4	18.8	5.1	4.5	17.5	100.0	178
30–34	24.6	4.0	18.6	25.0	3.9	4.7	19.1	100.0	152
35–39	21.3	4.3	19.5	22.1	9.8	6.9	16.1	100.0	146
40–44	19.5	4.2	17.4	28.7	10.9	5.1	14.2	100.0	120
45–49	13.4	0.8	22.3	29.8	3.9	8.1	21.7	100.0	116
<b>Marital status</b>									
Never married	15.4	7.2	21.4	12.6	11.6	5.2	26.6	100.0	147
Married or living together	19.0	5.9	18.5	25.8	7.5	5.9	17.5	100.0	727
Divorced/separated/widowed	8.4	4.9	20.3	26.1	5.4	7.6	27.3	100.0	79
<b>Number of living children</b>									
0	19.5	7.0	20.2	15.5	9.5	5.9	22.5	100.0	264
1–2	16.7	9.1	17.5	25.7	7.9	5.0	18.0	100.0	321
3–4	14.7	3.9	20.3	27.8	7.5	7.8	18.0	100.0	222
5+	20.0	0.6	18.6	28.3	6.1	5.2	21.1	100.0	145
<b>Residence</b>									
Urban	18.2	8.7	24.3	15.7	4.4	2.1	26.6	100.0	430
Rural	17.0	3.8	14.8	30.4	11.0	9.1	14.1	100.0	522
<b>Education</b>									
No education and some primary	(2.0)	(0.0)	(17.5)	(29.3)	(14.4)	(14.0)	(22.7)	(100.0)	43
Primary and some secondary	6.7	1.4	22.3	32.5	8.5	7.4	21.1	100.0	510
Secondary level 1	27.6	11.8	17.4	13.9	6.3	4.2	18.9	100.0	288
Secondary level 2 and higher	47.0	14.4	9.0	6.9	7.5	0.8	14.4	100.0	111
<b>Wealth quintile</b>									
Lowest	7.0	1.2	13.6	33.8	13.5	10.1	20.8	100.0	170
Second	12.1	3.2	15.7	30.2	10.8	11.8	16.2	100.0	182
Middle	25.1	5.4	20.7	26.5	4.1	4.2	13.9	100.0	200
Fourth	17.6	8.1	24.0	17.1	6.0	2.9	24.2	100.0	222
Highest	24.5	11.6	19.6	12.6	6.7	1.8	23.2	100.0	178
Total	17.5	6.0	19.0	23.8	8.0	5.9	19.7	100.0	952

Note: Figures in parentheses are based on 25–49 cases.

**Table 3.11: Occupation – Men***Percent distribution of men aged 15–49 employed in the 12 months preceding the survey by occupation, according to background characteristics, Kiribati 2009*

Background characteristic	Professional/ technical/ managerial	Clerical	Sales and services	Skilled manual	Unskilled manual	Agriculture	Missing	Total	Number of men
<b>Age</b>									
15–19	(6.7)	(0.0)	(8.9)	(25.7)	(21.1)	(14.9)	(22.8)	(100.0)	39
20–24	9.8	4.4	12.3	24.4	18.6	11.8	18.7	100.0	79
25–29	16.6	4.5	16.7	30.7	20.2	3.2	8.1	100.0	76
30–34	5.9	1.8	22.2	24.9	19.6	3.6	22.0	100.0	61
35–39	(13.8)	(4.1)	(13.7)	(30.5)	(9.8)	(8.3)	(19.8)	(100.0)	49
40–44	26.9	3.1	13.3	20.1	12.2	10.6	13.8	100.0	65
45–49	27.2	3.1	20.3	11.9	12.0	11.8	13.8	100.0	57
<b>Marital status</b>									
Never married	10.1	2.1	8.0	28.5	19.9	12.2	19.3	100.0	102
Married or living together	17.5	3.7	18.4	22.5	14.4	7.6	15.9	100.0	314
Divorced/separated/widowed	*	*	*	*	*	*	*	*	8
<b>Number of living children</b>									
0	9.1	2.0	13.4	26.6	17.4	10.4	21.0	100.0	150
1–2	20.1	3.0	11.9	25.2	24.8	6.7	8.3	100.0	109
3–4	20.3	5.7	21.1	16.9	10.3	7.2	18.4	100.0	94
5+	16.0	2.8	18.3	26.5	9.4	10.6	16.4	100.0	72
<b>Residence</b>									
Urban	18.8	5.1	19.0	28.8	13.9	5.2	9.2	100.0	216
Rural	12.3	1.2	12.0	19.2	18.9	12.6	23.8	100.0	209
<b>Education</b>									
No education and some primary	*	*	*	*	*	*	*	*	20
Primary and some secondary	9.8	0.7	16.2	25.4	17.3	10.5	20.3	100.0	256
Secondary level 1	18.7	8.8	16.6	27.3	15.7	6.0	7.0	100.0	105
Secondary level 2 and higher	(37.5)	(6.0)	(13.0)	(8.7)	(8.9)	(4.9)	(21.0)	(100.0)	44
<b>Wealth quintile</b>									
Lowest	6.1	0.0	9.0	20.4	22.9	15.9	25.7	100.0	85
Second	12.5	1.0	11.9	23.6	18.2	12.9	20.0	100.0	94
Middle	16.0	2.5	19.2	27.8	9.9	4.5	20.2	100.0	65
Fourth	15.7	6.3	21.6	30.3	11.8	5.7	8.5	100.0	97
Highest	28.1	5.9	16.6	18.4	18.0	4.0	9.0	100.0	84
Total men aged 15–49	15.6	3.2	15.6	24.1	16.4	8.8	16.4	100.0	425
Men aged 50+	23.5	0.0	12.3	23.4	17.0	16.6	7.1	100.0	68
Total men aged 15+	16.7	2.8	15.1	24.0	16.5	9.9	15.1	100.0	493

Note: Figures in parentheses are based on 25–49 cases. An asterisk indicates that the figure is based on fewer than 25 cases and has been suppressed.

### 3.7 EARNINGS, TYPE OF EMPLOYER, AND CONTINUITY OF WOMEN'S EMPLOYMENT

Table 3.12 shows the distribution of women by employment status. The data indicate that 64% of employed women receive payment in cash only, 5% are paid both in cash and in kind, and 2% receive only payment in kind. Meanwhile, 29% of women receive no payment for their work.

The data on type of employer indicate that, while 4% of women are employed by a non-family member, 6% are self-employed, and 90% are employed by a family member.

Table 3.12 also shows the distribution of women by continuity of employment. Over one in two women (51%) work all year, 23% work seasonally, and one in four (25%) work occasionally.

**Table 3.12: Type of employment – Women**

*Percent distribution of women aged 15–49 employed in the 12 months preceding the survey by type of earnings, type of employer, and continuity of employment, according to type of employment (agricultural or non-agricultural), Kiribati 2009*

Employment characteristics	Agricultural work	Non-agricultural work	Missing	Total
<b>Type of earnings</b>				
Cash only	40.0	73.7	35.3	64.2
Cash and in kind	1.5	5.0	4.3	4.7
In kind only	18.5	0.6	2.2	1.9
Not paid	40.0	20.7	57.0	29.0
Missing	0.0	0.0	1.2	0.2
Total	100.0	100.0	100.0	100.0
<b>Type of employer</b>				
Employed by family member	98.3	91.7	80.1	89.8
Employed by nonfamily member	0.0	2.4	11.9	4.1
Self-employed	1.7	6.0	6.8	5.9
Missing	0.0	0.0	1.2	0.2
Total	100.0	100.0	100.0	100.0
<b>Continuity of employment</b>				
All year	35.0	55.4	41.4	51.4
Seasonal	12.7	23.1	25.9	23.0
Occasional	52.3	21.2	31.6	25.1
Missing	0.0	0.4	1.2	0.5
Total	100.0	100.0	100.0	100.0
Number of women employed during the last 12 months	57	708	188	952

Note: Total includes women with missing information on type of employment who are not shown separately.

### 3.8 HEALTH INSURANCE COVERAGE

The 2009 KDHS asked respondents if they were covered by specific types of insurance schemes. The insurance schemes were categorised as: 1) government-run schemes, such as social security; 2) other employer-based schemes; 3) privately purchased commercial insurance; and 4) other insurance arrangement. The distribution of respondents aged 15–49 with type of insurance coverage according to the respondent's background characteristics is presented in Table 3.13 for women and in Table 3.14 for men.



**Table 3.13: Health insurance coverage – Women**

*Percentage of women aged 15–49 with specific types of health insurance coverage, according to background characteristics, Kiribati 2009*

Background characteristic	Social security	Other employer-based insurance	Privately purchased commercial insurance	Other	None	Number
<b>Age</b>						
15–19	2.2	1.9	0.0	0.0	95.9	334
20–24	1.0	4.0	0.3	0.3	94.4	391
25–29	2.5	7.1	1.2	0.0	89.9	327
30–34	1.4	9.1	0.4	0.0	89.1	262
35–39	1.5	7.4	0.4	0.0	90.7	233
40–44	0.3	5.7	0.9	0.4	93.2	237
45–49	1.1	2.9	0.0	0.0	96.0	195
<b>Residence</b>						
Urban	0.6	3.7	0.4	0.1	95.5	937
Rural	2.3	6.8	0.6	0.1	90.4	1,041
<b>Education</b>						
No education and some primary	0.0	0.0	0.0	0.0	100.0	114
Primary and some secondary	1.3	3.2	0.2	0.2	95.1	1,148
Secondary level 1	2.6	7.8	0.9	0.0	89.3	560
Secondary level 2 and higher	0.0	15.9	1.5	0.0	83.1	156
<b>Wealth quintile</b>						
Lowest	3.6	2.8	0.3	0.0	93.3	365
Second	2.4	6.4	0.3	0.0	91.0	383
Middle	0.7	8.0	0.6	0.3	90.7	390
Fourth	0.8	3.0	1.1	0.0	95.6	428
Highest	0.4	6.3	0.0	0.3	93.1	413
Total	1.5	5.3	0.5	0.1	92.8	1,978

The tables show the percentage of female and male respondents covered by a health scheme or health insurance, by type of health insurance coverage. Overall, 93% of women and 98% of men are not covered by any health plan or insurance scheme. This means that in Kiribati, less than 1 in 10 respondents are covered by a health plan or insurance scheme. For example, social security covers only 2% of women and less than 1% of men. Similarly, other employer-based insurance schemes cover 5% of women and 1% of men. Privately purchased commercial insurance covers less than 1% of women and men.

For both women and men, health plan and insurance coverage increases with education level and household wealth status. Highly educated respondents and those in wealthier households are more likely to be covered by private insurance schemes. The 2009 KDHS data clearly highlight the situation of poor health insurance coverage in Kiribati — typical of many other Pacific Island countries as well. This situation urgently requires remedial steps.

**Table 3.14: Health insurance coverage – Men**

*Percentage of men aged 15–49 with specific types of health insurance coverage, according to background characteristics, Kiribati 2009*

Background characteristic	Social security	Other employer-based insurance	Privately purchased commercial insurance	Other	None	Number
<b>Age</b>						
15–19	0.0	0.8	0.0	0.0	99.2	164
20–24	0.0	0.0	0.4	0.0	99.6	207
25–29	0.0	1.0	2.5	0.6	95.9	154
30–34	1.0	1.7	0.0	0.0	97.3	112
35–39	0.0	2.2	0.8	0.7	97.1	96
40–44	0.0	0.0	0.0	0.9	99.1	114
45–49	0.0	1.7	1.7	0.0	96.5	96
<b>Residence</b>						
Urban	0.0	1.6	1.7	0.4	96.6	423
Rural	0.2	0.4	0.0	0.2	99.2	520
<b>Education</b>						
No education and some primary	0.0	0.0	0.0	1.1	98.9	89
Primary and some secondary	0.2	1.0	0.1	0.3	98.3	564
Secondary level 1	0.0	0.5	2.0	0.0	97.5	231
Secondary level 2 and higher	0.0	2.8	2.8	0.0	95.7	58
<b>Wealth quintile</b>						
Lowest	0.5	0.0	0.0	0.0	99.5	210
Second	0.0	1.0	0.0	0.0	99.0	206
Middle	0.0	0.0	0.0	0.5	99.5	145
Fourth	0.0	1.9	1.4	1.0	96.1	190
Highest	0.0	1.5	2.4	0.0	96.1	191
Total men aged 15–49	0.1	0.9	0.8	0.3	98.0	943
Men aged 50+	0.0	0.8	0.3	0.0	98.9	192
Total men aged 15+	0.1	0.9	0.7	0.2	98.2	1,135

### 3.9 KNOWLEDGE OF AND ATTITUDES TOWARD TUBERCULOSIS

Tuberculosis (TB) is one of the main killers of women, men and children of all ages and in all societies. The 2009 KDHS asked questions about knowledge of and attitudes toward TB in order to learn how people deal with the disease. Tables 3.15 and 3.16 show several indicators relating to respondents' knowledge and attitudes concerning TB, including the percentage of people who 1) have heard of the disease, 2) know that TB is spread through the air by coughing, 3) believe that TB can be cured, and 4) would want to keep it a secret that a family member had TB.

Knowledge of TB by both women and men is almost universal (99% for women, 98% for men). About 81% of women and 77% of men who have heard about TB say that it is spread through the air. There is not much difference in the level of knowledge of how TB is spread by residence and other background characteristics (of both female and male respondents). For example, 82% of urban women report that TB is spread through the air by coughing compared with 80% of rural women. Similarly, 83% of urban men report that TB is spread through the air by coughing compared with 74% of rural men.

About 96% of women and 98% of men who have heard of TB believe it can be cured. Although some differences are evident, the general pattern is the same for women and men. For example, the proportion of women and men who believe that TB can be cured generally increases with age and educational attainment.

**Table 3.15: Knowledge and attitude concerning tuberculosis – Women**

*Percentage of women aged 15–49 who have heard of tuberculosis (TB), and among women who have heard of TB, the percentages who know that TB is spread through the air by coughing, the percentage who believe that TB can be cured, and the percentage who would want to keep secret that a family member has TB, by background characteristics, Kiribati 2009*

Background characteristic	Among all respondents		Among respondents who have heard of TB:			
	Percentage who have heard of TB	Number	Percentage who report that TB is spread through the air by coughing	Percentage who believe that TB can be cured	Percentage who would want a family member's TB kept secret	Number
<b>Age</b>						
15–19	96.8	334	79.4	91.5	11.6	323
20–24	98.2	391	82.6	96.7	8.4	384
25–29	98.7	327	82.0	97.5	4.6	322
30–34	98.8	262	82.7	97.8	5.0	259
35–39	98.8	233	82.0	97.2	6.0	230
40–44	99.6	237	75.2	97.2	5.3	236
45–49	99.2	195	79.2	97.5	6.9	193
<b>Residence</b>						
Urban	98.6	937	82.0	96.7	7.2	924
Rural	98.3	1,041	79.5	95.9	7.0	1,024
<b>Education</b>						
No education and some primary	93.2	114	72.8	93.8	5.5	107
Primary and some secondary	98.2	1,148	77.8	95.6	7.0	1,127
Secondary level 1	99.7	560	86.8	97.2	7.5	558
Secondary level 2 and higher	100.0	156	84.8	99.4	6.8	156
<b>Wealth quintile</b>						
Lowest	98.0	365	72.1	95.3	5.9	358
Second	97.5	383	81.1	95.1	8.9	373
Middle	99.0	390	82.0	97.5	7.5	386
Fourth	98.2	428	81.5	97.3	7.4	420
Highest	99.6	413	85.6	96.1	5.6	411
<b>Total</b>	<b>98.5</b>	<b>1,978</b>	<b>80.7</b>	<b>96.3</b>	<b>7.1</b>	<b>1,948</b>

Only 7% of women and 9% of men who have heard about TB would want a family member's TB status kept a secret. Among women, the percentage who expresses a desire to keep secret that a family member has TB is the same among both urban and rural women (7%). Urban men (15%) are more likely than rural men (5%) to keep secret that a family member has TB. Among men, the percentage who expresses a desire to keep secret that a family member has TB increases as their education level increases, while there is not much difference by education for women.

Overall, I-Kiribati women have a clear understanding about TB, its cause, and the extent to which it can be cured compared with men. However, these same men who believe that TB can be cured are also more likely to keep secret that a family member has TB than women.

**Table 3.16: Knowledge and attitude concerning tuberculosis – Men**

*Percentage of men aged 15–49 who have heard of tuberculosis (TB), and among men who have heard of TB, the percentages who know that TB is spread through the air by coughing, the percentage who believe that TB can be cured, and the percentage who would want to keep secret that a family member has TB, by background characteristics, Kiribati 2009*

Background characteristic	Among all respondents		Among respondents who have heard of TB:			
	Percentage who have heard of TB	Number	Percentage who report that TB is spread through the air by coughing	Percentage who believe that TB can be cured	Percentage who would want a family member's TB kept secret	Number
<b>Age</b>						
15–19	99.0	164	73.6	92.6	15.7	163
20–24	95.6	207	81.5	98.1	10.5	198
25–29	97.6	154	77.8	99.5	8.9	150
30–34	99.1	112	75.9	99.0	6.6	112
35–39	98.0	96	85.6	100.0	6.0	94
40–44	98.3	114	81.4	98.3	5.1	112
45–49	98.8	96	71.2	98.0	7.5	95
<b>Residence</b>						
Urban	99.2	423	83.3	97.9	15.0	420
Rural	96.7	520	73.9	97.5	4.5	503
<b>Education</b>						
No education and some primary	97.0	89	65.3	91.4	7.5	86
Primary and some secondary	97.3	564	77.1	97.9	7.8	549
Secondary level 1	99.2	231	83.4	98.8	13.1	230
Secondary level 2 and higher	98.4	58	87.0	100.0	10.9	57
<b>Wealth quintile</b>						
Lowest	95.9	210	75.2	96.3	3.3	202
Second	98.1	206	73.2	96.3	4.1	202
Middle	97.4	145	76.3	98.9	6.4	141
Fourth	98.6	190	82.3	99.5	8.8	187
Highest	99.2	191	83.9	97.8	23.7	190
Total men aged 15–49	97.8	943	78.2	97.7	9.3	922
Men aged 50+	98.5	192	71.5	97.3	4.6	189
Total men aged 15+	97.9	1,135	77.0	97.6	8.5	1,112

### 3.10 TOBACCO USE

Smoking and other uses of tobacco affect women's and men's health, and may adversely affect children's health, especially in terms of vulnerability to respiratory illnesses. In addition, tobacco use during pregnancy increases the risk of having a small baby or low birth weight baby. Women and men interviewed during the 2009 KDHS were asked about their smoking habits. Tables 3.17 and 3.18 show the percentage of women and men who use various types of tobacco and the percent distribution of cigarettes smoked in the 24 hours preceding the survey, according to background characteristics.

The tables show that 33% of women and 65% of men are active tobacco users. Results from these tables also show that about 23% of women and 58% of men smoke cigarettes. Among pregnant women, 24% use some form of tobacco and most of these women smoke cigarettes (18%). Tobacco use varies greatly by background characteristics.

As men's and women's age increases, the number using tobacco also increases. For instance, about 51% of women in the 45–49 age group smoke other tobacco compared with 14% in the 15–19 age group. Women and men with a low education level and those in lower wealth quintile households are more likely to use tobacco than others. About 61% of women in rural areas do not use tobacco compared with 73% in the urban area. Meanwhile, about 72% of men in rural areas use tobacco compared with 65% the urban area. It is worth noting that more than one-half of teenage males aged 15–19 use some form of tobacco. It is likely that peer pressure results in I-Kiribati men using tobacco early in life.

**Table 3.17: Tobacco use – Women**

Percentage of women aged 15–49 who smoke cigarettes or a pipe or use other tobacco products and the percent distribution of cigarette smokers by number of cigarettes smoked in 24 hours preceding the survey, according to background characteristics and maternity status, Kiribati 2009

Background characteristic	Cigarettes	Pipe	Other tobacco	Does not use tobacco	No. of women	Number of cigarettes in the 24 hours preceding the survey						Total	No. of cigarette smokers
						0	1–2	3–5	6–9	10+	Don't know/missing		
<b>Age</b>													
15–19	11.2	0	14.3	84.1	334	(8.3)	(53.9)	(31.7)	(2.8)	(3.3)	(0)	(100)	37
20–24	19	0	24.3	73.8	391	7.6	49.5	30.7	5	6.1	1.1	100	74
25–29	25.5	0.3	34.0	63.2	327	2.4	41.7	39.6	8.3	7	1.1	100	83
30–34	20.5	0.3	29.4	66.4	262	5.2	37.2	32.7	10.1	9.8	5	100	54
35–39	28.3	0	38.9	57.8	233	6.8	51.5	22.2	11	8.6	0	100	66
40–44	28	0.8	40.9	58.4	237	4.7	33.2	40.8	9.3	12	0	100	66
45–49	32.4	0	50.5	48.9	195	9.1	47.3	25	4.7	13.9	0	100	63
<b>Residence</b>													
Urban	19.5	0.3	25.9	72.7	937	9.8	36	39.4	6.8	6.7	1.3	100	182
Rural	25.2	0.1	35.9	61.1	1,041	3.5	50.3	27.1	8	10.3	0.8	100	262
<b>Education</b>													
No education and some primary	26.2	0	44.5	54.7	114	(3.2)	(41.4)	(47.3)	(0)	(8.1)	(0)	(100)	30
Primary and some secondary	24.9	0.2	36.7	61.4	1,148	7.4	43.8	30.2	7.4	9.8	1.3	100	286
Secondary level 1	18.6	0.1	21.3	75.8	560	4.5	52.2	29.3	8.9	4.3	0.8	100	104
Secondary level 2 and higher	15.4	0	16.4	80.8	156	*	*	*	*	*	*	*	24
<b>Maternity status</b>													
Pregnant	17.8	0	23.3	76	123	*	*	*	*	*	*	*	22
Breastfeeding (not pregnant)	16.4	0	28.5	69.2	477	1.4	46.5	33.4	10.7	5.7	2.3	100	78
Neither	25	0.3	32.8	64.9	1,378	7.2	42	32.9	7	10.1	0.8	100	344
<b>Wealth quintile</b>													
Lowest	24.3	0	40.9	54.8	365	4.1	49.8	23.5	8.6	14	0	100	89
Second	28.4	0	36.3	61	383	3.5	50.1	28.8	6.2	10.5	0.9	100	109
Middle	22.9	0.3	35.6	62.7	390	5.5	42.7	37.4	6.8	6.4	1.2	100	89
Fourth	20.6	0.2	25.3	73.2	428	9.4	45	32.5	6.9	4.4	1.8	100	88
Highest	16.8	0.4	19.7	79.2	413	8.9	30.4	41.1	9.9	8.5	1.2	100	69
Total	22.5	0.2	31.2	66.6	1,978	6	44.5	32.1	7.5	8.8	1	100	444

Note: Figures in parentheses are based on 25–49 cases. An asterisk indicates that the figure is based on fewer than 25 cases and has been suppressed

**Table 3.18: Tobacco use– Men**

Percentage of men aged 15–49 who smoke cigarettes or a pipe or use other tobacco products and the percent distribution of cigarette smokers by number of cigarettes smoked in 24 hours preceding the survey, according to background characteristics, Kiribati 2009

Background characteristic	Cigarettes	Pipe	Other tobacco	Does not use tobacco	No. of men	Number of cigarettes in the 24 hours preceding the survey						Total	No. of cigarette smokers
						0	1–2	3–5	6–9	10+	Don't know/missing		
<b>Age</b>													
15–19	45.0	0	48.9	46.8	164	17.7	32.7	37.8	2.1	7.5	2.3	100	74
20–24	61.4	1.8	61.8	35.5	207	15.2	26.3	35.8	8.4	13.1	1.2	100	127
25–29	60.9	2.1	63	32.2	154	13.2	29.3	26.3	14.3	15.8	1.1	100	94
30–34	58.4	1.9	61.3	33	112	21.1	16.7	32.4	13.5	14.5	1.8	100	66
35–39	62.4	0	64.5	33.4	96	21	18.3	29.2	6.1	25.4	0	100	60
40–44	66.6	0.9	71.2	25.7	114	10.6	20.6	21.9	13.9	33	0	100	76
45–49	55.7	2.5	62.3	36	96	14.9	18.6	26.2	12.7	27.6	0	100	53
<b>Residence</b>													
Urban	52.3	0.2	49.7	44.8	423	11.7	30.1	30.5	7.1	18.7	2	100	221
Rural	63.1	2.3	70.4	27.6	520	18.7	20.1	30.5	12.1	18.3	0.3	100	328
<b>Education</b>													
No education and some primary	52.3	0	61.6	34.9	89	(20.1)	(29.2)	(31.8)	(6.7)	(12.1)	(0)	(100)	46
Primary and some secondary	61.9	1.7	65	30.8	564	15.8	24	29.3	9	21	0.9	100	350
Secondary level 1	53.0	1.3	55	43.3	231	15.5	26.2	32.1	13	12.5	0.6	100	123
Secondary level 2 and higher	52.3	0	47.2	47.7	58	(11.2)	(10.2)	(35.7)	(15.5)	(22.5)	(4.9)	(100)	30
<b>Wealth quintile</b>													
Lowest	66.3	3.1	74.9	21.7	210	17	24.3	35.6	10.5	11.8	0.7	100	140
Second	66.3	2	72	25.7	206	23	16.7	29.6	12.3	18.3	0	100	137
Middle	54.6	0	63.7	34.5	145	23.3	20.5	20.8	9.5	25.8	0	100	79
Fourth	55.7	0.6	53.8	42.9	190	11.1	32.9	28.5	9.7	16.2	1.6	100	106
Highest	46	0.3	39.7	53.6	191	2	28.1	34.8	6.8	25.1	3.1	100	88
Total men age 15–49	58.2	1.3	61.2	35.3	943	15.9	24.1	30.5	10.1	18.4	1	100	549
Men aged 50+	55.9	2.9	61.6	34.7	192	18.4	13.1	36.1	11.9	20.5	0	100	108
Total men aged 15+	57.9	1.6	61.2	35.2	1,135	16.3	22.3	31.4	10.4	18.8	0.8	100	657

Note: Figures in parentheses are based on 25–49 cases. An asterisk indicates that the figure is based on fewer than 25 cases and has been suppressed.

## CHAPTER 4 FERTILITY

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The 2009 KDHS collected information on current, past and cumulative fertility. Drawing on birth history information collected during the survey, this chapter describes current fertility and differentials in fertility by background characteristics, and fertility trends, which permits an examination of changes in age-specific fertility rates by specific time periods going back 20 years before the survey.

Information on the cumulative fertility of female respondents is also presented. Cumulative fertility tables are derived from a sequence of questions about the number of sons and daughters a woman has had, and who 1) are living in the household, 2) are living elsewhere, and 3) have died. The information on cumulative fertility is shown in terms of the mean number of children ever born and the mean number of surviving children to women, and classified by five-year age groups.

This chapter also presents information on 1) birth intervals for births in the five years preceding the survey, 2) age at first birth presented in five-year age groups for women, and 3) information on teenage pregnancy and motherhood by single year of age for youngest survey respondents (i.e. women aged 15–19). These data are important because they indicate the beginning of a woman's reproductive life.

### 4.1 DEFINITIONS, METHODOLOGY, AND ASSESSMENT OF DATA QUALITY

Fertility measures or indicators presented in this chapter are defined as follows:

**Age specific fertility rate (ASFR):** The number of births born to women in specific age groups. ASFR is calculated by taking the total number of births to women for each age group over the total number of women in that same age group.

**Total fertility rate (TFR):** The average number of children that would be born to a woman by the time she ended childbearing if she were to pass through all her childbearing years conforming to the age-specific fertility rates of a given year.

**General fertility rate (GFR):** The number of live births per 1,000 women aged 15–49 in a given year.

**Crude birth rate (CBR):** The total number of births per 1,000 population.

Fertility information was collected using the women's questionnaire, which contains questions regarding the birth history of every eligible woman aged 15–49. Birth history captures the total number of all living and dead children a woman has given birth to, children's date of birth, current age (if alive) and age at death (if dead), and whether the children are living with the mother or not. Although birth history tries to capture all births, the data obtained might be subject to various types of errors such as:

- standard errors (over/under standard of high or low fertility households);
- under-reporting of births, particularly the omission of children living elsewhere and those births that died very young (at birth or several hours after births), which could result in underestimation of births;
- misreporting of date of birth, and/or age, in particular, the tendency towards rounding off dates of birth or ages which could result in under- or overestimation of fertility at certain ages and/or certain periods of time;



- selective bias — questions were posed to surviving women only, and assumed that fertility level for women who died prior to the survey differed from that of survivors; the fertility level obtained from the survey might be slightly biased; and
- errors in dates of birth: birth transference.

## 4.2 CURRENT FERTILITY

Table 4.1 shows estimates of current fertility levels for Kiribati as a whole, and for urban and rural areas for the three-year period before the survey (2006–2009).<sup>4</sup> The TFR for that period is estimated to be 3.8.

**Table 4.1: Current fertility**

*Age-specific fertility rate and total fertility rate, the general fertility rate, and the crude birth rate for the three years preceding the survey, by residence, Kiribati 2009*

Age group	Residence		
	Urban	Rural	Total
15–19	44	61	51
20–24	166	209	186
25–29	201	196	198
30–34	154	203	184
35–39	101	113	108
40–44	34	33	33
45–49	0	14	8
TFR	3.5	4.1	3.8
GFR	115	144	131
CBR	30.7	28.8	29.9

Notes: Age-specific fertility rates are per 1,000 women. Rates for age group 45-49 may be slightly biased due to truncation. Rates are for the period 1-36 months prior to interview. TFR = total fertility rate expressed per woman  
GFR = general fertility rate expressed per 1,000 women  
CBR = crude birth rate, expressed per 1,000 population

According to the 2005 Kiribati population census report, the TFR for the period 2004–2005 was 3.5.

However, based on calculated standard errors (SEs), there is a 95% probability that the true value of the TFR is between 3.55 and 4.13 (Table 4.2 and Fig. 4.1).

The 95% confidence interval is calculated as follows:

**Lower limit** = the value of the estimated statistic (R) minus 2 times the standard error (SE) =  $(R - 2 \times SE)$

**Upper limit** = the value of the estimated statistic (R) plus 2 times the standard error (SE) =  $(R + 2 \times SE)$

The TFR in the urban area (South Tarawa) was lower (3.5) than in rural areas (4.1), which include all of the outer islands and North Tarawa.

Based on the calculated SE, there is a 95% probability that the true value of the urban TFR is between 3.23 and 3.76, while the true value of the rural TFR is between 3.68 and 4.61.

<sup>4</sup> ASFR numerators are calculated by summing the number of live births that occurred in the period 1–36 months preceding the survey (determined by the date of interview and the date of birth of the child), and classifying them by the age (in five-year age groups) of the mother at the time of birth (determined by the mother's date of birth). ASFR denominators are the number of woman-years lived in each of the specified five-year age groups during the 1–36 months preceding the survey.

Because there is a small overlap between urban and rural confidence intervals, the actual difference between urban and rural TFRs could be much smaller than would appear from the reported values of 3.5 and 4.1, respectively.

**Table 4.2: Standard errors (SEs) for TFR by urban and rural residence for the three-year period before the survey, Kiribati 2009**

Area	R	SE	SE/R	R-2SE	R+2SE
Urban	3.50	0.133	0.038	3.23	3.76
Rural	4.14	0.232	0.056	3.68	4.61
Total	3.84	0.143	0.037	3.55	4.13

Where:

R = value of the estimated statistic (indicator)

SE = standard error of the estimate

SE/R = relative standard error (i.e. ratio of the standard error of the value estimate)

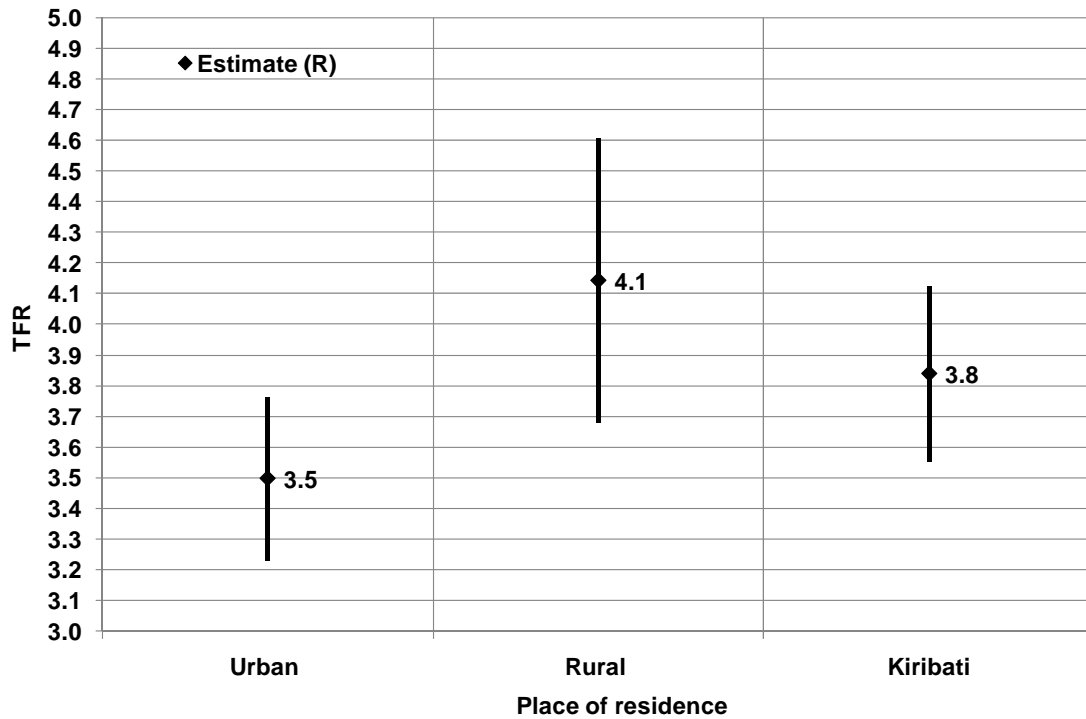
R-2SE = lower limit of the 95% confidence interval

R+2SE = upper limit of the 95% confidence interval

The ASFR pattern in Table 4.1 and Figure 4.2 shows higher birth rates for age groups 15–24 and 30–34 in rural areas than in the urban area. All other age groups show similar ASFR levels in rural areas and the urban area.

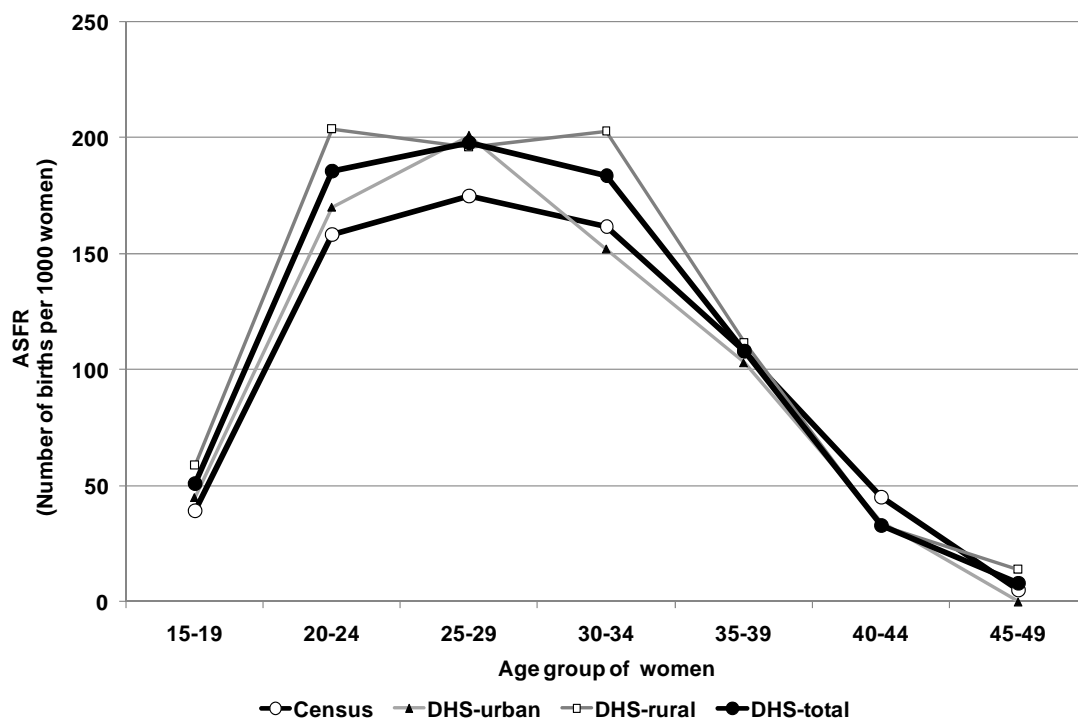
It can also be seen that the fertility pattern as reported from the 2009 KDHS is significantly different from that of the 2005 census results, which showed lower ASFRs for women aged 15–34.

**Figure 4.1: Total fertility rate (TFR by urban–rural residence), and 95% confidence interval for the three-year period before the survey, Kiribati 2009**



Note: Black vertical lines represent the range of the 95% confidence interval.

**Figure 4.2: Age-specific fertility rate (ASFR) for the three-year period before the survey by urban-rural residency, and ASFR derived from the 2005 Kiribati census, Kiribati 2009**



### 4.3 FERTILITY BY BACKGROUND CHARACTERISTICS

Fertility varies by residence, educational background, and other background characteristics such as wealth status. Table 4.3 shows several different indicators of fertility, such as TFR, the percentage of currently pregnant women aged 15–49, and the mean number of children ever born (CEB) to women aged 40–49 according to background characteristics.

The mean number of births to women aged 40–49 is an indicator of the completed fertility of the birth cohort of these women as they come to the end of their childbearing period. If fertility remains stable over time, the two fertility measures, TFR and CEB, tend to be similar. Although this approach may be biased because of understatement of parity reported by older women, a comparison of completed fertility among women aged 40–49 (with the TFR) provides an indication of fertility change.

The percentage of women aged 15–49 who were pregnant at the time of the survey provides a useful additional measure of current fertility, although it is recognised that it may not capture all pregnancies in an early stage.

**Table 4.3: Fertility by background characteristics**

*Total fertility rate for the three years preceding the survey, percentage of women age 15-49 currently pregnant, and mean number of children ever born to women age 40-49 years, by background characteristics, Kiribati 2009*

Background characteristic	Total fertility rate	Percentage women age 15-49 currently pregnant	Mean number of children ever born to women age 40-49
<b>Residence</b>			
Urban	3.5	4.7	4.1
Rural	4.1	7.6	4.6
<b>Education</b>			
No education & some primary	4.1	8.9	4.7
Primary & some secondary	4.1	4.8	4.4
Secondary level 1	3.9	8.0	4.4
Secondary level 2 & higher	3.3	8.0	3.3
<b>Wealth quintile</b>			
Lowest	5.0	8.0	5.0
Second	3.9	8.5	4.8
Middle	4.0	6.7	4.5
Fourth	3.5	4.4	3.9
Highest	2.9	3.9	3.9
Total	3.8	6.2	4.4

Note: Total fertility rates are for the period 1-36 months prior to interview.

The confidence intervals as shown in Figure 4.3 were calculated by applying the standard error (SE=0.143) of the total estimated value (3.84) as shown in Table 4.2 to the different estimated TFRs by background characteristic as shown in Table 4.3.

The true confidence interval of these indicators is most likely wider than calculated because the SE of each individual sub-population by background characteristic is most likely bigger than those used for calculating the confidence interval. As a consequence, the range of the 95% confidence interval of the different indicators as shown in Figure 4.3 is most likely smaller than one should expect.

### **4.3.1 Urban–rural residence**

As mentioned earlier, the TFR is estimated to be 3.8, and the rural and urban fertility rates are 4.1 and 3.5, respectively. While these numbers suggest lower fertility rates in the urban area than in rural areas, it needs to be reiterated that the 95% confidence intervals of urban and rural TFRs overlap slightly (Table 4.3), which means that urban and rural fertility differences may not be as marked, and the true values could be much closer (Table 4.3 and Fig. 4.3).

### **4.3.2 Education**

Results of the 2009 KDHS indicate that women with a secondary level 2 education and higher have a lower fertility rate than those with less education (Table 4.3 and Fig. 4.3). Women with a secondary 2 education and less had a TFR of around 4.0, while women with more than a secondary education had a TFR of only 3.3.

While the correlation between the level of women’s education and percentage of women aged 15–49 currently pregnant is not as obvious (Table 4.3 and Fig. 4.4), a downward trend in fertility level can be observed by examining data on the mean number of CEB: the higher the education level, the lower the mean number of CEB (Fig. 4.5).

### **4.3.3 Wealth characteristics**

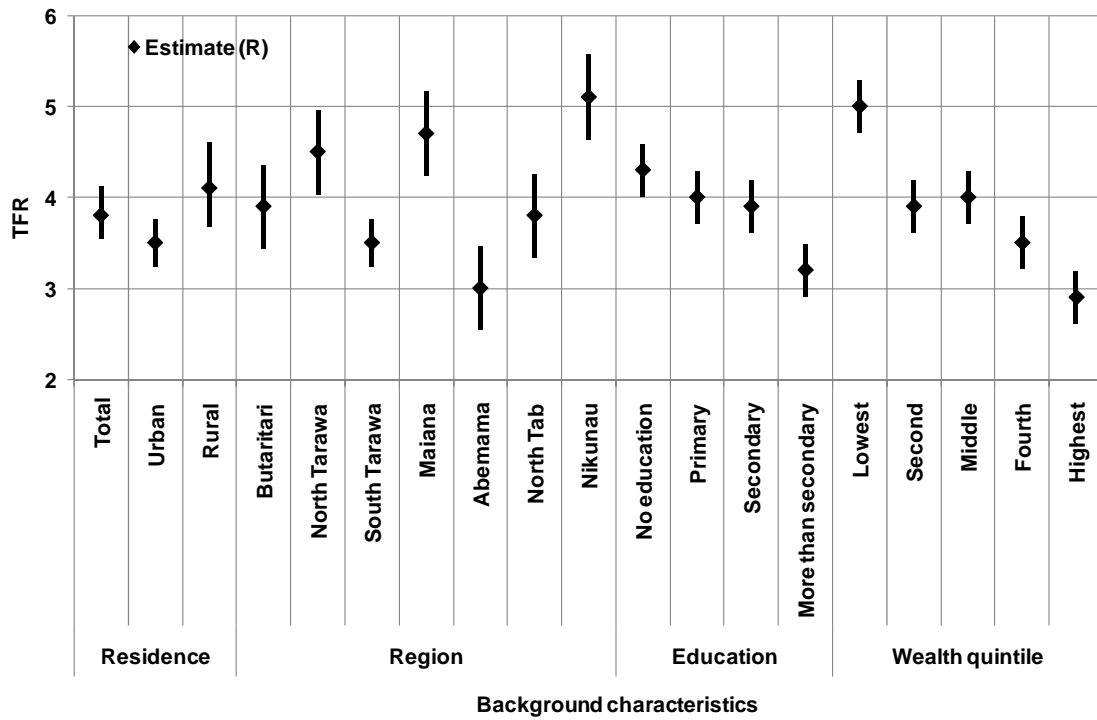
With respect to fertility levels by wealth quintile, there seems to be a strong correlation between the wealth status of women and their fertility characteristics (Table 4.3 and Figs. 4.3–4.5): the higher the wealth status, the lower the fertility level.

While women in the lowest wealth quintile have a TFR of 5.0, this figure decreases, with increasing wealth quintiles, to 2.9 for women in the highest wealth quintile.

Equally, there are decreases in the mean number of children born to women aged 40–49 from 5.0 for women in the lowest wealth quintile to 3.9 for women in the highest wealth quintile (Fig. 4.5).

Similarly, there is a decrease in the percentage of women currently pregnant with increasing wealth quintiles (Fig. 4.4).

**Figure 4.3: Total fertility rate (TFR) by background characteristics, and 95% confidence interval for the three-year period before the survey, Kiribati 2009**



Note: Black vertical lines represent the range of the 95% confidence interval.

Figure 4.4: Percentage of women aged 15–49 currently pregnant by background characteristics, Kiribati 2009

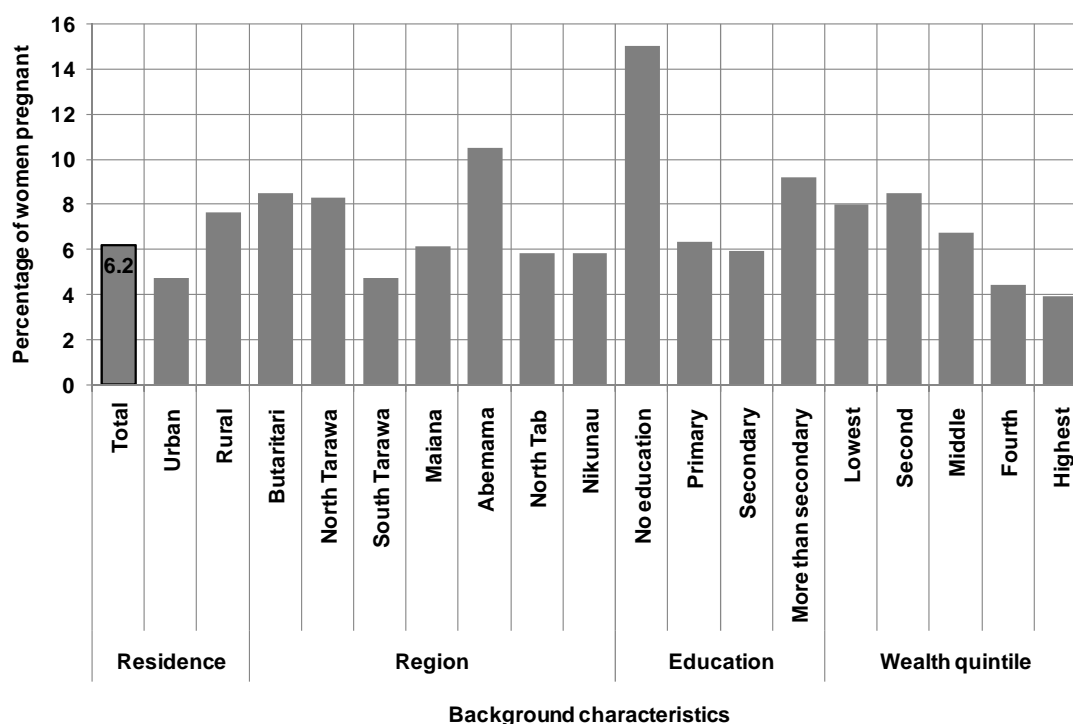
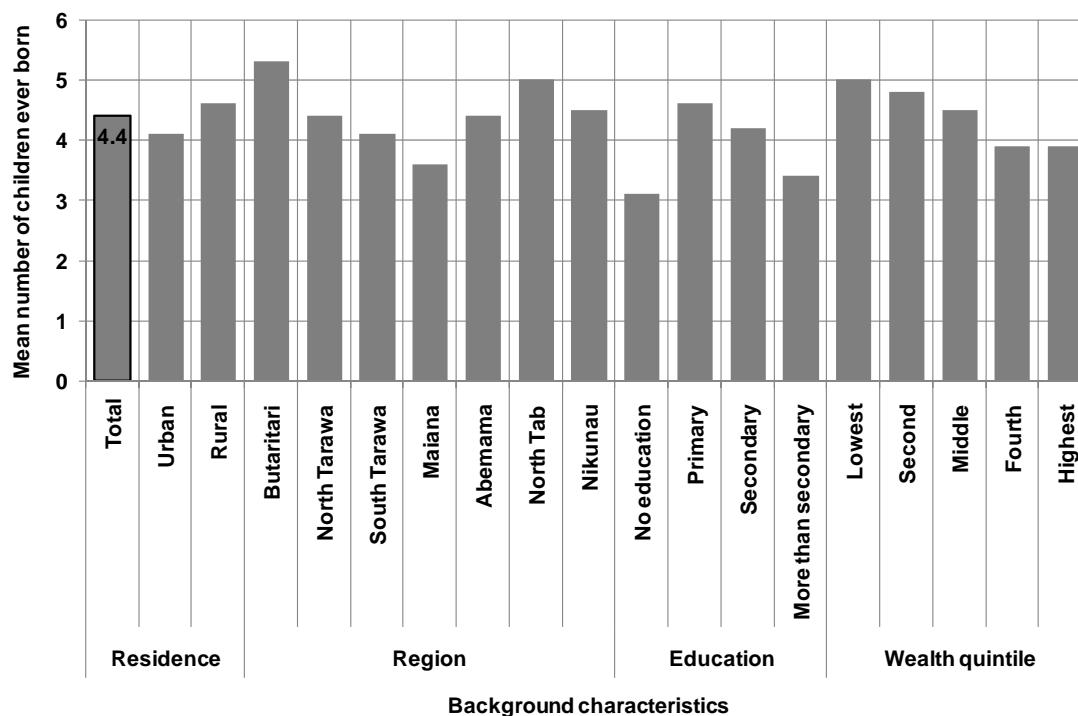


Figure 4.5: Mean number of children ever born to women aged 40–49 by background characteristics, Kiribati 2009



## 4.4 FERTILITY TRENDS

ASFRs obtained from the 2009 KDHS reflect recent changes in fertility trends in Kiribati. Fertility trends and patterns are an indication of the availability, use and effectiveness of fertility control methods in the country such as a family planning (reproductive health) programme. Fertility decline is also an indicator of a woman's empowerment and decision-making in controlling her fertility.

Fertility trends can be established using retrospective data from the 2009 KDHS. Women's birth history is the main source of data in producing fertility trends. The two main factors used to determine fertility trends — women's age at birth and the number of CEB — are recorded for each woman in their respective birth history. Tables 4.4 and 4.5 show the trends in ASFRs in five-year periods by mother's age at the time of the survey. In interpreting the results it is important to keep in mind the possible limitations in data capturing (see list of errors shown on first page of this chapter).

Table 4.5 and Figure 4.6 show the estimated TFRs based on the truncated maternity history data displayed in Table 4.4. While past TFRs were higher (4.2 15–19 years before the survey and 4.6 10–14 years before the survey) than the current estimate (3.8), there does not seem to have been a noticeable fertility change during the 10-year period before the survey because the TFR 5–9 years before the census (period 1999–2004) is very similar to the current estimate (period 2004–2009).

**Table 4.4: Trends in age-specific fertility rates**

*Age-specific fertility rates for five-year periods preceding the survey, by mother's age at the time of the birth, Kiribati 2009*

Mother's age at birth	Number of years preceding survey			
	0–4	5–9	10–14	15–19
15–19	49	54	63	63
20–24	174	192	214	185
25–29	205	202	207	215
30–34	174	154	212	177
35–39	116	119	156	-
40–44	34	43	-	-
45–49	7	-	-	-

Note: Age-specific fertility rates are per 1,000 women. Estimates in brackets are truncated. Rates exclude the month of interview.

**Table 4.5: Calculation of period of total fertility from truncated maternity-history data based on data in Table 4.4, Kiribati 2009**

Mother's age at birth	Number of years preceding the survey			
	0–4	5–9	10–14	15–19
15–19	49	54	63	63
20–24	174	192	214	185
25–29	205	202	207	215
30–34	174	154	212	[177]
35–39	116	119	[156]	143
40–44	34	[43]	57	47
45–49	[7]	7	8	8
TFR	3.80	3.86	4.56	4.19

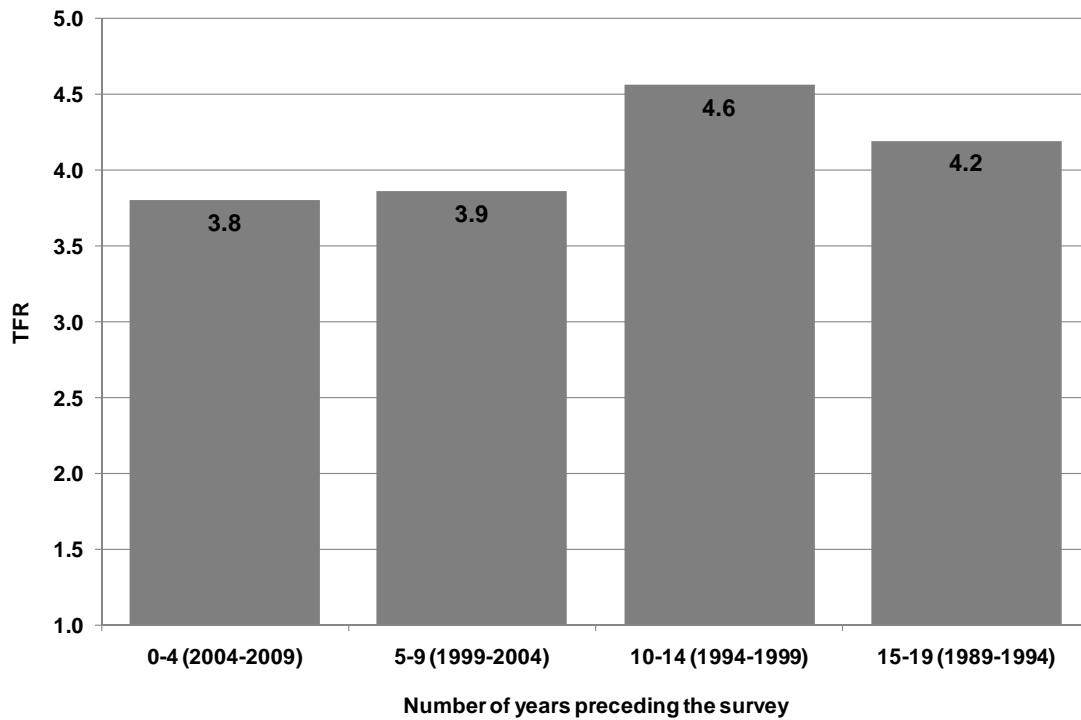
Table 4.5 and Figure 4.7 show the different fertility patterns (ASFRs) for the 20-year period before the survey (1989–2009).

The highest fertility rates were measured for women aged 25–29 for most of the 20-year period before the survey, apart from the period 1994–1999 (i.e. 10–14 years before the survey) when women aged 20–24 and 30–34 had slightly higher fertility rates.

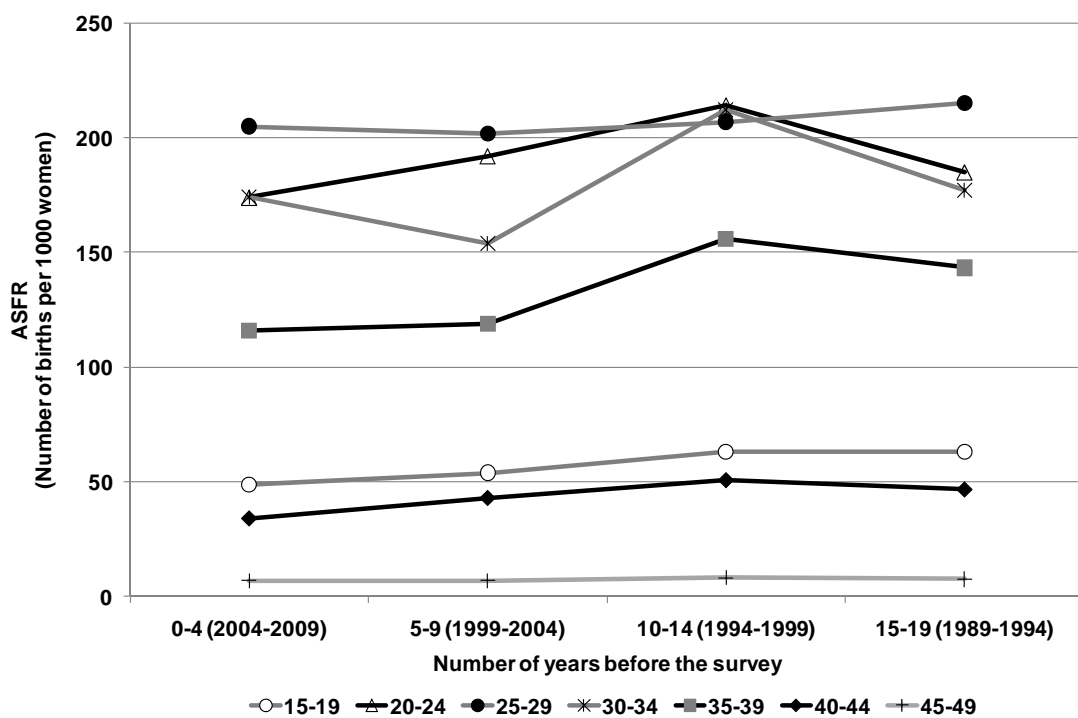


Fertility decline was most noticeable among women aged 35–44 and teenage women aged 15–19. The teenage fertility rate declined from 63 births per 1,000 women aged 15–19 during the period 1989–1999, to 49 births per 1,000 women during the most recent period (i.e. 0–4 years before the 2009 survey).

**Figure 4.6: Total fertility rate (TFR), 1990–2009, Kiribati 2009**



**Figure 4.7: Age-specific fertility rate (ASFR), 1990–2009, Kiribati 2009**



## 4.5 CHILDREN EVER BORN AND LIVING

The number of CEB and the number of living children is presented here both for all women and for currently married women. In the 2009 KDHS questionnaire, the total number of CEB (lifetime fertility) has been determined by a sequence of questions designed to maximise recall.

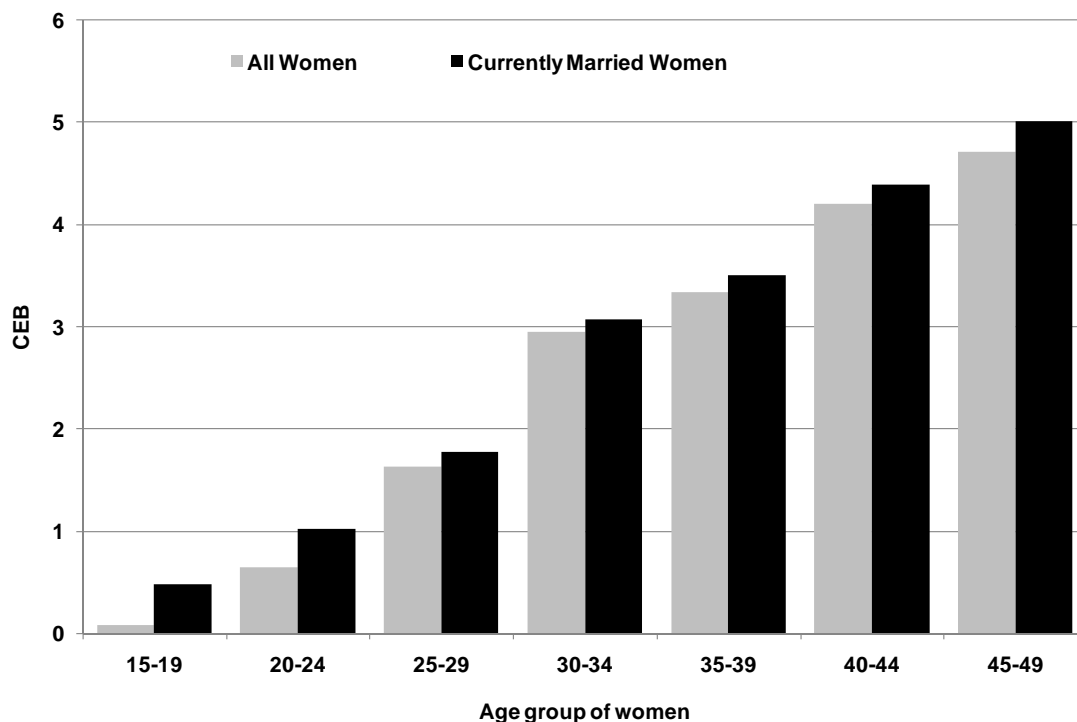
Lifetime fertility information is useful in examining the momentum of childbearing in a population and also for estimating the proportion of childless women in a population. The age-specific mean number of CEB provides fertility level comparisons between different age groups in a population.

Table 4.6 shows the percent distribution of all women and currently married women by number of CEB, mean number of CEB, and mean number of living children by age of women.

As expected, the mean number of CEB, and the mean number of living children increases with a mother's age regardless of her marital status (Fig. 4.8). However, the fertility level is higher for currently married women than it is for *all women*, which includes unmarried women whose fertility level is usually lower than that of married women.

Overall, the mean number of CEB was 2.16 children for all women and 2.86 children for currently married women.

**Figure 4.8: Mean number of children ever born (CEB) by age of women for all women and for currently married women, Kiribati 2009**



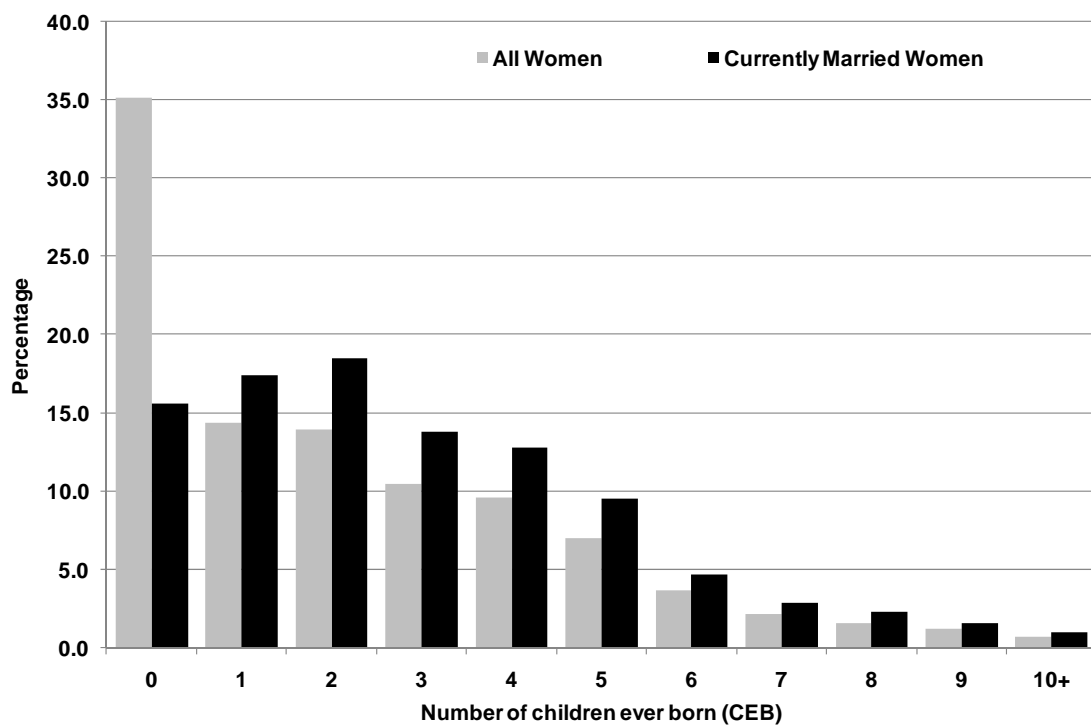
The data show that married women aged 20–24 have, on average, one child; married women aged 30–34 have three children, and married women aged 45–49 who have completed their childbearing years have, on average, five children.

Among all women, about one out of three do not have children (35%). Childlessness among older women aged 45–49 is 7%. This is less than 6% of married women of the same age.

The difference in fertility level between all women and currently married women is most pronounced for those women having had at least one child. While about 84% of currently married women have at least one child, it is only 65% of all women.

Because the proportion of married childless women is much lower than that of all women, the proportion of married women with any number of children is higher than that of all women (Fig. 4.9).

**Figure 4.9: Percent distribution of all women and currently married women by number of children ever born, Kiribati 2009**



**Table 4.6: Children ever born and living**

*Percent distribution of all women and currently married women by number of children ever born, mean number of children ever born, and mean number of living children, according to age group, Kiribati 2009*

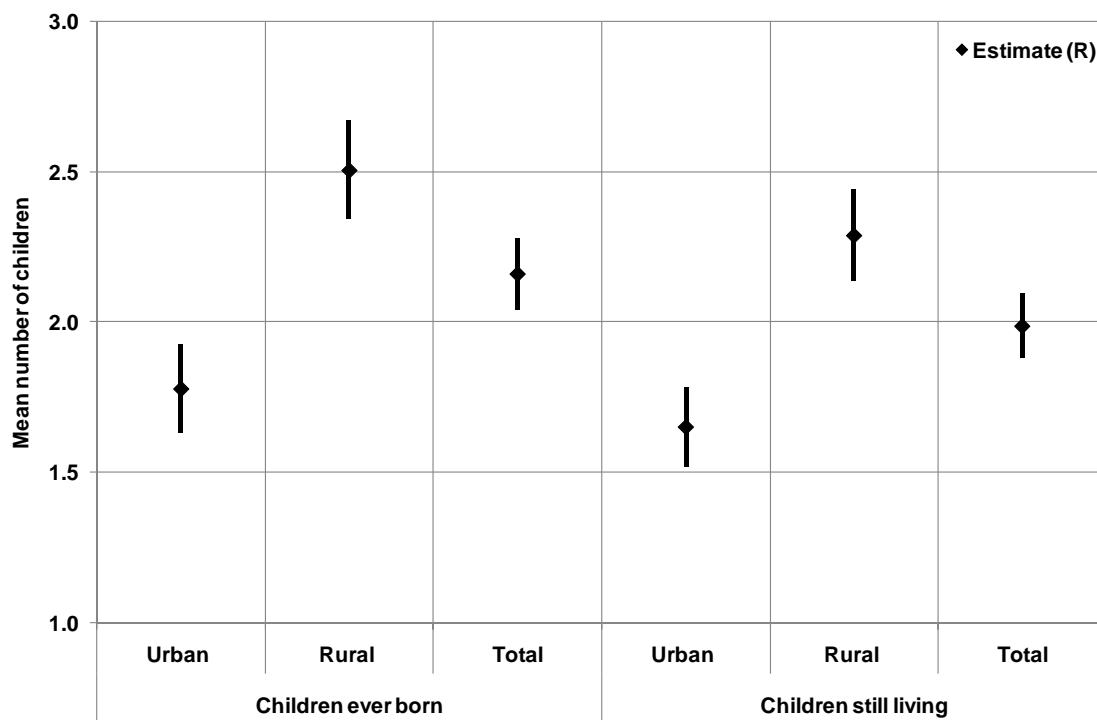
	0	1	2	3	4	5	6	7	8	9	10+	Total	Number of women	Mean number of children ever born	Mean number of living children
<b>Age</b>	<b>ALL WOMEN</b>														
15-19	92.4	6.7	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	334	0.08	0.08
20-24	57.8	25.3	12.5	4.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	100.0	391	0.64	0.61
25-29	26.0	24.0	24.0	15.4	8.3	1.9	0.0	0.3	0.0	0.0	0.0	100.0	327	1.63	1.49
30-34	8.5	10.2	22.8	23.4	17.6	10.7	3.8	1.9	0.7	0.3	0.0	100.0	262	2.95	2.74
35-39	11.8	12.6	14.4	15.2	17.4	12.6	7.2	3.3	3.2	1.4	0.8	100.0	233	3.33	3.10
40-44	5.4	6.6	14.5	12.6	17.6	16.6	11.5	6.3	4.2	3.4	1.3	100.0	237	4.20	3.83
45-49	7.0	7.2	9.1	7.4	17.0	18.3	10.3	7.3	6.4	5.4	4.5	100.0	195	4.71	4.25
Total	35.1	14.4	13.9	10.5	9.6	7.0	3.7	2.2	1.6	1.2	0.7	100.0	1,978	2.16	1.99
<b>Age</b>	<b>CURRENTLY MARRIED WOMEN</b>														
15-19	57.2	37.3	5.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	53	0.48	0.46
20-24	34.0	37.5	21.4	6.5	0.6	0.0	0.0	0.0	0.0	0.0	0.0	100.0	220	1.02	0.97
25-29	20.5	25.7	25.3	17.0	8.9	2.3	0.0	0.3	0.0	0.0	0.0	100.0	274	1.77	1.63
30-34	5.8	10.0	23.0	23.7	19.1	11.4	3.6	2.1	0.8	0.3	0.0	100.0	237	3.07	2.85
35-39	10.6	10.4	14.9	15.4	17.7	13.1	7.8	3.8	3.7	1.6	0.9	100.0	203	3.50	3.27
40-44	2.6	4.8	15.4	13.1	18.3	18.9	11.5	5.7	4.2	3.9	1.5	100.0	208	4.38	3.98
45-49	5.5	4.7	9.4	7.2	17.6	18.1	9.7	8.6	8.0	6.3	5.0	100.0	157	5.00	4.53
Total	15.6	17.4	18.5	13.8	12.8	9.5	4.7	2.9	2.3	1.6	1.0	100.0	1,352	2.86	2.64

Table 4.7 and Figure 4.10 illustrate the significance of urban–rural residence on the level of lifetime fertility. It can be seen that in contrast to data on the level of the TFR (section 4.2, Table 4.2 and Fig. 4.1), where significant current fertility by urban–rural residence could not be established with confidence, based on data on the mean number of CEB, there seems to be a significant correlation between place of residence and fertility level. The mean number of CEB per woman is significantly lower in the urban area (1.8) than rural areas (2.5), as is the mean number of children still living: 1.7 in the urban area, and 2.3 in rural areas.

**Table 4.7: Mean number of children ever born (CEB) and mean number of living children (CS) by urban–rural residence, and 95% confidence interval, Kiribati 2009**

	CEB					
	Area	R	SE	SE/R	R-2SE	R+2SE
CEB	Urban	1.8	0.073	0.041	1.63	1.92
	Rural	2.5	0.082	0.033	2.34	2.67
	Total	2.2	0.059	0.027	2.04	2.28
	CS					
	Area	R	SE	SE/R	R-2SE	R+2SE
CS	Urban	1.7	0.066	0.040	1.52	1.78
	Rural	2.3	0.077	0.034	2.13	2.44
	Total	2.0	0.054	0.027	1.88	2.09

**Figure 4.10: Mean number of children ever born, and mean number of children still living by urban–rural residence, and 95% confidence interval, Kiribati 2009**



Note: Black vertical lines represent the range of the 95% confidence interval.

## 4.6 BIRTH INTERVALS

A birth interval is defined as the length of time between two live births. The study of birth intervals is important in understanding the health status of young children. Research has shown that short birth intervals are closely associated with poor health of children, especially during infancy. Children born too close to a previous birth, especially if the interval between the births is less than two years, are at increased risk of health problems and dying at an early age. Longer birth intervals, on the other hand, contribute to the improved health status of both mother and child. The length of birth intervals also influences the overall fertility level in a country because close birth intervals enable couples to have more children during their reproductive years.

The study of birth intervals is done using two measures: the median birth interval and the proportion of non-first births that occur within an interval of 24 months or more after the previous birth. Table 4.8 presents the distribution of second- and higher-order births in the five years preceding the survey by the number of months since the previous birth, and according to background characteristics. The table also presents the median number of months since the preceding birth.

Generally, the median length of birth intervals in Kiribati is 35 months. The results show that about one-quarter of all births (25%) occur within an interval of less than 24 months after the previous birth, 26% of births occur 24–35 months after the previous birth, and 17% occur 36–47 months after the previous birth.

Younger mothers have shorter birth intervals than older mothers: on average 22 months for mothers aged 15–19 compared with 58 months for mothers aged 40–49 (Fig. 4.11).

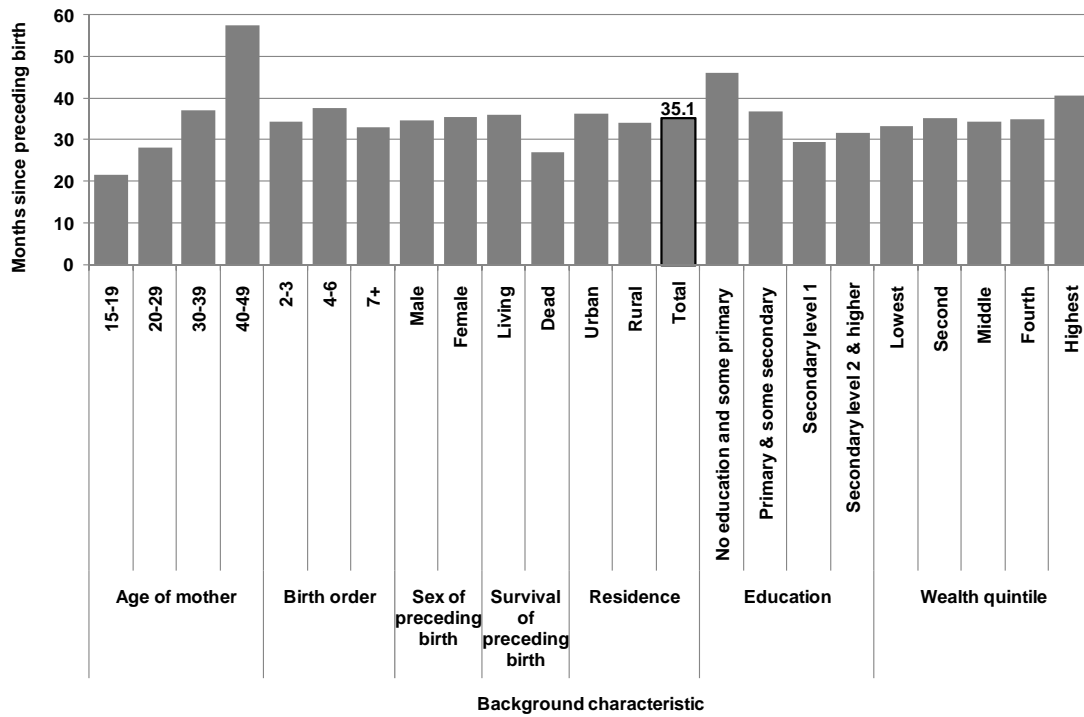
Other background characteristics that influence the length of the birth interval include the survival of the preceding birth. If the last born child is still living, the average birth interval is 36 months compared with only 27 months if the previous birth did not survive.

Furthermore, women with only a primary education and some secondary education have, on average, a birth interval of 37 months, which is longer than women with a secondary 1 education (30 months). Data on women with the lowest and highest levels of education should be ignored because of the low number of women in these two categories (less than 50 cases).

Women in the highest wealth quintile have, on average, a 40-month-long birth interval, which is longer than women in lower wealth quintiles.

Background characteristics such as birth order, sex of preceding child, and urban–rural residence do not seem to have a significant impact on the length of the birth interval.

**Figure 4.11: Median number of months since preceding birth according to background characteristics, Kiribati 2009**



**Table 4.8: Birth intervals**

Percent distribution of non-first births in the five years preceding the survey by number of months since preceding birth, and median number of months since preceding birth, according to background characteristics, Kiribati 2009

Background characteristic	Months since preceding birth						Total	Number of non-first births	Median number of months since preceding birth
	7-17	18-23	24-35	36-47	48-59	60+			
<b>Age</b>									
15-19	*	*	*	*	*	*	*	3	21.7
20-29	17.2	19.4	29.2	14.3	10.2	9.6	100.0	298	28.1
30-39	7.8	10.7	27.8	17.9	11.7	24.1	100.0	392	37.3
40-49	6.3	10.1	9.9	18.6	7.3	47.6	100.0	111	57.6
<b>Birth order</b>									
2-3	11.8	15.6	24.8	15.9	10.9	20.9	100.0	435	34.6
4-6	9.7	13.0	24.6	17.7	9.3	25.8	100.0	278	37.7
7+	11.9	10.1	34.4	16.6	12.1	14.8	100.0	91	33.1
<b>Sex of preceding birth</b>									
Male	12.9	12.8	26.0	18.5	9.7	20.1	100.0	396	34.7
Female	9.3	15.3	25.6	14.8	11.3	23.7	100.0	408	35.7
<b>Survival of preceding birth</b>									
Living	9.3	14.2	26.3	16.9	10.4	23.0	100.0	730	36.1
Dead	28.6	12.6	21.5	13.8	11.9	11.5	100.0	74	27.2
<b>Residence</b>									
Urban	10.9	13.0	25.4	15.1	12.4	23.1	100.0	291	36.4
Rural	11.1	14.7	26.1	17.4	9.4	21.3	100.0	514	34.3
<b>Education</b>									
No education & some primary	(12.2)	(2.5)	(22.1)	(19.4)	(7.0)	(36.7)	(100.0)	35	46.2
Primary & some secondary	10.1	13.2	24.1	17.2	11.4	24.1	100.0	535	36.9
Secondary level 1	12.0	19.5	30.8	14.2	8.5	15.1	100.0	186	29.5
Secondary level 2 & higher	(17.7)	(11.9)	(28.1)	(17.5)	(11.2)	(13.6)	(100.0)	48	31.9
<b>Wealth quintile</b>									
Lowest	9.4	12.7	31.2	16.2	8.0	22.5	100.0	231	33.5
Second	14.5	14.6	21.6	16.0	10.1	23.2	100.0	169	35.3
Middle	13.0	15.7	23.4	19.1	13.8	15.1	100.0	175	34.4
Fourth	9.3	16.7	26.2	15.4	7.4	25.0	100.0	138	35.0
Highest	8.1	9.3	24.4	15.7	16.0	26.5	100.0	90	40.8
Total	11.1	14.1	25.8	16.6	10.5	21.9	100.0	804	35.1

Note: First-order births are excluded. The interval for multiple births is the number of months since the preceding pregnancy that ended in a live birth.

Note: Figures in parentheses are based on 25-49 cases. An asterisk indicates that the figure is based on fewer than 25 cases and has been suppressed.

## 4.7 AGE AT FIRST BIRTH

The onset of childbearing is an important demographic indicator. In many countries, postponement of first births, reflecting a rise in age at marriage, has made a large contribution to the overall fertility decline. The proportion of women who become mothers before age 20 is a measure of adolescent fertility, which is a major health and social problem in many countries.

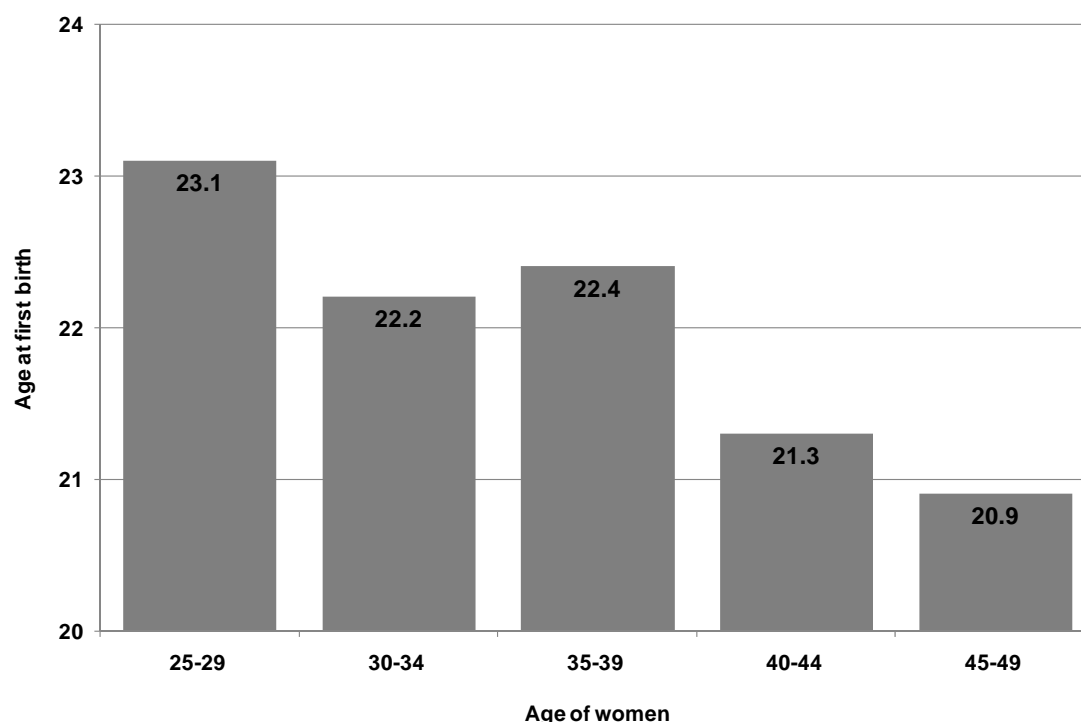
Table 4.9 presents the percentage of women aged 15–49 who gave birth by exact ages, percentage that never gave birth, and median age at first birth, according to current age of women. Overall, the median age at first birth is estimated to be 22.1, meaning that half of these women have their first birth before and half of all women of this age group have their first birth after the age of 22.1.

The median age at first birth shows a decreasing trend with an increasing age of women (Fig. 4.12). While the age at first birth was only 20.9 for women aged 45–49, it was 23.1 for women aged 25–29.



About 12% of women aged 25–49 gave birth to their first child at or before the age of 18, and 29% had their first child at or before age 20. Nearly half (49%) of women aged 25–49 gave birth before age 22, and 29% percent gave birth to their first child when they were older than 25.

**Figure 4.12: Age at first birth by age of women, Kiribati 2009**



**Table 4.9: Age at first birth**

*Percentage of women aged 15–49 who gave birth by exact ages, percentage who have never given birth, and median age at first birth, according to current age, Kiribati 2009*

Current age	Percentage who gave birth by exact age					Percentage who have never given birth	Number of women	Median age at first birth
	15	18	20	22	25			
Age								
15–19	0.9	-	-	-	-	92.4	334	-
20–24	0.0	8.7	20.9	-	-	57.8	391	-
25–29	0.3	8.3	22.7	40.4	63.3	26.0	327	23.1
30–34	1.2	13.9	28.2	48.2	74.8	8.5	262	22.2
35–39	0.8	9.7	23.9	46.9	65.7	11.8	233	22.4
40–44	2.5	15.0	33.9	56.9	76.2	5.4	237	21.3
45–49	2.8	14.1	38.3	58.3	78.8	7.0	195	20.9
20–49	1.1	11.2	26.8	-	-	23.5	1,644	-
25–49	1.4	11.9	28.6	49.1	71.0	12.8	1,254	22.1

\*- = omitted because less than 50% of women had a birth before reaching the beginning of the age group

## 4.8 MEDIAN AGE AT FIRST BIRTH

Postponing the first birth contributes to overall fertility reduction. Table 4.10 presents the median age at first birth for different cohorts, and compares age at entry into parenthood for different subgroups of the population.

As mentioned in the previous section, the median age at first birth among women aged 15–49 is 22.1, the same as that of women in the 25–49 age group.

As was shown in the previous section, the median age at first birth shows a decreasing trend with an increasing age of women (Fig. 4.12).

Median age at first birth by urban–rural residence shows no significant differences although it is slightly higher in the urban area (Fig. 4.13).

Data by educational level seem to show a positive correlation between women’s mean age at first birth and increasing education level. While women with the lowest educational level had their first birth at 20.7 years, it was more than 3.0 years later for women with a secondary 1 education.

Furthermore, there seems to be a clear correlation between women’s wealth status and age at first birth. The higher the wealth status of women, the older the age of these women at first birth. For example, women in the lowest wealth quintile have a median age at first birth of 20.9, while women in the highest wealth quintile have a median age at first birth of 24.1.

There is not a strong correlation between educational level and median age at first birth.

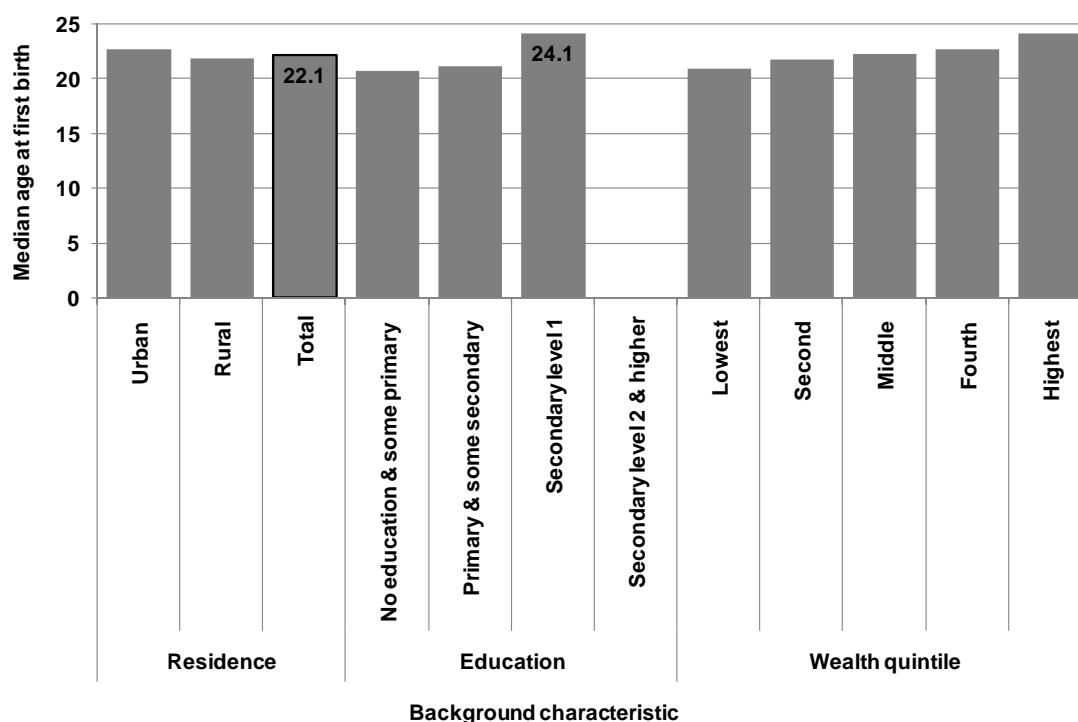
**Table 4.10: Median age at first birth**

*Median age at first birth among women aged 20–49 (25–49), according to background characteristics, Kiribati 2009*

Background characteristic	Age					Women age
	25–29	30–34	35–39	40–44	45–49	25–49
<b>Residence</b>						
Urban	24.2	21.9	22.6	22.0	21.6	22.6
Rural	22.5	22.3	22.2	20.7	20.5	21.8
<b>Education</b>						
No education & some primary	23.6	20.7	24.2	21.0	19.9	20.7
Primary and some secondary	20.9	21.0	21.7	20.9	21.3	21.1
Secondary level 1	24.7	24.1	23.3	23.9	20.5	24.1
Secondary level 2 and higher	-	25.4	-	24.4	23.9	-
<b>Wealth quintile</b>						
Lowest	21.2	21.4	20.5	21.1	19.9	20.9
Second	21.9	22.4	22.9	20.3	20.8	21.7
Middle	23.5	22.5	21.6	21.1	20.5	22.2
Fourth	24.1	22.7	24.0	20.8	21.6	22.6
Highest	-	22.8	23.5	22.9	23.2	24.1
Total	23.1	22.2	22.4	21.3	20.9	22.1

\*.\* = omitted because less than 50% of women had a birth before reaching the beginning of the age group

**Figure 4.13: Median age at first birth according to background characteristics, Kiribati 2009**



## 4.9 TEENAGE PREGNANCY AND MOTHERHOOD

Teenage pregnancy is often regarded as a health concern because of its association with higher morbidity and mortality for both mother and child. Childbearing during the teenage years often has adverse social consequences, particularly on female educational attainment because women who become mothers in their teens are more likely to curtail education.

Table 4.11 and Figure 4.14 present the percentage of women aged 15–19 who have had a live birth or who are pregnant with their first child. The percentage of those who have begun childbearing is also presented. The percentage of women who have begun childbearing is the sum of the percentage of women who have had a live birth and the percentage of women who are pregnant with the first child.

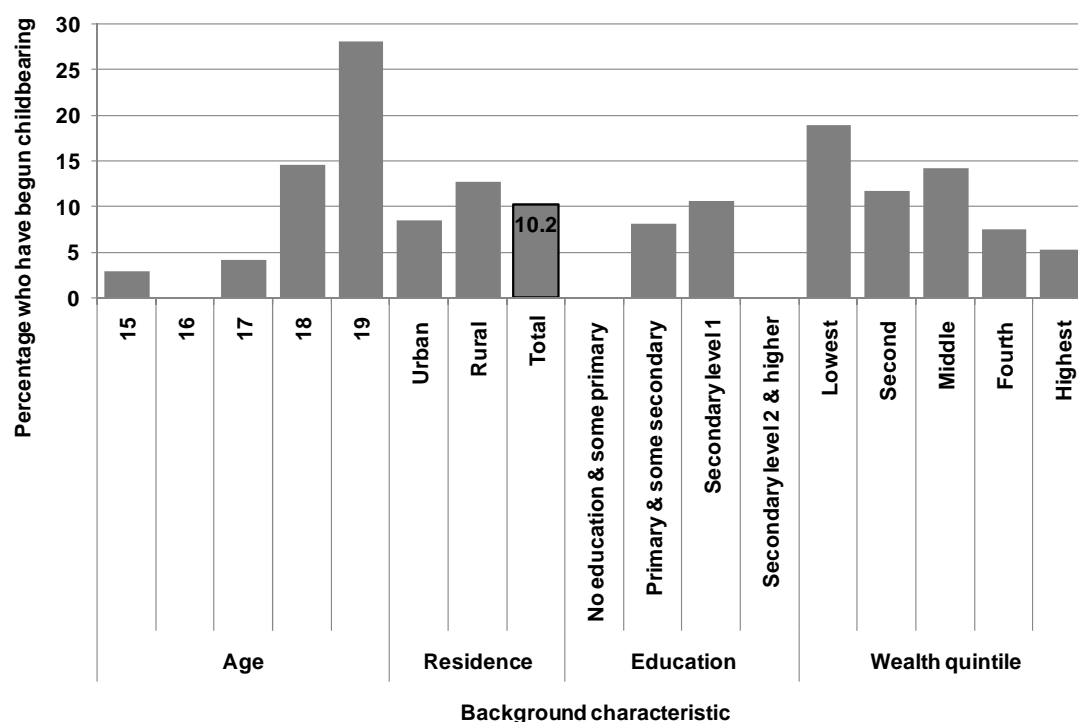
An estimated 10% of women aged 15–19 had begun childbearing; of these, nearly 8% have had a live birth, and 2.6% are pregnant with their first child. One out of seven (15%) 18-year-old women, and 28% of 19-year-old women had begun childbearing.

There is a clear correlation between women’s wealth status and the percentage of teenage women aged 15–19 who have begun childbearing. The higher the wealth status of women, the lower the percentage of teenage women who have begun childbearing. For example, while about 19% of teenage women in the lowest wealth quintile had begun childbearing, only 5% of teenage women in the highest wealth quintile had begun childbearing.

The data show that the percentage of women aged 15–19 who had begun childbearing is higher in rural areas (13%) than in the urban area (8%).

Comparing the percentage of teenage women who have a primary and some secondary level education with those that have a secondary level 1 education, women with a higher education are more likely to have begun childbearing. However, it is doubtful that the difference is statistically significant. Furthermore, women who have achieved a higher education level are likely to be older than those who have not (yet) completed a higher education. Therefore, age is probably the main determinant of differences between data on teenage pregnancy and motherhood.

**Figure 4.14: Percentage of women aged 15–19 who have begun childbearing according to background characteristics, Kiribati 2009**



**Table 4.11: Teenage pregnancy and motherhood**

*Percentage of women age 15-19 who have had a live birth or who are pregnant with their first child and percentage who have begun childbearing, by background characteristics, Kiribati 2009*

Background characteristic	Percentage who:			Number of women
	Have had a live birth	Are pregnant with first child	Have begun childbearing	
<b>Age</b>				
15	2.8	0.0	2.8	79
16	(0.0)	(0.0)	(0.0)	49
17	1.2	2.9	4.1	67
18	10.3	4.2	14.5	73
19	22.4	5.6	28.0	66
<b>Residence</b>				
Urban	7.1	1.3	8.4	197
Rural	8.2	4.5	12.7	137
<b>Education</b>				
No education & some primary	*	*	*	15
Primary & some secondary	6.6	1.4	8.0	205
Secondary level 1	7.2	3.3	10.5	103
Secondary level 2 & higher	*	*	*	10
<b>Wealth quintile</b>				
Lowest	(11.3)	(7.5)	(18.8)	49
Second	(8.9)	(2.8)	(11.6)	48
Middle	10.7	3.4	14.1	56
Fourth	5.2	2.1	7.4	81
Highest	5.2	0.0	5.2	99
<b>Total</b>	<b>7.6</b>	<b>2.6</b>	<b>10.2</b>	<b>334</b>

Note: Figures in parentheses are based on 25-49 cases. An asterisk indicates that the figure is based on fewer than 25 cases and has been suppressed.

## CHAPTER 5 FAMILY PLANNING

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This chapter presents the 2009 KDHS findings on contraceptive knowledge and use, attitudes and sources, as well as exposure to media messages about family planning. The information is particularly useful for policy-makers, programme managers, and researchers in population and family planning, and provides a means to assess the success of the Kiribati family planning programme. Although the focus is on women, some results from the male survey are also presented because men play an important role in realising women's reproductive goals. Comparisons are also made, where feasible, with findings from previous surveys to evaluate trends over the past 20 years. Data on exposure to family planning messages through the media, sources and costs of contraception, contact with family planning providers, and husbands' knowledge about their wives' contraceptive use are also presented.

### 5.1 KNOWLEDGE OF CONTRACEPTIVE METHODS

A major objective of the 2009 KDHS was to assess the level of knowledge of contraceptive methods among women and men. Acquiring knowledge about contraceptive methods is an important step towards gaining access to family planning services and later adopting a suitable contraceptive method. Information on knowledge of contraception was collected in two ways. Respondents were asked to mention all ways or methods couples can avoid or delay pregnancy. When a respondent failed to mention a particular method spontaneously, the interviewer described the method and asked whether the respondent knew of it. Using this approach, information was collected for 10 modern family planning methods: female and male sterilisation, the Pill, intrauterine device (IUD), injectables, implants, male and female condoms, lactational amenorrhoea method (LAM), and emergency contraception. Information was also collected on three traditional methods: rhythm (or periodic abstinence), withdrawal and 'folk methods', which include other methods named by respondents. This report combines both prompted and unprompted knowledge. Thus, knowledge of a family planning method in the Kiribati DHS is defined simply as having heard of a method.

Table 5.1 shows the percentage of all women and men, currently married women and men, and sexually active unmarried women and men aged 15–49, who have heard of specific contraceptive methods. Knowledge of any contraceptive method is high in Kiribati, with 93% of all women and 97% of all men knowing at least one contraceptive method. Modern methods remain more widely-known than traditional methods. About 93% of all women know of a modern method, compared with 78% who know of a traditional method. Among all women, injectables are the most commonly known method (86%), followed by male condoms, implants, and the Pill (83% for each). Emergency contraception, which is the least known modern method, is known by only 26% of all women. Among traditional methods, the rhythm method is the most commonly known (75%), followed closely by withdrawal (69%). A small proportion (18%) mentioned folk methods.

Knowledge of contraceptive methods among currently married women is higher than among all women, especially the level of knowledge. Among currently married women, 96% know at least one method of contraception, 95% know a modern method, and 87% know a traditional method. Among modern methods, the most commonly known method is the injectable (92%), followed by the Pill (89%), implants (88%), and male condom (85%). Emergency contraception, known by 28% of married women, is the least known modern method.

**Table 5.1: Knowledge of contraceptive methods**

Percentage of all respondents, currently married respondents, and sexually active unmarried respondents aged 15–49 who know about any contraceptive method, by specific method, Kiribati 2009

Method	Women			Men		
	All women	Currently married women	Sexually active unmarried woman <sup>1</sup>	All men	Currently married men	Sexually active unmarried men <sup>1</sup>
<b>Any method</b>	92.8	95.6	*	97.3	97.1	99.2
<b>Any modern method</b>	92.5	95.2	*	96.6	96.0	99.2
Female sterilisation	70.5	77.7	*	71.9	77.3	75.4
Male sterilisation	68.4	76.2	*	67.9	76.1	64.3
Pill	82.8	89.1	*	70.3	75.5	78.6
IUD	62.2	69.9	*	52.8	63.0	42.6
Injectables	85.9	91.5	*	72.4	80.3	72.6
Implants	82.9	87.9	*	71.2	79.5	69.6
Male condom	83.0	85.3	*	95.5	94.6	99.2
Female condom	70.4	72.7	*	66.5	68.0	76.7
Lactational amenorrhoea (LAM)	45.9	52.0	*	32.8	40.0	28.9
Emergency contraception	26.4	28.0	*	31.0	34.9	35.1
<b>Any traditional method</b>	78.4	86.8	*	82.7	88.3	90.8
Rhythm	74.8	82.7	*	67.3	79.5	58.4
Withdrawal	68.5	77.1	*	76.2	81.8	84.4
Folk method	17.6	21.9	*	4.2	5.1	4.5
Mean number of methods known by respondents aged 15–49	8.4	9.1	*	7.8	8.6	7.9
Number of respondents	1,978	1,352	21	943	567	121
Mean number of methods known by respondents aged 15+	-	-	-	8.0	8.6	7.9
Number of respondents	0	0	0	1,135	737	122

<sup>1</sup> Had last sexual intercourse within 30 days preceding the survey.

\*- = not applicable

Note: An asterisk indicates that the figure is based on fewer than 25 cases and has been suppressed.

Knowledge of contraception is slightly higher among men (97%) than women (93%) (Table 5.1). Like women, more men know about a modern method (97%) than a traditional method (83%). The most commonly known modern method is the male condom, reported by 95% of currently married men and 99% of unmarried men. Emergency contraception is known by 31% of all men and 35% of currently married men. The rhythm method is known by 67% of all men and 80% of currently married men. It is worth noting that knowledge of all modern contraceptive methods — with the exception of female sterilisation, male condoms and emergency contraception — is lower among men than women. Knowledge of male sterilisation is similar among all men and all women and among currently married men and women, but slightly lower in sexually active unmarried men. The majority of women and men aged 15–49 in Kiribati have heard of at least three contraceptive methods.

Table 5.2 shows differentials in knowledge of any contraceptive method and any modern contraceptive method among currently married women and men aged 15–49, by background characteristics. Knowledge of at least one modern method is high in almost all categories. Nevertheless, it is slightly lower among women in the urban area than women in rural areas, and lower among women aged 15–19 than other age groups. Knowledge of at least one modern method is lowest among women with no education or with some primary education, while there appear to be no significant differences between other educational categories, as the differences are small. Contrary to expectations, knowledge of at least one modern method appears to decrease slightly with wealth status. For example, 98% of women in the lowest wealth quintile have heard of at least one modern family planning method compared with 92% of women in the highest wealth quintile.

**Table 5.2: Knowledge of contraceptive methods by background characteristics**

*Percentage of currently married women and currently married men aged 15–49 who have heard of at least one contraceptive method and who have heard of at least one modern method, by background characteristics, Kiribati 2009*

Background characteristic	Women			Men		
	Heard of any method	Heard of any modern method <sup>1</sup>	Number	Heard of any method	Heard of any modern method <sup>1</sup>	Number
<b>Age</b>						
15–19	87.0	87.0	53	*	*	8
20–24	94.1	94.1	220	98.8	98.8	77
25–29	95.7	95.7	274	96.9	96.9	105
30–34	96.1	95.6	237	98.1	96.4	101
35–39	97.1	96.5	203	97.7	96.6	86
40–44	96.0	94.6	208	96.3	94.5	101
45–49	97.2	97.2	157	94.9	93.0	89
<b>Residence</b>						
Urban	91.9	91.8	570	99.0	99.0	233
Rural	98.3	97.7	781	95.8	93.9	334
<b>Education</b>						
No education and some primary	90.8	89.7	78	(92.5)	(90.6)	43
Primary and some secondary	95.5	95.0	810	96.9	95.4	367
Secondary level 1	97.1	97.1	360	98.4	98.4	117
Secondary level 2 and higher	94.7	94.7	103	(100.0)	(100.0)	40
<b>Wealth quintile</b>						
Lowest	98.3	97.5	276	96.2	93.5	128
Second	97.0	96.1	300	95.6	93.6	144
Middle	97.4	97.4	271	96.4	96.4	90
Fourth	92.3	92.3	279	99.1	99.1	106
Highest	92.5	92.2	224	99.0	99.0	99
Total aged 15–49	95.6	95.2	1,352	97.1	96.0	567
Aged 50+	-	-	0	98.3	94.1	109
Total men aged 15+	-	-	0	96.6	94.8	737

<sup>1</sup> Female sterilisation, male sterilisation, Pill, IUD, injectables, implants, male condom, female condom, diaphragm, foam or jelly, lactational amenorrhoea method (LAM), and emergency contraception.

\*- = not applicable

Note: Figures in parentheses are based on 25-49 cases. An asterisk indicates that the figure is based on fewer than 25 cases and has been suppressed.

It was not possible to make comparisons with previous surveys because not all of the questions that were asked were the same.

## 5.2 EVER USE OF CONTRACEPTION

All women interviewed in the survey who said they had heard of a method of family planning were asked whether they had ever used that method. Men were asked if they had ever used ‘male-oriented’ methods (i.e. male sterilisation, condoms, rhythm and withdrawal). Table 5.3 shows the percentage of all women and currently married women who have ever used specific methods of family planning, by age, and Table 5.4 shows comparable information for men.

About 39% of all women have used a contraceptive method at some time; 35% have used a modern method and 13% have used a traditional method. Among modern methods, injectables are the most commonly used method (24%), followed by the Pill (10%) and implants (8%). Female and male sterilisation, female and male condoms, IUD, emergency contraception and LAM are the least used methods. Among traditional methods, rhythm (7%) and withdrawal (6%) are the most commonly used methods, followed by folk methods (5%). Emergency contraception has been used by 0.4% of women. The use of any contraceptive method increases with age, peaking among women in their late 30s through 40s, and declining among women aged 45–49.

About 51% of currently married women have used a contraceptive method at some time; 46% have used a modern method and 17% have used a traditional method. Injectables are the most commonly used method among currently married women (31%) followed by the Pill (13%) and implants (11%).

Among currently married women, the use of a modern contraceptive method increases with age, peaking among women in their late 30s through 40s, and declining among those aged 45–49.

Table 5.4 shows the percentage of all men and currently married men aged 15–49 who have ever used any modern method and one of the four male contraceptive methods (i.e. male sterilisation, male condom, rhythm and withdrawal). Ever use of any modern contraceptive method among all men is lowest among teenagers and highest among older men, especially married men aged 40–44, 64% of whom have used a method. However, ever use of any modern contraceptive method among currently married men is highest among men aged 15–19 (78%). More than half of all men aged 15–49 have used a male-oriented contraceptive method at some time (56%). Condoms, which are the most popular male method, are used by 43% of all men, but only by 40% of currently married men. Among currently married men, the male condom is most popular. Male sterilisation is practically non-existent in Kiribati; less than 3% of men have been sterilised.

Ever use of contraception is higher among men than women. Of the two traditional methods, withdrawal is used more often than rhythm by all men (21% and 14%, respectively) and currently married men (23% and 22%, respectively).



**Table 5.3: Ever use of contraception: Women**

Percentage of all women, currently married women, and sexually active unmarried women aged 15–49 who have ever used any contraceptive method by method, according to age, Kiribati 2009

Age	Any method	Any modern method	Modern method									Traditional method				Number of women	
			Female sterilisation	Male sterilisation	Pill	IUD	Injectables	Implants	Male condom	Female condom	LAM	Emergency contraception	Any traditional method	Rhythm	Withdrawal		Folk method
<b>ALL WOMEN</b>																	
15–19	3.1	1.9	0.0	0.0	0.3	0.4	1.4	0.0	0.7	0.0	0.5	0.0	1.8	0.4	0.9	0.6	334
20–24	22.1	19.6	0.5	0.3	2.6	1.9	11.7	3.2	1.9	0.7	2.7	0.3	6.2	3.1	3.0	1.1	391
25–29	40.3	37.4	0.8	0.0	7.1	3.7	25.8	8.1	4.9	0.0	4.2	0.9	10.7	5.6	5.0	2.9	327
30–34	58.0	54.6	4.2	0.0	15.5	6.7	39.6	17.2	7.0	2.0	10.2	0.8	20.8	10.3	12.1	7.2	262
35–39	58.6	55.1	6.8	0.4	13.6	4.8	39.3	15.0	3.1	0.0	7.1	0.0	18.4	7.6	7.7	7.5	233
40–44	60.5	53.2	7.0	2.2	19.9	2.8	34.2	13.5	2.7	0.6	10.3	0.5	22.7	13.0	8.9	7.1	237
45–49	57.6	49.6	4.9	2.2	22.7	3.3	36.7	6.2	1.3	0.0	7.3	0.6	21.2	13.0	6.2	10.1	195
Total	39.1	35.4	2.9	0.6	10.0	3.2	24.4	8.2	3.0	0.5	5.5	0.4	13.0	6.7	5.8	4.5	1,978
<b>CURRENTLY MARRIED WOMEN</b>																	
15–19	11.5	6.0	0.0	0.0	1.9	0.0	4.3	0.0	0.0	0.0	1.7	0.0	7.2	0.0	3.7	3.6	53
20–24	32.1	28.2	0.9	0.5	2.7	3.1	17.2	4.6	2.2	0.4	4.8	0.5	10.1	5.0	4.8	1.7	220
25–29	43.7	40.7	1.0	0.0	8.2	4.0	27.8	8.5	5.2	0.0	5.1	0.8	11.4	6.3	5.6	2.5	274
30–34	60.4	56.6	4.3	0.0	16.3	7.1	40.9	18.6	7.3	2.2	11.2	0.8	21.6	10.4	12.9	7.0	237
35–39	61.4	57.3	7.4	0.4	13.9	5.1	39.9	15.6	3.6	0.0	7.6	0.0	19.3	8.2	7.5	8.2	203
40–44	64.6	56.2	7.7	2.5	20.1	3.2	35.1	14.5	3.0	0.7	10.7	0.5	25.0	14.9	9.8	7.6	208
45–49	58.9	50.2	5.5	2.8	21.6	3.3	36.8	5.7	1.6	0.0	9.1	0.7	22.9	14.1	7.7	11.2	157
Total	51.1	46.1	4.0	0.9	12.7	4.2	31.4	11.0	3.9	0.5	7.7	0.5	17.4	9.1	7.8	5.8	1,352

LAM = lactational amenorrhoea method

<sup>1</sup> Women who had sexual intercourse within 30 days preceding the survey.

**Table 5.4: Ever use of contraception: Men**

Percentage of all men, currently married men, and sexually active unmarried men aged 15-49 who have ever used any contraceptive method by method, according to age, Kiribati 2009

Age	Modern method				Any tradi- tional method	Traditional method		Number of men
	Any method	Any modern method	Male sterilis- ation	Male condom		Rhythm	With- drawal	
<b>ALL MEN</b>								
15-19	42.4	38.1	0.0	38.1	14.7	1.1	14.7	164
20-24	62.5	55.4	0.5	55.0	29.7	10.0	25.4	207
25-29	59.8	50.2	1.2	49.7	28.7	9.6	22.0	154
30-34	60.5	51.2	1.0	50.2	26.8	16.1	17.5	112
35-39	50.6	32.8	1.1	31.7	33.3	22.6	18.1	96
40-44	63.9	39.3	3.9	37.0	40.7	24.1	24.4	114
45-49	51.0	26.3	5.4	24.3	39.6	30.7	22.1	96
Total men aged 15-49	56.1	43.8	1.6	43.0	29.3	14.2	20.8	943
Men aged 50+	38.8	20.9	7.5	13.4	28.4	24.3	10.4	115
Total men aged 15+	53.0	40.0	2.8	37.9	28.9	15.3	19.3	1,135
<b>CURRENTLY MARRIED MEN</b>								
15-19	*	*	*	*	*	*	*	8
20-24	63.4	50.7	1.2	49.5	42.3	23.6	30.9	77
25-29	57.9	43.9	1.8	43.2	30.1	13.2	20.3	105
30-34	59.5	49.3	1.1	48.1	29.8	17.9	19.4	101
35-39	52.5	32.7	1.2	31.4	36.4	25.2	19.4	86
40-44	65.1	38.9	4.4	36.2	43.6	25.7	25.9	101
45-49	52.5	27.0	5.9	24.9	41.5	32.0	23.8	89
Total men aged 15-49	58.8	41.0	2.6	39.5	36.8	22.3	23.0	567
Men aged 50+	40.3	22.2	8.0	14.2	29.2	24.9	10.1	109
Total men aged 15+	54.5	36.9	4.2	33.8	34.8	22.1	20.4	737
<b>SEXUALLY ACTIVE UNMARRIED MEN<sup>1</sup></b>								
15-19	(66.5)	(58.9)	(0.0)	(58.9)	(18.7)	(0.0)	(18.7)	43
20-24	79.3	76.1	0.0	76.1	41.3	4.8	41.3	50
25-29	*	*	*	*	*	*	*	20
30-34	*	*	*	*	*	*	*	5
35-39	*	*	*	*	*	*	*	3
40-44	*	*	*	*	*	*	*	0
45-49	*	*	*	*	*	*	*	0
Total men aged 15-49	73.5	69.4	0.0	69.4	28.9	2.7	28.9	121
Men aged 50+	*	*	*	*	*	*	*	0
Total men aged 15+	73.1	69.0	0.0	69.0	28.7	2.7	28.7	122

<sup>1</sup> Men who had sexual intercourse within 30 days preceding the survey.

Note: Figures in parentheses are based on 25-49 cases. An asterisk indicates that the figure is based on fewer than 25 cases and has been suppressed.

### 5.3 CURRENT USE OF CONTRACEPTIVE METHODS

This section presents information on the prevalence of contraceptive use among all women and currently married women aged 15–49. The level of current use is the most widely used measure of a family planning programme's success. It is also used to estimate the reduction in fertility attributable to contraception. The contraceptive prevalence rate is usually defined as the percentage of currently married women who currently use a contraceptive method.

Table 5.4 shows that 22% of currently married women are currently using some contraceptive method. Modern contraceptive methods account for almost all use; 18% of married women use a modern method, while 4% use a traditional method. The most widely used methods among married women are injectables (8%), female sterilisation (4%), implants (3%), and rhythm (3%).

These methods are followed in use by the Pill (1%), and male and female condoms (less than 1% each).

Among currently married women, current use of any modern contraceptive method rises with age from 0% for those aged 15–19 to 25% among those aged 35–39, and declining thereafter. Female sterilisation is mostly used by currently married women in their 40s (8%). Among women less than 30, 1% or less use female sterilisation. Injectables are most commonly used by married women of all ages except those in their 40s, whereas female sterilisation is the most commonly used method among women in their 40s. Among women aged 40–44 years, rhythm is the second most commonly used traditional contraceptive method and implants are the second most commonly used modern method. For women older than 40, injectables and implants are second most commonly reported modern methods and rhythm are the second most commonly reported method.

Table 5.4 also shows that current use is higher among currently married women than among all women. Contraceptive use is higher among married women (22%) than among all women (17%). Similarly, modern contraceptive use is higher among currently married women (18%) than among all women 14%.

Among all women, injectables are the most commonly used method, followed by female sterilisation, implants and the rhythm method. Similar to married women, modern contraceptive use for all women rises with age, peaking at 22% among women aged 35–39 and declining thereafter.

**Table 5.5: Current use of contraception by age***Percent distribution of all women, currently married women, and sexually active unmarried women aged 15-49 by contraceptive method currently used, according to age, Kiribati 2009*

Age	Any method	Any modern method	Modern method									Traditional method		Not currently using	Total	Number of women	
			Female sterilisation	Male sterilisation	Pill	IUD	Injectables	Implants	Male condom	Female condom	LAM	Any traditional method	Rhythm				Withdrawal
<b>ALL WOMEN</b>																	
15-19	0.9	0.6	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.3	0.3	0.0	0.3	99.1	100.0	334
20-24	12.7	10.7	0.5	0.3	0.0	0.5	6.5	1.8	0.0	0.5	0.6	2.0	1.8	0.2	87.3	100.0	391
25-29	20.6	17.8	0.8	0.0	1.2	1.4	9.7	3.2	0.9	0.0	0.7	2.8	1.9	0.9	79.4	100.0	327
30-34	25.6	21.3	4.2	0.0	2.7	0.3	7.9	4.9	1.2	0.0	0.0	4.2	3.0	1.2	74.4	100.0	262
35-39	25.9	22.0	6.8	0.4	1.3	0.8	9.2	3.6	0.0	0.0	0.0	3.8	2.3	1.5	74.1	100.0	233
40-44	23.7	17.7	7.0	1.3	1.5	0.4	5.0	2.1	0.0	0.0	0.3	6.1	5.5	0.6	76.3	100.0	237
45-49	11.4	8.6	4.9	0.9	0.4	0.0	0.9	1.5	0.0	0.0	0.0	2.7	2.3	0.5	88.6	100.0	195
Total	16.5	13.6	2.9	0.4	0.9	0.5	5.7	2.4	0.3	0.1	0.3	2.9	2.2	0.7	83.5	100.0	1,978
<b>CURRENTLY MARRIED WOMEN</b>																	
15-19	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	1.7	98.3	100.0	53
20-24	18.9	15.4	0.9	0.5	0.0	0.6	9.6	2.7	0.0	0.0	1.1	3.5	3.2	0.4	81.1	100.0	220
25-29	22.5	19.2	1.0	0.0	1.4	1.2	9.9	3.8	1.1	0.0	0.9	3.3	2.3	1.1	77.5	100.0	274
30-34	26.2	21.5	4.3	0.0	2.6	0.4	8.3	5.0	0.9	0.0	0.0	4.7	3.4	1.3	73.8	100.0	237
35-39	28.9	24.5	7.4	0.4	1.5	0.9	10.2	4.1	0.0	0.0	0.0	4.4	2.7	1.8	71.1	100.0	203
40-44	26.7	19.8	7.7	1.5	1.7	0.5	5.7	2.4	0.0	0.0	0.4	6.9	6.3	0.6	73.3	100.0	208
45-49	13.0	9.6	5.5	1.2	0.6	0.0	1.1	1.3	0.0	0.0	0.0	3.4	2.8	0.6	87.0	100.0	157
Total	22.3	18.0	4.0	0.5	1.3	0.6	7.6	3.2	0.4	0.0	0.4	4.3	3.3	1.0	77.7	100.0	1,352

Note: If more than one method is used, only the most effective method is considered in this tabulation.  
LAM = lactational amenorrhoea method.

## **5.4 DIFFERENTIALS IN CONTRACEPTIVE USE BY BACKGROUND CHARACTERISTICS**

Table 5.5 shows the percent distribution of currently married women aged 15–49 by current use of family planning methods, and according to background characteristics. Current use of contraception varies with the number of living children, urban–rural residence, region, education and wealth.

The proportion of currently married women using contraception generally increases with an increasing number of children. Less than 1% of women with no children currently use any contraceptive methods, compared with 33% of women with five or more children. Current use of any modern method of contraception is highest among women who have three or four children (28%).

Women in the urban area are less likely to use contraceptive methods (19%) than women in rural areas (25%). Women in rural areas are slightly more likely to use injectables (8%) than women in the urban area (7%) and are more likely to use implants (4%) than urban women (2%).

Women with a primary education and some secondary education are more likely to use contraception (25%) than women with no education (17%). However, women with a secondary level 1 or 2 education and higher do not make significantly higher use of contraception than women with the lowest level of education. Therefore, there is no positive relationship between contraceptive use and education level.

Contraceptive use does not appear to be positively correlated with wealth status. Among currently married women in the lowest wealth quintile, contraceptive use is 26% compared with 17% for women in the highest wealth quintile.

In general, current use of modern and traditional contraceptive methods is low across subgroups. Use of both modern and traditional methods appears to be more common in rural areas than the urban area. Interestingly, there is no correlation between increasing levels of education and/or wealth quintile, and an increasing use in contraceptive methods.

**Table 5.6: Current use of contraception by background characteristics**

*Percent distribution of currently married women aged 15-49 by contraceptive method currently used, and according to background characteristics, Kiribati 2009*

Background characteristic	Any method	Any modern method	Modern method								Traditional method		Not currently using	Total	Number of women	
			Female sterilisation	Male sterilisation	Pill	IUD	Injectables	Implants	Male condom	LAM	Any traditional method	Rhythm				Withdrawal
<b>Residence</b>																
Urban	19.1	15.9	4.2	0.3	1.1	0.5	6.7	2.4	0.1	0.6	3.2	1.9	1.2	80.9	100.0	570
Rural	24.6	19.5	3.9	0.7	1.4	0.7	8.2	3.8	0.5	0.3	5.1	4.2	0.8	75.4	100.0	781
<b>Education</b>																
No education and some primary	16.9	10.9	3.4	1.2	0.0	0.0	2.2	4.0	0.0	0.0	6.0	3.5	2.5	83.1	100.0	78
Primary and some secondary	25.1	20.6	4.7	0.7	1.5	0.5	8.9	3.3	0.4	0.5	4.5	3.6	0.8	74.9	100.0	810
Secondary level 1	19.1	14.9	2.6	0.0	1.2	0.5	6.8	3.5	0.0	0.4	4.1	3.3	0.8	80.9	100.0	360
Secondary level 2 and higher	15.1	13.4	3.8	0.0	0.8	1.9	4.0	1.0	1.8	0.0	1.7	0.0	1.7	84.9	100.0	103
<b>Number of living children</b>																
0	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	99.6	100.0	221
1-2	19.7	15.9	2.2	0.0	0.6	1.1	7.8	2.9	0.4	0.9	3.7	2.5	1.3	80.3	100.0	516
3-4	31.9	27.9	5.3	0.9	3.0	0.6	11.9	5.8	0.3	0.0	4.0	3.7	0.2	68.1	100.0	371
5+	32.9	23.3	9.5	1.5	1.4	0.0	7.3	2.8	0.3	0.3	9.7	7.2	2.4	67.1	100.0	243
<b>Wealth quintile</b>																
Lowest	32.4	26.4	4.7	0.8	2.2	0.4	11.7	5.3	0.4	0.9	6.0	4.4	1.6	67.6	100.0	276
Second	22.5	17.8	5.5	0.6	1.1	0.3	7.4	2.2	0.4	0.3	4.7	4.0	0.7	77.5	100.0	300
Middle	18.9	14.2	1.8	0.4	0.7	0.8	6.4	3.7	0.4	0.0	4.8	3.8	0.9	81.1	100.0	271
Fourth	16.2	14.5	2.2	0.3	1.3	1.0	5.1	3.5	0.6	0.6	1.7	1.1	0.6	83.8	100.0	279
Highest	21.0	16.9	6.2	0.4	1.2	0.4	7.1	1.1	0.0	0.4	4.1	2.9	1.3	79.0	100.0	224
Total	22.3	18.0	4.0	0.5	1.3	0.6	7.6	3.2	0.4	0.4	4.3	3.3	1.0	77.7	100.0	1,352

Note: If more than one method is used, only the most effective method is considered in this tabulation.

LAM = lactational amenorrhoea method

## 5.5 NUMBER OF CHILDREN AT FIRST USE OF CONTRACEPTION

Couples use family planning methods to either limit family size or delay the next birth. The decision to initiate family planning methods differs according to the circumstances of couples and individuals. Couples using family planning methods to control family size (i.e. to stop having children) adopt contraception when they have had the number of children they want. When contraception is used to space births, couples may start to use family planning earlier, with the intention of delaying a possible pregnancy. Contraceptive use for birth spacing may also occur before a couple has had their desired number of children.

During the 2009 KDHS, women were asked how many children they had when they first used a family planning method. The number of living children at the time of first use of contraception is both a measure of the willingness to postpone the first birth (i.e. women who have no children), and the desire to space subsequent births. Thus, differences in fertility-control behaviour among cohorts of women can be observed by examining the parity and number of living children at first use of contraception.

Table 5.6 shows the percent distribution of women by number of living children at the time of first use of contraception, according to current age. Approximately 61% of all women aged 15–49 have never used a contraceptive method at all. About 7% of all women first use a contraceptive method when they already have four or more children. Approximately 3% of women first use a contraceptive method at the time they have no children, and 15% first use contraception after the birth of their first child. The results indicate that overall, levels of contraceptive use vary and the average parity at which Kiribati women start using contraception is variable. A change in behaviour is evident when comparing women's parity at first use of contraception among younger and older women. Among women aged 20–24, 12% begin using contraception after having one child, whereas among women aged 30–34, 40–45 and 45–49, more than 20% begin using contraception after having one child, which suggests a decline in contraception use in recent years among younger age groups. Older women are more likely to wait until after they have children to start using contraception, with the largest proportion starting after they have one child for women aged 40–44 (21% percent). About 16% of women aged 45–49 start using contraception after having four children. In a culture where smaller family size is not yet considered 'normal', young women are still less likely to adopt family planning at lower parities than older women. While younger women tend to initiate contraceptive use for spacing births, older women tend to initiate contraceptive use at later ages, primarily to limit births rather than to space births. It should be noted that there is a very high rate of never use of contraception among younger women.

**Table 5.7: Number of children at first use of contraception**

*Percent distribution of women aged 15-49 by number of living children at the time of first use of contraception, and according to current age, Kiribati 2009*

Current age	Number of living children at time of first use of contraception							Total	Number of women
	Never used	0	1	2	3	4+	Missing		
15-19	96.9	1.7	1.1	0.4	0.0	0.0	0.0	100.0	334
20-24	77.9	3.9	12.3	3.4	1.8	0.3	0.4	100.0	391
25-29	59.7	2.7	19.7	12.9	3.3	1.7	0.0	100.0	327
30-34	42.0	2.2	20.0	19.9	7.8	8.2	0.0	100.0	262
35-39	41.4	3.9	13.6	14.7	8.5	16.6	1.4	100.0	233
40-44	39.5	1.4	20.5	12.8	10.3	14.4	1.0	100.0	237
45-49	42.4	1.3	22.1	8.5	7.8	15.9	2.0	100.0	195
Total	60.9	2.6	14.7	9.6	4.9	6.7	0.6	100.0	1,978

## 5.6 TIMING OF STERILISATION

The 2009 KDHS collected information on the timing of female sterilisation among those using that method. However, the number of cases (58 unweighted cases) was too small for meaningful analysis by background characteristics. The median age at sterilisation is calculated only for women sterilised before age 40 to avoid problems of censoring. The median age at sterilisation is 33 years (Table 5.7). About 31% of sterilised women undergo the procedure at ages 30–34, and 29% at ages 35–39. About 12% of sterilised women undergo the procedure at ages 40–44, and 16% at ages 25–29. The smallest proportion of sterilised women undergo the procedure before age 25 (11%).

**Table 5.8: Timing of sterilisation**

*Percent distribution of sterilised women aged 15-49 by age at the time of sterilisation and median age at sterilisation, and according to the number of years since the operation, Kiribati 2009*

Years since operation	Age at time of sterilisation						Total	Number of women	Median age <sup>1</sup>
	<25	25-29	30-34	35-39	40-44	45-49			
Total	11.3	15.7	31.0	29.1	11.5	1.5	100.0	58	32.9

<sup>1</sup> Median age at sterilisation is calculated only for women sterilised before age 40 at less than age 40 to avoid problems of censoring.

## 5.7 SOURCE OF CONTRACEPTION

Information on sources of modern contraceptive methods is important to family planning programme management. In Kiribati, the public sector is strategically important in providing family planning services. Kiribati does not have a vibrant social marketing programme and has few, if any, pharmacies and private clinics. Condoms are distributed in communities through peer educators. The non-governmental organisation ‘Kiribati Family Health Association’ provides both clinical and non-clinical contraceptive methods. The public sector provides the full range of clinical and non-clinical contraceptive methods (mainly through health facilities) and supports major partners.

During the 2009 KDHS, all current users of modern contraceptive methods were asked about the most recent source of their methods. Interviewers were instructed to record the name of the source or facility, because respondents may not always be able to accurately categorise a source as being public or private. Supervisors and editors then verified and coded this information to improve its accuracy.

Table 5.8 shows that the vast majority of users (86%) obtain their contraceptive methods from the public sector. Government hospitals are the most common public source (54%), followed by health centres (23%) and family planning clinics (9%).



**Table 5.9: Source of modern contraception methods**

*Percent distribution of users of modern contraceptive methods aged 15-49 by most recent source of method, and according to method, Kiribati 2009*

Source	Female sterilisation	Male sterilisation	Pill	IUD	Injectables	Implants	Male condom	Female condom	Total <sup>1</sup>
Public sector	96.3	*	*	*	82.3	(89.7)	*	*	85.7
Government hospital	92.7	*	*	*	39.4	(47.9)	*	*	53.6
Government health center	2.0	*	*	*	32.6	(28.4)	*	*	23.4
Family planning clinic	1.6	*	*	*	10.3	(13.4)	*	*	8.7
Other source	0.0	*	*	*	9.1	(8.7)	*	*	7.1
Communities	0.0	*	*	*	2.1	(0.0)	*	*	1.3
Friend/relative	0.0	*	*	*	7.0	(8.7)	*	*	5.8
Other	3.7	*	*	*	4.2	(0.0)	*	*	3.0
Missing	0.0	*	*	*	4.4	(1.6)	*	*	4.3
Total	100.0	*	*	*	100.0	(100.0)	*	*	100.0
Number of women	58	7	18	10	114	47	6	2	262

<sup>1</sup> Total includes other modern methods but excludes lactational amenorrhoea method (LAM).

Note: Figures in parentheses are based on 25-49 cases. An asterisk indicates that the figure is based on fewer than 25 cases and has been suppressed.

Very few women (1%) use the community and private sector to obtain their contraceptive methods. About 4% of women who use a modern contraceptive method get their method from other sources, mostly from overseas, friends or relatives (6%).

The type of source differs slightly by method. The majority of women who use injectables (82%), the Pill (100%), implants (90%) and female sterilisation (96%) obtain their methods from a government source. Although the majority of female sterilisations are done at the government hospital (93%), 57% of women who use Pills get them from government hospitals and 32% get them from government health centres. About 11% of women who use the Pill and 19% of women who use an IUD get their contraception methods from a family planning clinic. Women who use an IUD are most likely to get it from public hospitals.

## 5.8 COST OF CONTRACEPTION

Even though the majority of contraceptives are obtained from the public sector, information on the cost of obtaining contraceptive methods is useful to family planning programmes. It is important to know how much clients are paying for contraceptive methods as this information provides guidance on price differentials among sectors and commodity pricing. The information also gives an indication of adherence to stipulated prices by the various sectors. During the 2009 KDHS, women who use modern contraceptive methods were asked how much they paid (in total) the last time they obtained their method, including the cost of the method and any consultation they may have had. Table 5.9 shows the percentage of women who obtain their method free and, for those who paid, the median cost, by method and public-private source.

In Kiribati, contraceptives are generally provided free of charge or for a nominal fee that covers the cost of the consultation. Commodities are sold at highly subsidised prices, and public sector prices are low. Few respondents were able to provide cost information, which may affect the inferences drawn; nevertheless, the information is useful. All current users claim that female and male sterilisation and implants are free, while 95% of Pill users and 97% of injectable users claim they are free of charge. Fifty-seven 57% of those who receive male condoms say the condoms are free.

**Table 5.10: Cost of modern contraceptive methods**

*Percentage of current users of modern contraception aged 15-49 who do not pay for their contraceptive method and who do not know the cost of the method according to source of current method, Kiribati 2009*

Source of method/cost	Female sterilisation	Male sterilisation	Pill	IUD	Injectables	Implants	Male condom	Female condom	Total
<b>Public sector</b>									
Percentage free	100.0	*	*	*	97.1	(100.0)	*	*	97.5
Do not know cost	0.0	*	*	*	2.9	(0.0)	*	*	2.2
Number of women	56	*	*	*	94	(42)	*	*	224
<b>Private medical sector/other</b>									
Percentage free	100.0	*	*	*	74.7	(84.5)	*	*	70.5
Do not know cost	0.0	*	*	*	25.3	(15.5)	*	*	29.5
Number of women	2	*	*	*	20	(5)	*	*	38
<b>Total</b>									
Percentage free	100.0	*	*	*	93.1	(98.4)	*	*	93.6
Do not know cost	0.0	*	*	*	6.9	(1.6)	*	*	6.1
Number of women	58	7	18	10	114	47	6	2	262

Note: Table excludes lactational amenorrhoea method (LAM). Costs are based on the last time current users obtained method. Costs include consultation costs, if any. For condoms, costs are per package; for Pills, per cycle. For sterilisation, data are based on women who received the operation in the five years preceding the survey.

Note: Figures in parentheses are based on 25-49 cases. An asterisk indicates that the figure is based on fewer than 25 cases and has been suppressed.

## 5.9 INFORMED CHOICE

Informed choice is an important aspect of family planning services. Family planning clients have a right to information about their contraceptive method. Providers are required to inform all users of contraceptive methods about 1) potential side effects of their method, 2) what they should do if they encounter side effects or signs of a problem, and 3) alternate methods of family planning. Current users of modern methods who are well informed about side effects and problems associated with methods, and who know a range of method options, are better placed to make an informed choice about the method they will use. This information improves the quality of care and compliance by assisting users to cope with side effects, thereby decreasing unnecessary discontinuation of temporary methods.

Current users of selected modern contraceptive methods were asked whether, at the time they adopted the particular method, they were informed about possible side effects or problems that might be encountered when using the method. Table 5.10 shows the percentage of current users of modern contraceptive methods who were either informed about possible side effects or problems with the method used, or informed of other methods they could use. These are broken down by method type and source of the method.

About 59% of current users of modern contraceptive methods receive adequate information for making informed choices. Family planning clinics are highly likely to inform users of modern methods about 1) the side effects or problems of these methods (91%), 2) other methods that could be used (72%), and 3) what to do if they experience side effects (81%). Information varies by type of method, with information about side effects and what to do about them being least provided to IUD users.

Approximately two out of three clients attending a public sector clinic were informed of other methods or side effects, but only 51% of them were informed about what to do if they had side effects. A high percentage (91%) of clients attending a family planning clinic are informed of side effects and problems of other methods, as compared with clients attending a government hospital (59%) or government health clinic (61%). Information on some categories, such as the private sector, cannot be presented because the percentages are based on small numbers of users.

**Table 5.11: Informed choice**

Among current users (aged 15-49) of modern methods who started the last episode of use within the five years preceding the survey, the percentage who were informed about possible side effects or problems of that method, the percentage who were informed about what to do if they experienced side effects, and the percentage who were informed about other methods that could be used, by method and source; and among sterilised women, the percentage who were informed that the method is permanent, by initial source of method, Kiribati 2009

Method/source	Among women who started last episode of modern contraceptive method within five years preceding the survey:				Among women who were sterilised:	
	Percentage who were informed about side effects or problems of method used	Percentage who were informed about what to do if experienced side effects	Percentage who were informed by a health or family planning worker of other methods that could be used	Number of women	Percentage who were informed that sterilisation is permanent <sup>1</sup>	Number of women
<b>Method</b>						
Female sterilisation	(52.6)	(47.1)	(32.7)	(37)	(97.6)	37
Pill	*	*	*	*	*	0
IUD	*	*	*	*	*	0
Injectables	*	*	*	*	*	0
Implants	*	*	*	*	*	0
Other	*	*	*	*	*	0
<b>Initial source of method<sup>2</sup></b>						
Public sector	(63.4)	(51.3)	(50.8)	(191)	(97.6)	36
Government hospital	(58.8)	(50.6)	(45.4)	(100)	(97.5)	35
Government health center	*	*	*	*	*	0
Family planning clinic	*	*	*	*	*	1
Other private sector	*	*	*	*	*	0
Communities	*	*	*	*	*	0
Friend/relative	*	*	*	*	*	0
Other	*	*	*	*	*	1
Don't know	*	*	*	*	*	0
<b>Total</b>	<b>(58.7)</b>	<b>(47.7)</b>	<b>(49.0)</b>	<b>(214)</b>	<b>(97.6)</b>	<b>37</b>

Note: Table excludes users who obtained their method from friends/relatives.

<sup>1</sup> Among women who were sterilised in the five years preceding the survey.

<sup>2</sup> Source at start of current episode of use.

Note: Figures in parentheses are based on 25-49 cases. An asterisk indicates that the figure is based on fewer than 25 cases and has been suppressed.

## 5.10 FUTURE USE OF CONTRACEPTION

Intention to use contraception is an important indicator of the potential demand for family planning services. Currently married women who were not using contraceptives at the time of the survey were asked about their intention to use family planning in the future. Table 5.11 shows the percent distribution of currently married women who do not use contraception by their intention to use contraception in the future, and according to their number of living children.

Only 40% of currently married non-users of contraception say that they intend to use family planning in the future, while 50% do not intend to use contraception, and 7% are unsure. The proportion of those intending to use contraception varies slightly with the number of living children, increasing from 49% for those with no children to a peak of 52% for those with one child, and declining to 29% for those with four children. The proportion of women who do not intend to use contraception in the future are highest among those with more than four children (61%). Approximately one-half of all women with two or three children do not intend to use contraception. These findings indicate there is a need to increase the level of family planning messages and services to target groups, particularly women with four or more children.

**Table 5.12: Future use of contraception**

*Percent distribution of currently married women aged 15-49 who do not use a contraceptive method by their intention to use contraception in the future, and according to number of living children, Kiribati 2009*

Intention	Number of living children <sup>1</sup>					Total
	0	1	2	3	4+	
Intends to use	49.0	52.3	37.0	38.8	29.4	40.4
Unsure	9.9	5.8	7.6	6.6	5.8	7.0
Does not intend to use	41.0	39.6	52.1	51.8	61.0	50.1
Missing	0.0	2.3	3.3	2.8	3.7	2.5
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	195	214	196	136	309	1,051

<sup>1</sup> Includes current pregnancy.

## 5.11 REASONS FOR NOT INTENDING TO USE CONTRACEPTION

Understanding the reasons why non-users of contraception do not intend to use a contraceptive method in the future is crucial to identifying strategies to improve access to and acceptability and quality of family planning services. Table 5.12 presents the main reasons why currently married women do not intend to use contraception.

The most commonly cited reason for not intending to use contraception is religion, as reported by 29% of currently married women. These non-users state that they do not intend to use contraception in the future because of religious prohibitions. Other reasons given for not intending to use contraception include subfecundity/infecundity (12%), fear of side effects (11%), want as many children as possible (10%), health concerns (7%), are menopausal or have had a hysterectomy (4%), opposed to using contraception (5%), and husband opposed to using contraception (4%). Only a small number of women cited a lack of knowledge of contraceptive methods or cost as the main reason for not intending to use contraception.

**Table 5.13: Reason for not intending to use contraception in the future**

*Percent distribution of currently married women aged 15-49 who do not use contraception and who do not intend to use contraception in the future by main reason, Kiribati 2009*

Reason	Percent distribution
<b>Fertility-related reasons</b>	
Menopausal or have had a hysterectomy	3.7
Subfecund/infecund	11.6
Want as many children as possible	9.8
<b>Opposition to use</b>	
Respondent opposed	4.9
Husband/partner opposed	3.6
Others opposed	0.4
Religious prohibition	28.8
<b>Lack of knowledge</b>	
Knows no method	2.6
Knows no source	0.3
<b>Method-related reasons</b>	
Health concerns	7.4
Fear of side effects	10.8
Inconvenient to use	0.4
Interfere with body's normal process	2.4
Other	11.0
Don't know	1.1
Missing	1.2
Total	100.0
Number of women	526

## 5.12 PREFERRED METHOD OF CONTRACEPTION FOR FUTURE USE

Of particular interest to programme managers is the preferred method of non-users who report that they intend to use a family planning method in the future. This information is useful in assessing the potential demand for specific family planning methods. Table 5.13 shows that among currently married women, the modern contraceptive method most preferred for future use is injectables (34%), followed by implants (18%), Pills and IUD (10%), condoms (5%) and female sterilisation (3%).

**Table 5.14: Preferred method of contraception for future use**

*Percent distribution of currently married women aged 15-49 who do not use a contraceptive method but who intend to use a method in the future by preferred method, Kiribati 2009*

Method	Percent distribution
Female sterilisation	2.6
Male sterilisation	0.8
Pill	10.0
IUD	10.0
Injectables	34.4
Implants	18.4
Condom	5.3
Female condom	3.0
Diaphragm	0.3
Foam/jelly	7.8
Lactation amenorrhea	0.6
Periodic abstinence	0.4
Other	3.1
Unsure	1.6
Missing	1.5
Total	100.0
Number of women	424

## 5.13 EXPOSURE TO FAMILY PLANNING MESSAGES

Using the media is an effective way to disseminate family planning information. To assess the extent to which the media serves as a source of family planning messages, respondents were asked whether they had heard or seen a message about family planning on the radio, television, in newspapers or magazines in the few months preceding the survey. Exposure to family planning messages among women and men aged 15–49 is shown in Table 5.14.

Radio is the most common source of family planning messages for both women (58%) and men (75%). About 33% of women and 46% of men see family planning messages in newspapers. Television is the least common source of family planning messages for both women (7%) and men (5%). About 37% of women and 22% of men are not exposed to any family planning messages by the three types of media.

Exposure to family planning messages through the radio and newspaper is 1) more likely among men than women, 2) just as common in the urban area as it is in rural areas for women, and 3) slightly more common in the urban area than in rural areas for men. As expected, exposure to family planning messages through newspapers increases with education level and wealth status.

Men and women aged 15–19 are the least likely to be exposed to family planning messages through the media. About 50% of females aged 15–19 are not exposed to any of the three types of media compared with 32% of males in the same age category. These results indicate a need for programmes that target youth (with family planning messages) in their preferred media and sources of information.

**Table 5.15: Exposure to family planning messages**

Percentage of women and men aged 15-49 who have heard or seen family planning messages on the radio or television or in newspapers in the past few months, according to background characteristics, Kiribati 2009

Background characteristic	Women					Men				
	Radio	Television	Newspaper/ magazine	None of these three media sources	Number	Radio	Television	Newspaper/ magazine	None of these three media sources	Number
<b>Age</b>										
15-19	42.2	7.3	26.8	49.6	334	65.1	1.8	33.4	32.1	164
20-24	55.6	9.4	31.4	39.0	391	69.6	4.2	49.7	25.9	207
25-29	62.0	8.2	35.6	34.6	327	82.0	5.1	44.4	16.7	154
30-34	58.9	4.1	32.3	38.3	262	84.3	4.3	44.3	15.0	112
35-39	59.0	5.5	35.0	35.5	233	72.3	3.6	46.0	21.8	96
40-44	65.2	6.2	31.5	31.9	237	78.5	12.8	56.4	19.0	114
45-49	72.2	7.6	44.4	23.6	195	77.5	4.2	48.1	17.5	96
<b>Residence</b>										
Urban	58.3	10.2	35.6	36.3	937	79.7	9.7	55.6	16.7	423
Rural	57.8	4.4	30.9	38.0	1,041	70.7	1.0	37.5	26.5	520
<b>Education</b>										
No education and some primary	46.6	2.3	23.4	45.8	114	69.7	2.4	20.8	30.3	89
Primary and some secondary	56.1	4.8	27.5	40.0	1,148	74.3	4.1	44.2	22.8	564
Secondary level 1	62.3	10.4	42.3	32.1	560	75.0	5.8	51.4	20.0	231
Secondary level 2 and higher	65.2	16.3	48.9	28.1	156	85.9	13.2	73.9	10.4	58
<b>Wealth quintile</b>										
Lowest	54.8	1.9	25.6	42.9	365	63.5	0.5	30.3	32.4	210
Second	57.7	4.4	28.9	37.8	383	71.3	0.7	35.9	26.8	206
Middle	58.7	7.0	37.3	34.3	390	80.7	4.9	52.5	17.0	145
Fourth	63.5	10.1	36.9	32.1	428	83.7	8.7	55.2	12.6	190
Highest	55.0	11.3	36.0	39.6	413	77.4	10.6	58.1	19.0	191
Total aged 15-49	58.0	7.1	33.2	37.2	1,978	74.7	4.9	45.6	22.1	943
Total aged 50+	-	-	-	-	0	82.6	8.6	56.4	13.3	115
Total men aged 15+	-	-	-	-	0	75.8	5.5	47.0	21.1	1,135

“-” = not applicable

## 5.14 CONTACT OF NON-USERS WITH FAMILY PLANNING PROVIDERS

To determine whether non-users of family planning services in Kiribati have had an opportunity to receive information about family planning from providers, women who do not use contraception were asked whether they had attended a health facility in the past year for any reason and, if so, whether a staff person at that facility spoke to them about family planning methods. These women were also asked whether they had been visited by a fieldworker who discussed family planning with them.

Table 5.15 shows that in the 12 months preceding the survey, 6% of non-users of family planning services reported that they visited a health facility and discussed family planning, and 9% reported that they were visited by a field worker who discussed family planning with them. About 21% of women visited a health facility and did not discuss family planning. The majority of women (88%) did not discuss family planning with a field worker or staff at a health facility in the last 12 months, which indicates that a high percentage of women do not receive family planning messages.

Women aged 30–34 are more likely to have discussed family planning with a service provider than younger women. Women in rural areas are more likely to have discussed family planning with health professionals in the preceding 12 months than women in the urban area.

Women with the highest education level are more likely to have discussed family planning with a field worker or staff member at a health facility than women with less education.

A higher percentage of women in the lower two wealth quintiles visited the health centre and discussed family planning than women in higher wealth quintiles.

The results may indicate that some groups of women are already using contraceptive methods, or that they already have information about family planning and, therefore, do not feel the need to discuss family planning with providers, or they may be less likely to have visited a facility.

**Table 5.16: Contact of non-users with family planning providers**

*Among women aged 15-49 who do not use contraception, the percentage who, during the 12 months preceding the survey, were visited by a fieldworker who discussed family planning with them, the percentage who visited a health facility and discussed family planning, the percentage who visited a health facility but did not discuss family planning, and the percentage who neither discussed family planning with a fieldworker nor at a health facility, by background characteristics, Kiribati 2009*

Background characteristic	Percentage of women who were visited by fieldworker who discussed family planning	Percentage of women who visited a health facility in the 12 months preceding the survey and who:		Percentage of women who neither discussed family planning with fieldworker nor at a health facility	Number of women
		Discussed family planning	Did not discuss family planning		
<b>Age</b>					
15-19	8.4	1.1	10.4	90.8	331
20-24	7.0	2.1	18.1	92.2	341
25-29	9.2	6.8	22.6	86.6	259
30-34	12.5	11.3	30.4	79.8	195
35-39	9.5	10.9	25.2	85.5	173
40-44	6.7	5.1	26.0	89.5	181
45-49	12.8	8.1	24.9	83.9	173
<b>Residence</b>					
Urban	8.1	3.6	11.1	89.9	819
Rural	10.2	7.6	30.8	85.6	833

**Table 5.16 (continued)**

Background characteristic	Percentage of women who were visited by fieldworker who discussed family planning	Percentage of women who visited a health facility in the 12 months preceding the survey and who:		Percentage of women who neither discussed family planning with fieldworker nor at a health facility	Number of women
		Discussed family planning	Did not discuss family planning		
<b>Education</b>					
No education and some primary	9.4	4.7	26.7	88.4	100
Primary and some secondary	8.4	5.7	21.6	87.9	926
Secondary level 1	9.1	5.5	17.6	87.8	487
Secondary level 2 and higher	14.2	5.8	25.3	85.2	139
<b>Wealth quintile</b>					
Lowest	9.8	7.7	33.3	84.6	268
Second	9.8	9.0	27.4	85.6	310
Middle	8.7	4.1	24.8	89.6	332
Fourth	10.1	5.3	12.1	86.7	379
Highest	7.4	2.8	12.5	91.1	362
Total	9.1	5.6	21.0	87.7	1,652

### **5.15 HUSBAND AND /OR PARTNER'S KNOWLEDGE ABOUT WOMAN'S USE OF CONTRACEPTION**

A husband or partner's knowledge about a woman's use of contraception is an indication of their prior discussion of, interest in, and continued practice of family planning. Inter-spousal or partner communication is an important step along the path to adopting a contraceptive method, as well as continuing to use that or other contraceptive methods in the future. Lack of knowledge or discussion of contraception may be related to a number of factors, including a lack of interest in family planning, hostility to the subject of family planning, or customary reticence to talk about sex-related matters. To assess the extent to which women use contraception without informing their husband or partner, the 2009 KDHS asked married women whether their husband or partner knew they were using a method of family planning.

Table 5.16 shows that the majority of married women (69%) who use contraception say that their husband or partner knows about their use of contraception; only 10% say that their husband or partner does not know about their use of contraception, and 21% were unsure whether their husband knows.



**Table 5.17: Husband/partner's knowledge of women's use of contraception**

*Among currently married women aged 15-49 who use a contraceptive method, the percent distribution by whether they report that their husband or partner knows about their use, according to background characteristics, Kiribati 2009*

Background characteristic	Knows <sup>1</sup>	Does not know	Unsure whether knows/missing	Total	Number of women
<b>Age</b>					
15-19	*	*	*	*	1
20-24	(68.6)	(12.3)	(19.1)	(100.0)	42
25-29	67.3	13.4	19.3	100.0	62
30-34	70.5	5.4	24.1	100.0	62
35-39	64.6	12.8	22.7	100.0	59
40-44	72.8	6.6	20.5	100.0	56
45-49	*	*	*	*	20
<b>Residence</b>					
Urban	74.7	5.3	20.0	100.0	109
Rural	66.4	12.0	21.6	100.0	192
<b>Education</b>					
No education and some primary	*	*	*	*	13
Primary and some secondary	69.3	10.9	19.8	100.0	203
Secondary level 1	70.9	5.1	24.0	100.0	69
Secondary level 2 and higher	*	*	*	*	16
<b>Wealth quintile</b>					
Lowest	63.6	12.5	23.9	100.0	89
Second	74.1	12.6	13.4	100.0	67
Middle	71.1	7.4	21.5	100.0	51
Fourth	(60.6)	(9.8)	(29.6)	(100.0)	45
Highest	(80.5)	(1.9)	(17.6)	(100.0)	47
Total	69.4	9.6	21.0	100.0	301

<sup>1</sup> Includes women who report the use of male sterilisation, male condoms or withdrawal.

Note: Figures in parentheses are based on 25-49 cases. An asterisk indicates that the figure is based on fewer than 25 cases and has been suppressed.

In Kiribati, communication between couples about the use of contraception is relatively high for almost all background characteristics, and increases with age and is higher in the urban area than in rural areas. A larger proportion of women in the urban area say that their husband or partner is aware of their contraceptive use (75%) than women in rural areas (66%). Only 5% of current users in South Tarawa (urban area) report that their husband or partner does not know that they are using a contraceptive method.

A husband's knowledge of women's use of contraception does not increase with each level of education.

Women in the highest wealth quintile households are more likely than other women to say that their husband or partner knows they are using contraception, while women in the lowest wealth quintile households are the least likely to say that their husband or partner knows they are using contraception.

## CHAPTER 6 OTHER PROXIMATE DETERMINANTS OF FERTILITY

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This chapter explores the principal factors, other than contraception, that affect a woman's chances of becoming pregnant. These are referred to as other proximate (or direct) determinants of fertility, and include marriage and sexual intercourse, postpartum amenorrhoea, abstinence from sexual relations, and secondary infertility (menopause). These factors interact and influence each other and affect fertility levels and trends.

The principal interest of the 2009 KDHS in the subject of nuptiality is that marriage is the leading indicator of women's exposure to the risk of pregnancy. Therefore, it is important to understand fertility. 'Marriage' here refers to unions that are recognised by civil and religious laws as well as by the community culturally. In most societies, marriage sanctions childbearing, and married women are exposed to a greater risk of becoming pregnant than unmarried women. Thus, women in populations in which the age at marriage is low, tend to start childbearing early and have a high fertility level. This chapter explores trends in age at marriage, and includes information on more direct measures of the beginning of exposure to pregnancy and the level of exposure — age at first sexual intercourse and frequency of intercourse. Finally, measures of several other proximate determinants of fertility, which, like marriage and sexual intercourse, influence exposure to the risk of pregnancy, are presented. These include duration of postpartum amenorrhoea, postpartum abstinence and secondary infertility (also known as menopause).

### 6.1 CURRENT MARITAL STATUS

Respondents' marital status at the time of the survey is presented in Table 6.1 and Figure 6.1. In Table 6.1, the term 'married' includes legal or formal marriage, while 'living together' designates an informal union. However, in the tables in this report, these two categories are combined and referred to collectively as 'currently married' or 'currently in union – living together'. Respondents who are widowed, divorced, or not living together (separated), make up the remainder of the 'ever married' or 'ever in union' category.

Table 6.1 shows that at the time of the 2009 KDHS, 68% of women were currently in union compared with 60% of men. For the percentage of women currently in union, 16% were living together while 52% were married. Of the 60% of men in union at the time of the 2009 KDHS, 21% were living together compared with 39% who were married. The results generally show that in the early years of their lives, most I-Kiribati women and men opt not to get married but, rather, to live together. They usually decide to marry when they get older. For instance, the proportions of married women and married men in the 15–19 age range for women and 15–24 age range for men, are generally lower than for those living together. This distribution changes in the older ages because women and men most likely decide to get married.

The results from Table 6.1 show that less than 7% of young women aged 15–19 are married rather than in a so-called living-together arrangement. For example, almost one in every ten (9%) young women aged 15–19 are in a living together union compared with about 7% who are married. The percentage increases to 18% by ages 20–24. In contrast, young I-Kiribati men (aged 15–19) have a slow start to marital union, with only 4% entering into a living together arrangement, and about 1% entering into marriage. Among men aged 20–24, two out of ten are in a living together arrangement and 17% are married. Men are more likely to be divorced or separated by age 25 and older (see Table 6.1 and Fig. 6.1).

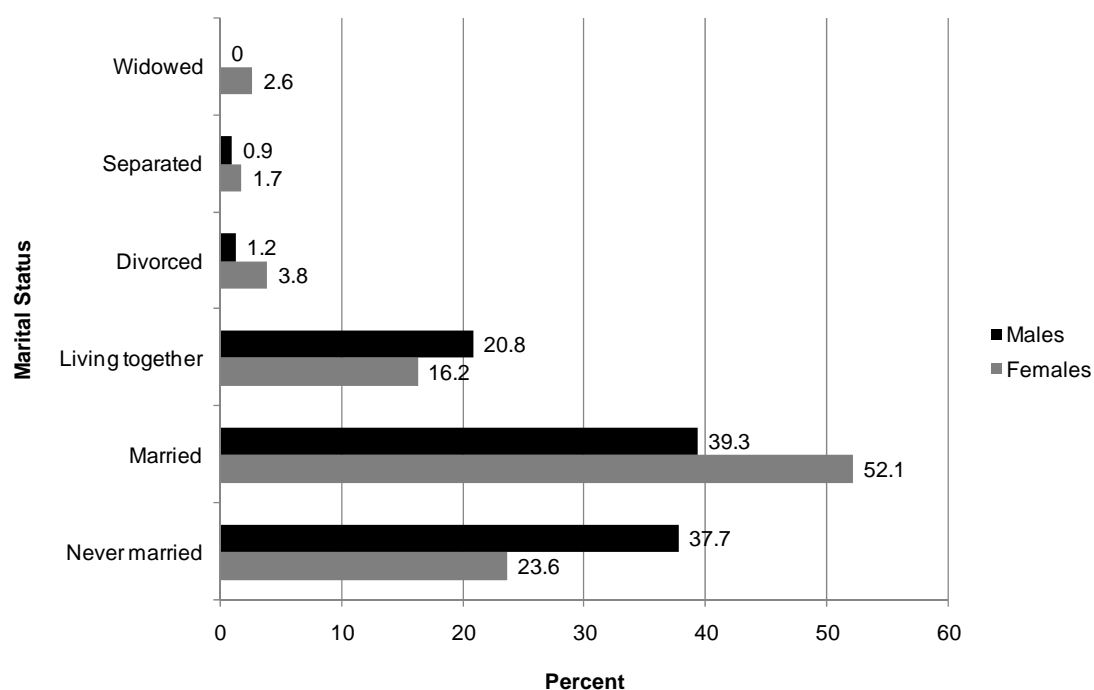
More women aged 35 and older are widowed than men in the same age range (Table 6.1). This is because the average life expectancy of men is generally lower than that of women.

**Table 6.1: Current marital status**

*Percent distribution of women and men aged 15–49 by current marital status and according to age, Kiribati 2009*

Age	Marital status						Total	Percentage of respondents currently in union	Number of respondents
	Never married	Married	Living together	Divorced	Separated	Widowed			
<b>WOMEN</b>									
15–19	81.8	6.6	9.2	1.0	1.2	0.3	100.0	15.7	334
20–24	36.1	37.8	18.5	3.9	2.2	1.5	100.0	56.3	391
25–29	9.5	63.1	20.9	3.5	1.7	1.4	100.0	84.0	327
30–34	2.3	70.8	19.7	2.9	2.3	1.9	100.0	90.5	262
35–39	1.8	70.8	16.1	6.6	0.5	4.3	100.0	86.9	233
40–44	2.4	76.3	11.4	4.7	1.3	4.0	100.0	87.7	237
45–49	3.1	63.8	16.9	5.4	2.4	8.4	100.0	80.7	195
Total women aged 15–49	23.6	52.1	16.2	3.8	1.7	2.6	100.0	68.3	1,978
<b>MEN</b>									
15–19	94.5	0.6	4.2	0.0	0.7	0.0	100.0	4.8	164
20–24	60.9	17.0	20.3	0.9	0.9	0.0	100.0	37.3	207
25–29	28.6	38.9	29.6	3.0	0.0	0.0	100.0	68.4	154
30–34	8.1	59.8	30.3	1.1	0.7	0.0	100.0	90.1	112
35–39	6.8	64.6	24.9	1.7	2.0	0.0	100.0	89.5	96
40–44	8.6	69.8	18.8	0.0	2.7	0.0	100.0	88.6	114
45–49	5.0	69.3	23.7	2.1	0.0	0.0	100.0	92.9	96
Total men aged 15–49	37.7	39.3	20.8	1.2	0.9	0.0	100.0	60.2	943
Men aged 50+	1.7	74.2	20.1	2.6	0.0	1.4	100.0	94.4	115
Total men aged 15+	31.6	44.2	20.8	1.5	0.8	1.1	100.0	64.9	1,135

**Figure 6.1: Current marital status of women and men**



## 6.2 AGE AT FIRST MARRIAGE

Whether or not the start of marriage coincides with the initiation of sexual intercourse and, thus, the beginning of exposure to the risk of pregnancy, age at first marriage is an important social and demographic indicator and, in most societies, represents the point in a person's life when childbearing first becomes welcome. Note that in Table 6.2, 'married' includes 'living together'. In this table, the age at first marriage is defined as the age at which the respondent began living with her/his first spouse or partner.

Marriage is a leading social and demographic indicator of the exposure of women to the risk of pregnancy, especially in the case of low levels of contraceptive use; therefore, it is important in understanding fertility trends. Populations in which age at first marriage is low tend to be populations with early childbearing and high fertility. For this reason, there is an interest in trends in age at marriage. Early marriages in Kiribati, where the use of family planning methods are not widespread, leads to early childbearing and a longer period of exposure of women to reproductive risks, which in turn leads to high cumulative fertility levels. Table 6.2 presents the percentage of women and men who are married (by specific ages), and the median age at first marriage, according to the age of the respondent at the time of the survey.

Trends in age at first marriage for people of different age cohorts are described by comparing the cumulative distribution for successive younger age groups. In drawing conclusions concerning trends, the data for the oldest age cohorts are interpreted cautiously because respondents may not recall dates or ages at marriage with accuracy, particularly in Kiribati (as in many other Pacific Island countries) where 'living together' unions are common.

For each cohort, the accumulated percentages stop at the lower age boundary of the cohort to avoid censoring problems. For instance, for the cohort currently aged 20–24, accumulation stops with the percentage married by exact age 20. As a measure of central tendency, the median age at first marriage is used. The median is defined as the age by which half of the cohort has married, not the age by which half of those married have started living with their spouse. The median is preferred over the mean as a measure of central tendency because, unlike the mean, it can be estimated for all cohorts where at least half are ever married at the time of survey.

Although the minimum legal age for a woman to get married is 18 in Kiribati, marriage among young girls is common. Among women aged 20–49, 5% are married by age 15, 26% are married by age 18, and 47% are married by age 20. The median age at first marriage is 20. However, the trend is shifting toward fewer women marrying at very young ages, as only 2% of women aged 15–19 are married before age 15 compared with 9% of women aged 45–49.

Marriage among men, on the other hand, starts fairly late. Among men aged 20–49, none had married by age 15, and only 7% had married by age 18. By age 20, 20% of men had been married, compared with 46% of women. According to the 2009 KDHS, the median age at first marriage for men aged 25–49 is 23, about three years later than the median for women aged 25–49.

**Table 6.2: Age at first marriage**

*Percentage of women and men aged 15–49 who are first married by exact ages and median age at first marriage, according to current age, Kiribati 2009*

Current age	Percentage first married by exact age:					Percentage never married	Number	Median age at first marriage
	15	18	20	22	25			
<b>WOMEN</b>								
15–19	1.7	-	-	-	-	81.8	334	a
20–24	2.8	20.3	37.7	-	-	36.1	391	a
25–29	3.7	20.4	41.2	61.5	83.3	9.5	327	20.7
30–34	6.0	25.3	45.0	66.6	84.8	2.3	262	20.4
35–39	4.2	26.2	51.3	65.8	81.2	1.8	233	19.9
40–44	7.8	31.6	54.7	70.6	83.5	2.4	237	19.6
45–49	9.1	39.4	59.7	69.9	80.4	3.1	195	18.9
20–49	5.2	25.8	46.5	-	-	11.8	1,644	a
25–49	5.9	27.6	49.3	66.4	82.8	4.2	1,254	20.1
<b>MEN</b>								
15–19	0.0	-	-	-	-	94.5	164	a
20–24	0.0	5.0	13.6	-	-	60.9	207	a
25–29	0.0	7.4	23.4	39.4	60.9	28.6	154	23.2
30–34	0.0	12.7	25.6	42.1	66.1	8.1	112	22.8
35–39	0.0	8.0	17.8	28.3	52.1	6.8	96	24.6
40–44	0.0	7.7	24.0	44.9	62.5	8.6	114	23.0
45–49	0.0	4.8	22.5	40.3	63.4	5.0	96	23.3
20–49	0.0	7.3	20.4	-	-	25.7	778	a
25–49	0.0	8.2	22.9	39.3	61.2	13.0	571	23.3
20+	0.0	7.6	20.3	-	-	21.0	971	a
25+	0.0	8.2	22.1	38.0	59.5	10.1	763	23.6

Note: The age at first marriage is defined as the age at which the respondent began living with her/his first spouse/partner.

\*- = not applicable

a = omitted because less than 50% of women married for the first time before reaching the beginning of the age group

### 6.3 MEDIAN AGE AT FIRST MARRIAGE

The median age at first marriage for women and men by current age and background characteristics are shown in Table 6.3 and Table 6.4, respectively. Overall, urban women aged 25–49 marry a year later (age 21) than rural women (age 20). The pattern of median age at first marriage by education levels shows that women with lower levels of education tend to marry sooner than women with higher levels of education. Similarly, the pattern by wealth index shows that women from the poorest households marry earlier than women from wealthier households.

**Table 6.3: Median age at first marriage – Women**

*Median age at first marriage among women by five-year age groups, and for ages 20–49 and ages 25–49, according to background characteristics, Kiribati 2009*

Background characteristic	Age						Women aged	Women aged
	20–24	25–29	30–34	35–39	40–44	45–49	20–49	25–49
<b>Residence</b>								
Urban	a	21.3	20.1	20.9	20.4	19.7	a	20.6
Rural	a	20.2	20.6	19.5	18.9	18.4	19.8	19.6
<b>Education</b>								
No education and some primary	a	17.8	20.1	18.6	18.7	18.5	19.2	18.7
Primary and some secondary	18.6	18.9	19.4	19.4	19.3	18.9	19.2	19.2
Secondary level 1	a	21.7	21.4	21.4	22.9	17.8	a	21.6
Secondary level 2 and higher	a	23.9	23.5	26.3	20.0	20.9	a	23.7
<b>Wealth quintile</b>								
Lowest	19.0	19.2	20.1	18.8	18.9	17.9	19.1	19.1
Second	19.9	20.3	21.1	19.5	19.1	18.3	19.7	19.6
Middle	a	20.9	20.3	19.8	18.8	18.8	a	20.0
Fourth	a	21.1	20.6	21.7	19.4	20.0	a	20.6
Highest	a	22.5	20.2	22.5	21.5	19.8	a	21.5
Total	a	20.7	20.4	19.9	19.6	18.9	A	20.1

Note: The age at first marriage is defined as the age at which the respondent began living with her/his first spouse/partner.  
a = omitted because less than 50% of women married for the first time before reaching the beginning of the age group

As with women, the urban–rural difference for age at first marriage for men aged 25–54 (Table 6.4), is one year (24 years for urban men, 23 years for rural men). The median age at first marriage for men ranges from 23 years for men with no education and some primary education, to 25 years for men with more than a secondary level 2 education and higher. The pattern by wealth index shows that men from the poorest households marry earlier than men from wealthier households, which is the same pattern that is seen among women.

**Table 6.4: Median age at first marriage – Men**

*Median age at first marriage among men by five-year age groups, and for ages 20–54 and ages 25–59, according to background characteristics, Kiribati 2009*

Background characteristic	Age						Men aged
	25–29	30–34	35–39	40–44	45–49	50+	25+
<b>Residence</b>							
Urban	24.3	22.9	25.4	24.2	24.0	24.8	24.4
Rural	22.6	22.7	24.3	21.9	23.1	24.2	23.2
<b>Education</b>							
No education and some primary	19.6	23.6	22.1	22.0	a	24.1	23.0
Primary and some secondary	23.0	22.2	25.1	22.8	22.9	24.8	23.4
Secondary level 1	24.9	25.0	22.9	24.2	29.1	24.6	24.8
Secondary level 2 and higher	23.6	23.9	23.4	25.4	25.2	27.2	24.6
<b>Wealth quintile</b>							
Lowest	23.2	21.9	24.7	22.9	21.9	24.5	23.4
Second	20.9	22.1	23.7	22.2	23.1	23.5	22.9
Middle	24.0	23.4	23.7	19.0	23.2	24.2	23.5
Fourth	24.1	23.3	25.3	22.0	23.7	27.2	24.2
Highest	23.9	22.6	25.9	25.9	26.4	24.7	24.7
Total	23.2	22.8	24.6	23.0	23.3	24.5	23.6

Note: The age at first marriage is defined as the age at which the respondent began living with her/his first spouse/partner.  
a = omitted because less than 50% of men married for the first time before reaching the beginning of the age group

## 6.4 AGE AT FIRST SEXUAL INTERCOURSE

The 2009 KDHS collected data on age at first sexual intercourse. By age 15, 6% of women aged 25–49 are sexually active, and 28% are active by age 18 (Table 6.5). The cumulative percentage of sexually active women increases steadily, reaching 49% percent by age 20. The median age at first sex for women aged 25–49 is 20. The data in Table 6.5 show that there is some evidence of a trend toward later initiation of sexual activity in recent years.

Unlike marriage, sexual activity among men starts earlier than among women. For instance, 9% of men aged 25–49 are sexually active by age 15 compared with 6% of women. As is the case for women, this percentage rises steadily, reaching 73% by age 20 (24% more than for women). The median age at first sexual intercourse for men aged 25–49 is 18, and is 20 for women aged 25–49. Unlike the case with women, the median age at first sexual intercourse for men shows no evidence of change over time.

**Table 6.5: Age at first sexual intercourse**

*Percentage of women and men aged 15–49 who had their first sexual intercourse by exact ages, the percentage who never had intercourse, and the median age at first intercourse, according to current age, Kiribati 2009*

Current age	Percentage who had first sexual intercourse by exact age:					Percentage who never had intercourse	Number	Median age at first intercourse
	15	18	20	22	25			
<b>WOMEN</b>								
15–19	1.4	-	-	-	-	79.9	334	a
20–24	1.9	18.6	38.8	-	-	32.5	391	a
25–29	3.9	22.3	42.8	62.7	81.3	7.5	327	20.8
30–34	8.6	29.3	46.8	66.0	80.7	1.6	262	20.4
35–39	4.1	24.7	46.0	64.3	80.7	1.8	233	20.3
40–44	6.8	31.3	54.8	70.7	81.8	2.4	237	19.5
45–49	6.1	36.4	59.9	69.8	78.1	1.4	195	19.0
20–49	4.9	25.9	46.7	-	-	10.2	1,644	a
25–49	5.8	28.1	49.2	66.3	80.7	3.3	1,254	20.1
15–24	1.7	-	-	-	-	54.3	724	a
<b>MEN</b>								
15–19	16.0	-	-	-	-	31.1	164	a
20–24	11.7	53.9	79.3	-	-	7.3	207	17.8
25–29	8.6	43.5	70.9	87.0	92.4	4.4	154	18.4
30–34	10.3	47.1	76.3	88.5	92.3	1.6	112	18.1
35–39	8.2	43.1	71.8	87.2	90.2	2.4	96	18.5
40–44	10.2	51.7	79.5	89.1	94.4	0.8	114	17.9
45–49	7.4	42.8	68.3	80.3	88.1	1.2	96	18.5
20–49	9.7	47.9	74.9	-	-	3.6	778	18.1
25–49	9.0	45.7	73.4	86.6	91.7	2.3	571	18.3
15–24	13.6	-	-	-	-	17.8	372	a
20+	9.5	47.5	73.2	-	-	2.9	971	18.2
25+	8.9	45.7	71.5	84.5	90.0	1.8	763	18.3

“-” = not applicable due to censoring

a = omitted because less than 50% of respondents had intercourse for the first time before reaching the beginning of the age group

## 6.5 MEDIAN AGE AT FIRST SEXUAL INTERCOURSE

The median age at first sexual intercourse by current age and background characteristics is shown in Table 6.6 for women and Table 6.7 for men. For women aged 25–49, the median age at first sexual intercourse in rural areas is at least a year lower than the median age at first sexual intercourse in the urban area. For men, there is little difference in the median age at initial sexual intercourse between rural areas and the urban area.

Examination by education levels reveals that women with no education or some primary education engage in sexual relations earlier (at about 17–18 years) than women with more than a secondary education (24 years). In contrast, men across all age groups engage in first sexual intercourse early in life, regardless of their education level. The effect of household wealth on the initiation of sexual intercourse is obvious among women: women in the poorest households are more likely to engage in sexual activity at a younger age than women in higher wealth quintile households.

**Table 6.6: Median age at first intercourse – Women**

*Median age at first sexual intercourse among women by five-year age groups, ages 20–49 and ages 25–49, according to background characteristics, Kiribati 2009*

Background characteristic	Age						Women aged	Women aged
	20–24	25–29	30–34	35–39	40–44	45–49	20–49	25–49
<b>Residence</b>								
Urban	a	21.4	20.7	21.7	21.5	19.8	a	21.2
Rural	a	19.9	20.2	19.7	18.7	18.5	19.6	19.5
<b>Education</b>								
No education and some primary	a	16.6	18.0	18.2	18.3	18.3	18.4	18.2
Primary and some secondary	18.6	18.5	19.4	19.8	19.4	19.0	19.2	19.3
Secondary level 1	a	21.8	21.8	21.2	23.5	18.7	a	21.7
Secondary level 2 and higher	a	24.1	23.6	24.9	21.2	20.9	a	23.9
<b>Wealth quintile</b>								
Lowest	18.8	18.7	19.7	18.9	18.8	17.9	18.9	19.0
Second	19.5	19.3	20.7	19.6	18.5	18.3	19.3	19.2
Middle	a	21.4	20.5	20.3	18.6	18.9	a	20.1
Fourth	a	21.4	21.1	22.3	20.5	20.1	a	21.2
Highest	a	22.1	20.8	22.9	22.2	19.9	a	21.6
Total	a	20.8	20.4	20.3	19.5	19.0	a	20.1

a = omitted because less than 50% of women had intercourse for the first time before reaching the beginning of the age group

**Table 6.7: Median age at first intercourse – Men**

*Median age at first sexual intercourse among men by five-year age groups, ages 20+ and ages 25+, according to background characteristics, Kiribati 2009*

Background characteristic	Age						Men aged	Men aged	
	20–24	25–29	30–34	35–39	40–44	45–49	50+	20+	25+
<b>Residence</b>									
Urban	17.7	18.6	18.5	18.5	18.1	19.1	18.5	18.3	18.5
Rural	17.8	18.3	18.0	18.6	17.7	18.3	18.3	18.1	18.2
<b>Education</b>									
No education and some primary	17.6	17.0	18.7	20.0	17.2	17.2	18.2	17.9	17.9
Primary and some secondary	17.7	18.0	18.3	18.5	17.8	18.6	18.6	18.2	18.3
Secondary level 1	17.9	19.1	17.8	19.2	18.4	19.7	18.5	18.4	18.7
Secondary level 2 and higher	17.8	19.3	17.7	15.8	18.1	16.0	17.1	17.7	17.7
<b>Wealth quintile</b>									
Lowest	18.2	18.3	18.4	17.8	17.6	16.9	17.8	18.0	17.9
Second	17.7	17.7	17.9	18.4	17.8	18.7	17.6	17.9	17.9
Middle	16.9	18.7	17.5	19.1	17.1	18.1	19.0	18.2	18.4
Fourth	18.1	18.9	18.3	18.3	17.8	17.2	19.0	18.3	18.4
Highest	17.3	18.7	18.7	18.7	18.6	19.6	19.1	18.5	18.8
Total	17.8	18.4	18.1	18.5	17.9	18.5	18.4	18.2	18.3

Note that the median age in Tables 6.6 and 6.7 is defined as the exact age by which 50% of an age cohort had sexual intercourse for the first time. The tables are used to describe differences in age at first intercourse between Kiribati population subgroups, and to examine trends within these subgroups.



## 6.6 RECENT SEXUAL ACTIVITY

In societies with low contraception use, the probability of a woman becoming pregnant is closely related to her exposure to and frequency of sexual intercourse. Information on recent sexual activity is, therefore, a useful measure of exposure to the risk of pregnancy. The 2009 KDHS asked women and men about the timing of their last sexual intercourse. Tables 6.8 and 6.9 present the percent distribution of women and men (respectively) by the timing of their last sexual intercourse, according to their background characteristics. Respondents are considered to be sexually active if they have had sexual intercourse at least once in the four weeks preceding the survey.

**Table 6.8: Recent sexual activity – Women**

*Percent distribution of women aged 15–49 by timing of last sexual intercourse, according to background characteristics, Kiribati 2009*

Background characteristic	Timing of last sexual intercourse				Never had sexual intercourse	Total	Number of women
	Within 4 weeks of survey	Within 1 year of survey <sup>1</sup>	1 or more years before survey	Missing			
<b>Age</b>							
15–19	14.0	3.6	2.5	0.0	79.9	100.0	334
20–24	42.4	15.8	8.2	1.2	32.5	100.0	391
25–29	62.7	21.1	6.8	1.9	7.5	100.0	327
30–34	69.7	20.3	7.1	1.3	1.6	100.0	262
35–39	70.6	16.1	10.6	0.8	1.8	100.0	233
40–44	71.2	12.2	13.2	1.1	2.4	100.0	237
45–49	58.9	17.3	20.5	2.0	1.4	100.0	195
<b>Marital status</b>							
Never married	1.8	2.3	2.8	0.2	92.9	100.0	467
Married or living together	76.0	17.9	4.8	1.4	0.0	100.0	1,352
Divorced/separated/widowed	8.2	27.3	62.1	1.8	0.6	100.0	160
<b>Marital duration<sup>2</sup></b>							
0–4 years	71.6	23.5	3.4	1.5	0.0	100.0	290
5–9 years	77.3	18.0	3.1	1.6	0.0	100.0	219
10–14 years	69.9	24.3	2.7	3.2	0.0	100.0	148
15–19 years	82.4	9.6	7.2	0.7	0.0	100.0	132
20–24 years	76.7	16.7	5.8	0.7	0.0	100.0	120
25+ years	81.8	9.8	5.9	2.5	0.0	100.0	104
Married more than once	77.1	16.3	6.1	0.5	0.0	100.0	337
<b>Residence</b>							
Urban	44.5	14.3	9.8	1.7	29.7	100.0	937
Rural	60.6	15.6	8.1	0.6	15.0	100.0	1,041
<b>Education</b>							
No education and some primary	55.7	10.6	17.6	1.5	14.6	100.0	114
Primary and some secondary	55.8	14.3	10.4	1.1	18.4	100.0	1,148
Secondary level 1	49.0	15.0	5.4	1.3	29.3	100.0	560
Secondary level 2 and higher	44.6	22.8	4.5	0.6	27.4	100.0	156
<b>Wealth quintile</b>							
Lowest	62.3	15.9	10.1	0.7	10.9	100.0	365
Second	62.5	16.5	5.9	0.3	14.8	100.0	383
Middle	56.3	13.4	10.4	0.9	18.9	100.0	390
Fourth	46.8	15.6	10.4	1.0	26.1	100.0	428
Highest	39.2	13.4	7.7	2.6	37.0	100.0	413
Total	53.0	15.0	8.9	1.1	22.0	100.0	1,978

<sup>1</sup> Excludes women who had sexual intercourse within four weeks preceding the survey.

<sup>2</sup> Excludes women who are not currently married.

Among women aged 15–49, well over one-half (53%) were sexually active in the four weeks prior to the survey, while 15% had had sex within the past year but not in the four weeks prior to the survey, and about 9% had had sex but had not been sexually active in the 12 months preceding the survey. The highest level of recent sexual activity was observed among women aged 25–49. The proportion of women who are sexually active does not appear to decline as age increases; in fact, women’s level of sexual activity is maintained at over 50% as age increases, declining very slightly in the last age group, declining further after age 50. Similarly, the proportion of married women who were sexually active in the four weeks preceding the survey does not appear to decline — a consistently high proportion (70–82%) of women in all marital durations had had recent sexual activity in the four weeks preceding the 2009 KDHS. Women in rural areas are more likely to have had sex in the four weeks preceding the survey (61%) than urban women (45%). With regard to education, it appears that education is not a determinant of recent sexual experiences; however, a slightly higher proportion of women with lower education levels were sexually active in the four weeks preceding the survey than women with higher levels of education.

Overall, men aged 15–49 are just as likely as women to have had recent sexual intercourse (Table 6.9). About 60% of men had sexual intercourse in the four weeks preceding the survey, 23% had sexual intercourse in the year preceding the survey but not in the previous four weeks, 8% had sex one or more years before the survey, and 8% had never had sexual intercourse. Men’s sexual activity patterns are quite similar to those of women but at slightly higher levels, indicating very active and high sexual activity among I-Kiribati women and men in the four weeks prior to the 2009 KDHS.

As is the case with women, men who are currently married or living with a woman are most likely to have had recent sexual intercourse: 77% compared with 32% of never married men. Recent sexual activity is observed to be high among men in rural areas (67%) compared with men in the urban area (50%). The distribution of recent sexual activity by education categories (as well as for wealth quintiles) is similar for men and women.

**Table 6.9: Recent sexual activity – Men**

*Percent distribution of men aged 15–49 by timing of last sexual intercourse, according to background characteristics, Kiribati 2009*

Background characteristic	Timing of last sexual intercourse				Never had sexual intercourse	Total	Number of men
	Within 4 weeks of survey	Within 1 year of survey <sup>1</sup>	1 or more years before survey	Missing			
<b>Age</b>							
15–19	29.4	29.3	10.3	0.0	31.1	100.0	164
20–24	49.9	29.4	11.9	1.4	7.3	100.0	207
25–29	63.5	23.1	7.9	1.1	4.4	100.0	154
30–34	79.9	12.9	3.8	1.8	1.6	100.0	112
35–39	65.1	24.3	5.0	3.2	2.4	100.0	96
40–44	75.1	15.7	7.1	1.4	0.8	100.0	114
45–49	74.2	14.2	8.8	1.6	1.2	100.0	96
<b>Marital status</b>							
Never married	31.9	29.7	15.9	0.2	22.2	100.0	356
Married or living together	77.0	17.9	3.0	2.2	0.0	100.0	567
Divorced/separated/widowed	*	*	*	*	*	*	20
<b>Marital duration<sup>2</sup></b>							
0–4 years	70.2	24.6	3.0	2.2	0.0	100.0	136
5–9 years	79.8	18.6	1.6	0.0	0.0	100.0	107
10–14 years	73.3	16.8	6.3	3.6	0.0	100.0	63
15–19 years	81.8	8.8	2.6	6.8	0.0	100.0	67
20–24 years	75.8	19.6	3.4	1.2	0.0	100.0	59
25+ years	(71.0)	(19.1)	(3.4)	(6.5)	(0.0)	(100.0)	26
Married more than once	84.1	13.8	2.1	0.0	0.0	100.0	108

**Table 6.9 (continued)**

Background characteristic	Timing of last sexual intercourse				Never had sexual intercourse	Total	Number of men
	Within 4 weeks of survey	Within 1 year of survey <sup>1</sup>	1 or more years before survey	Missing			
<b>Residence</b>							
Urban	50.2	28.7	12.2	2.3	6.7	100.0	423
Rural	66.5	17.8	5.4	0.6	9.8	100.0	520
<b>Education</b>							
No education and some primary	50.0	20.8	14.4	0.0	14.8	100.0	89
Primary and some secondary	60.2	23.0	6.7	1.8	8.5	100.0	564
Secondary level 1	58.0	24.1	10.2	1.0	6.7	100.0	231
Secondary level 2 and higher	68.1	17.0	9.1	1.1	4.6	100.0	58
<b>Wealth quintile</b>							
Lowest	62.2	19.8	5.5	1.0	11.5	100.0	210
Second	63.3	22.0	6.3	0.4	8.0	100.0	206
Middle	64.2	20.5	6.9	0.6	7.8	100.0	145
Fourth	55.3	27.8	9.4	1.6	5.9	100.0	190
Highest	51.3	23.2	14.1	3.1	8.2	100.0	191
Total men aged 15–49	59.2	22.7	8.4	1.4	8.4	100.0	943
Men aged 50+	59.3	19.5	14.9	5.8	0.6	100.0	115
Total men aged 15+	57.5	21.9	11.6	2.0	7.0	100.0	1,135

<sup>1</sup> Excludes men who had sexual intercourse within the four weeks preceding the survey.

<sup>2</sup> Excludes men who are not currently married.

Note: Figures in parentheses are based on 25-49 cases. An asterisk indicates that the figure is based on fewer than 25 cases and has been suppressed.

## 6.7 POSTPARTUM AMENORRHOEA, ABSTINENCE, AND INSUSCEPTIBILITY

Postpartum amenorrhoea refers to the interval between childbirth and the return of menstruation. During this period, the risk of pregnancy is reduced. Among women who do not using contraception, exposure to the risk of pregnancy in the period following birth is determined by two major factors: breastfeeding and sexual abstinence. Postpartum protection from conception can be prolonged by breastfeeding, which can lengthen the duration of amenorrhoea, or by delayed resumption of sexual activity (postpartum abstinence). In Table 6.10, the percentage of births for which mothers are postpartum amenorrhoeic and abstaining is presented, along with the percentage of births for which mothers are defined as still postpartum insusceptible (i.e. either amenorrhoeic or abstaining or both). These women are classified as not exposed (i.e. insusceptible) to the risk of pregnancy.

At the time of the survey, 34% of women who had given birth during the three years preceding the survey were insusceptible because they were still amenorrhoeic (24%) or still abstaining (19%) or both.

**Table 6.10: Postpartum amenorrhoea, abstinence and insusceptibility**

*Percentage of births in the three years preceding the survey for which mothers are postpartum amenorrhoeic, abstaining or insusceptible, by number of months since birth, and median and mean durations, Kiribati 2009*

Months since birth	Percentage of births for which the mother is:			Number of births
	Amenorrhoeic	Abstaining	Insusceptible <sup>1</sup>	
< 2	(84.1)	(60.6)	(95.7)	44
2-3	(46.8)	(51.0)	(79.9)	39
4-5	(37.1)	(36.1)	(58.2)	35
6-7	(26.7)	(25.8)	(45.2)	41
8-9	*	*	*	22
10-11	(26.2)	(14.8)	(32.2)	38
12-13	(11.8)	(11.2)	(19.5)	47
14-15	(25.5)	(10.5)	(30.0)	36
16-17	(21.4)	(8.2)	(27.0)	38
18-19	(19.5)	(16.9)	(26.0)	40
20-21	(18.5)	(16.6)	(35.1)	47
22-23	(9.7)	(8.9)	(16.4)	34
24-25	(14.3)	(6.2)	(20.5)	29
26-27	(18.9)	(8.0)	(26.9)	40
28-29	(0.0)	(2.7)	(2.7)	30
30-31	(7.5)	(4.0)	(7.5)	36
32-33	(12.8)	(7.6)	(17.5)	43
34-35	(2.4)	(8.0)	(10.4)	37
Total	23.6	18.7	34.4	678
Median	3.2	2.5	7.3	-
Mean	8.6	7.1	12.5	-

Note: Estimates are based on status at the time of the survey.

\* = not applicable.

<sup>1</sup> Includes births for which mothers are either still amenorrhoeic or still abstaining (or both) following birth.

Note: Figures in parentheses are based on 25-49 cases. An asterisk indicates that the figure is based on fewer than 25 cases and has been suppressed.

The proportion of women remaining amenorrhoeic, abstaining or insusceptible declines as duration since birth increases. Within the first two months after birth, 96% of women in Kiribati are insusceptible to pregnancy, 84% are amenorrhoeic, and 61% abstaining from sex. After six months (the recommended duration of exclusive breastfeeding), 45% of mothers are still insusceptible to the risk of pregnancy, mainly because their menstrual period has not returned, which remains the main component of postpartum insusceptibility for the first 24 months after birth. After 24 months, 21% of mothers are still insusceptible (14% amenorrhoeic, 6% abstaining). By 34-35 months after birth, 10% of mothers are insusceptible (2% amenorrhoeic, 8% abstaining).

The median duration of postpartum insusceptibility is 7.3 months, and is 3.2 months for postpartum amenorrhoea, and 2.5 months for postpartum sexual abstinence.

## 6.8 MEDIAN DURATION OF POSTPARTUM INSUSCEPTIBILITY BY BACKGROUND CHARACTERISTICS

The median duration of postpartum amenorrhoea, abstinence and insusceptibility by various background characteristics is presented in Table 6.11. The median duration of postpartum abstinence shows variations across background characteristics, especially in rural areas and in poorer households. This is because most rural households are in the lowest and second wealth quintiles, and have the lowest levels of education (or no education). Even in these cases, the variation in postpartum insusceptibility is mainly due to variations in postpartum amenorrhoea. There is a difference of about 3.3 months between women under age 30 and women over age 30 in the median duration of postpartum amenorrhoea.

The duration of postpartum amenorrhoea for rural women is longer (4.0 months) than for urban women (2.4 months). Women with a secondary education show the shortest duration of postpartum amenorrhoea (2.4 months) compared with women with no education or only a primary education. Moreover, the median length of postpartum amenorrhoea is longer for women in the poorest households (5.7 months) than for women in the wealthiest households (1.6 months).

**Table 6.11: Median duration of amenorrhoea, postpartum abstinence and postpartum insusceptibility**

*Median number of months of postpartum amenorrhoea, postpartum abstinence and postpartum insusceptibility following births in the three years preceding the survey, by background characteristics, Kiribati 2009*

Background characteristic	Postpartum amenorrhoea	Postpartum abstinence	Postpartum insusceptibility <sup>1</sup>
<b>Mother's age</b>			
15–29	2.3	4.9	8.3
30–49	5.6	1.5	6.6
<b>Residence</b>			
Urban	2.4	3.3	7.3
Rural	4.1	1.7	7.3
<b>Education</b>			
No education and some primary	7.7	0.4	8.9
Primary and some secondary	3.8	2.7	8.1
Secondary level 1	2.8	3.4	6.9
Secondary level 2 and higher	2.1	0.4	2.5
<b>Wealth quintile</b>			
Lowest	5.7	0.7	9.4
Second	3.9	3.6	9.3
Middle	2.5	0.7	5.0
Fourth	2.9	2.1	4.3
Highest	1.6	4.6	6.5
Total	3.2	2.5	7.3

Note: Medians are based on the status at the time of the survey (current status).

<sup>1</sup> Includes births for which mothers are either still amenorrhoeic or still abstaining (or both) following birth.

## 6.9 MENOPAUSE

Another factor that influences the risk of pregnancy among women after age 30 is menopause. Table 6.12 presents an important indicator concerning fecundity as measured by evidence of menopause. The lack of a menstrual period in the six months preceding the survey among women who are neither pregnant nor postpartum amenorrhoeic is taken as evidence of menopause and, therefore, infecundity. Although the onset of menopause is difficult to determine for an individual woman, methods are available for estimating the proportion of women who are menopausal for the population as a whole. For this analysis, a woman is considered menopausal if she is neither pregnant nor postpartum amenorrhoeic but did not have a menstrual period in the six months preceding the survey.

Table 6.12 summarises the percentage of women aged 30–49 who are menopausal. According to the 2009 KDHS, 16% of women aged 30–49 are menopausal. The proportion of women who are menopausal rises with age from about 6% for the 30–34 age group, to 62% for the 48–49 age group. It is clear that the onset of infertility with increasing age reduces the proportion of women who are exposed to the risk of pregnancy.

**Table 6.12: Menopause**

*Percentage of women aged 30–49 who are menopausal, by age, Kiribati 2009*

Age	Percentage menopausal <sup>1</sup>	Number of women
30–34	6.0	262
35–39	5.7	233
40–41	8.3	106
42–43	9.9	91
44–45	18.3	78
46–47	48.6	82
48–49	62.1	75
Total	15.9	927

<sup>1</sup> Percentage of all women who are not pregnant and not postpartum amenorrhoeic whose last menstrual period occurred six or more months preceding the survey.